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Stimson Lumber Company

Removal Action Report Josephine Mill No. 1

CERCLIS ID No. WAN001002401 Pend Oreille County, Washington

February 23, 2012

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Removal Action Report

Josephine Mill No. 1 Pend Oreille County, Washington

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1. Introduction

On behalf of Stimson Lumber Company (Stimson), ARCADIS U.S., Inc. (ARCADIS) has prepared this *Removal Action Report* (Final Report). This Final report has been prepared in accordance with the Administrative Settlement Agreement and Order on Consent Docket No. CERCLA-10-2010-0180 (ASAOC) between the U.S. Environmental Protection Agency (EPA) and Stimson for the Josephine Mill No. 1 in Pend Oreille County, Washington (the "Site," see Figure 1). Remedial activities performed at the Site were performed in general accordance with the EPA-approved "Removal Action Work Plan" (RAWP; ARCADIS, 2010 [approved August 25, 2010 by EPA]).

The completion of the Non-Time Critical Removal Action (RA) described in this Final Report was conducted pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986. This Final Report has been prepared in accordance with and in a manner consistent with the National Contingency Plan (NCP) and EPA's *Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA* (EPA, 1993).

The RAWP was prepared to mitigate mine waste encountered at various locations at the Site found to contain elevated concentrations of heavy metals including arsenic, cadmium, lead, mercury, and zinc. Reducing the potential for exposure to these constituents to protect human health and the environment was the focus of the RAWP. The activities presented in this Final Report document the implementation of the RAWP. This Final Report addresses mine waste contamination on the Site through the consolidation and capping of the mine waste on a portion of the Site.

1.1 Site Location

The former Josephine Mill No. 1 is located in northeast Washington, approximately 1.5 miles northwest of the city of Metaline Falls (Figure 1) in the southwest half (SW½) of Section 16, Township 39N, Range 43 W, Willamette Meridian, Pend Oreille County, Washington. The Site's approximate geographic coordinates are Latitude 48°52' 29.99" North, Longitude 117°22' 50.77" West. The Site is accessed by Pend Oreille County Highway 2975 (also referred to as the Boundary Dam Road) and the unpaved Old Pend Oreille Mine Road. Site access to the public is limited by a locked gate. The Old Pend Oreille Mine Road divides the Site into the upper portion and lower portion of the Site (Appendix A Sheet C-01). The Site is bounded to the southeast by Flume Creek, which flows to the north-northeast and discharges into the Pend Oreille River.



1.2 Background

The Site is one of three properties associated with the Josephine Mine; the other two, the Josephine Mine and Josephine Mill No. 2, are located nearby on property not owned by Stimson. The Josephine Mine has also been historically referred to as the "Clark Mine" or "Hortense Mine." The Josephine Mine was a cadmium, lead, silver, and zinc mine that reportedly operated from approximately 1909 to 1955. The Josephine Mill No. 1 reportedly began operations in about 1907 and was one of two mills supporting operation of the mine. Operations at the Josephine Mill No. 1 were curtailed sometime around 1935 when milling operations were conducted at the newly constructed Josephine Mill No. 2.

1.3 Performance Standards and Objectives

The RAWP identified the following removal action objectives (RAOs) based on the potential human health and ecological risks identified at the Site and included:

Human Receptors

- Prevent human exposure to contaminated soil containing hazardous substances at concentrations that exceed the 250 milligrams per kilogram (mg/kg) action level for lead established by EPA for the Site.
- Reduce runoff of hazardous substances to surface water so that loadings do not cause exceedances of Applicable or Relevant and Appropriate Requirements (ARARs).

Ecological Receptors

- Reduce ecological exposures to contaminated soil containing hazardous substances at concentrations that exceed the 250 mg/kg action level for lead established by EPA for the Site.
- Reduce runoff of hazardous substances to sediment and surface water, so that loadings do not cause exceedances of ARARs.

2. Closure Activities

The closure activities performed were originally described and presented in the EPA-approved RAWP. In general, the remedial activities included excavating materials containing contaminants above action levels, and consolidating the material in an on-site mine waste repository beneath a protective cover. The closure activities are described in further detail below.



2.1 Chronology of Closure Activities

Following approval of the ASAOC on September 3, 2010, RA activities began at the Site with the mobilization of equipment and materials on September 13, 2010. During the first four days of activities, site vegetation within the area of removal was cleared to facilitate the movement of soils and construction of the repository area. Wood and metal debris was moved to the edges of the site and stockpiled. After the Site had been cleared, mine waste consolidation activities progressed starting at the eastern portion of the site with a bulldozer pushing the impacted surficial soils towards the repository. Meanwhile an excavator and a compactor began preparing the footprint of the repository for the first lift of soil.

Initial screening samples were taken at the perimeter of the removal area. These samples are designated as "IS" in Table 1; locations are shown on Figure 3. Prior to the first lift being placed in the repository, an area of saturated soil within the repository was scarified and removed to be mixed with other on-site material to promote proper compaction. Geotechnical enhancement fabric (geogrid) was placed to cover the area of the removal of saturated soil, and layers of drier soils and stone were subsequently placed on top of the geogrid in support of repository construction.

On September 25, 2010 compaction efforts and construction of the repository halted when soft soils and groundwater flowing into the repository area from the bedrock were encountered. ARCADIS designed a groundwater interception trench to route groundwater around the repository area. ARCADIS also modified the compaction procedure which included collecting additional soil samples to obtain a Standard Proctor representative of the materials encountered. Work continued during this time on the tailings removal with work progressing from the eastern portion to the western portion of the Site.

Construction of the repository resumed on October 7, 2010. Construction of the interception trenches began on October 15, 2010. During repository construction, Portland cement was used as a binder to dry the materials and increase stability. Figure 2 presents approximate mine waste removal depths outside of the repository limits.

Confirmation sampling was conducted on October 19, 26, and 27, 2010, to verify removal of impacted material surrounding the repository area. These samples are designated with "CS" in Table 1; locations are shown on Figure 4. Soil samples were collected and analyzed as described in Section 2.9.

Initial confirmation sampling at locations JM-CS-03 and JM-CS-06 yielded results above the RAO guidelines as discussed in Section 2.9. In these areas, additional material was removed. Confirmation resampling was then conducted on October 27, 2010. The final confirmation sample ID's for these locations are JM-CS-03A and JM-CS-06A. Final confirmation sample results, as listed in Table 1, were below the RAO guidelines set forth in the RAWP. Backfilling was then conducted following confirmation sampling.



Final subgrade preparation of the repository was completed on November 11, 2011, at which time Northwest Linings & Geotextile Products, Inc. (Northwest Linings) of Kent, Washington (under contract to ARCADIS), began installing the geosynthetic cover system. During installation of the cover system, restoration of the removal area occurred by placing 18 inches of clean fill over the removal area and grading the area as needed to drain. After the geosynthetic layer was installed, clean fill was added to the repository to complete the cover system.

Final grading of the cover system was completed on November 21, 2010. Demobilization of the construction equipment was conducted on November 22, 2010. Completion of the diversion ditch on the eastern edge of the repository and burying of the metal and wood debris was completed on September 13, 2012.

2.2 In-Scope Activities

In-scope activities are summarized in the list below and generally consisted of:

- Site mobilization and site preparation activities, including the implementation of Best Management Practices (BMPs)
- The removal of mine-waste material (i.e., rock, soil, and tailings) from the areas above and below the Old Pend Oreille Mine Road
- Confirmation soil sampling
- The consolidation of the mine-waste material in a repository located below the Old Pend Oreille Mine Road that overlaps the western extent of existing mine-waste materials
- The construction of an on-site, low-permeable capping system
- Restoration of the disturbed areas where mine waste was removed (final restoration wascompleted during the 2011 construction season)

2.3 Closure Design Refinements

During the construction process, observed field conditions deviated to some extent from the anticipated conditions based on preliminary investigations. Specifically, the repository size was reduced slightly to reflect the actual amount of impacted material removed from the eastern portion of the Site and to account for changes in site topography from the initial survey. In addition, to ensure the stability and long-term performance of the repository, groundwater interception trenches were installed to divert groundwater



around the repository area. Detail of these refinements are provided in the attached Record Drawings, Attachment A.

2.4 Mine Waste Removals

Waste removal activities began on the eastern portion of the Site, above the existing access road. ARCADIS utilized a hydraulic excavator, wheel loader and dozers to move material from above the road to the repository area located below the road. For stability purposes, ARCADIS utilized compaction equipment during waste consolidation activities. ARCADIS also utilized a loader to transport material from isolated areas of the excavation area to the repository area and if needed a water truck to suppress dust generated from the excavation activities.

Based on the preliminary removal design, approximately 7,000 cubic yards of material were anticipated to be placed within the proposed repository area at the Site. As such, the current location of the repository area slightly overlaps the location of the existing site material such that approximately 6,300 cubic yards of material were estimated to be relocated from across the site. The material within the overlap area was regraded and compacted to meet design grades and specifications within the repository area.

Following the completion of removal activities, the repository area was graded to meet design subgrade elevations in preparation for installation of the geosynthetic cover system.

2.5 Mine Waste Repository

Following the completion of grading activities within the repository area, the geosynthetic installer, Northwest Linings, began installation of the geosynthetic cover system. The profile of the geosynthetic cover system included a non-woven geotextile installed directly over the consolidated material, overlain by a 40-mil textured Linear-Low Density Polyethylene (LLDPE) geomembrane, overlain by a geocomposite drainage layer. Following the completion of geosynthetics installation, ARCADIS, placed and graded a minimum of 18 inches of cover soil over the geosynthetics to achieve the design grades of the cover system. The anchor trench was then backfilled and imported stone and rip/rap material was used to construct the perimeter drainage system around the repository area.

To meet the design requirements set forth in the RAWP and removal action design (RAD), compaction testing was conducted on each individual lift placed in the repository area prior to placement of the subsequent lift. Results of the compaction testing conducted are presented in Appendix C. If compaction testing showed results below the RAD requirements, additional compaction efforts were conducted prior to retesting. Results of the compaction testing throughout the project passed the requirements set forth in the RAD and ranged from 90 to 100 percent compaction on the material tested.



2.6 Site Access Road

Following removal of mine-waste materials within the access road, the access road was restored and graded where needed. BMPs referenced in Section 5 of the RAWP were utilized to minimize erosion and prevent sediment migration to Flume Creek as a result of storm water events.

2.7 Revegetation

During the course of the RA activities, efforts to preserve existing vegetation were taken to minimize the amount of exposed disturbed soils at any given time. Due to weather constraints, revegetation of the removal area was not completed during the fall 2010 construction efforts. Additional BMP's were placed horizontally across the slope of the hillside to reduce the potential for erosion during the spring thaw. BMPs used included straw waddles and silt fencing. Revegetation of the removal area was completed in September 2011. At the time of revegetation activities, the disturbed areas had a vegetative cover. A slight deviation to the design exists in that additional soil cover was not necessary as the existing soil cover supported vegetative growth. A grass seed mixture was broadcast across the formerly disturbed areas which already colonized with a variety of vegetation.

3. Analytical Data Summary

This Section presents the sampling performed, both screening and confirmatory, to define the limits of waste and ensure that the COC concentrations outside the mine waste repository were below the cleanup levels set forth in the RAWP.

3.1 Initial Soil Screening

In addition to visual identification of mine-waste materials, a field portable X-ray fluorescence (FPXRF) was used to identify mine-waste materials throughout the removal area. Following FPXRF screening, confirmation soil sample results were also collected as described in Section 2.9. FPXRF results were compared to Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A or Method B soil cleanup levels for arsenic, cadmium, lead, mercury, and zinc, as appropriate. EPA-approved soil cleanup levels for Unrestricted Land Uses for these analytes are as follows:

Arsenic 20 mg/kg (MTCA Method A soil cleanup level)



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| • | Cadmium | 80 mg/kg | (MTCA Method B soil cleanup level) ¹ |
|---|---------|--------------|---|
| • | Lead | 250 mg/kg | (MTCA Method A soil cleanup level) |
| • | Mercury | 2 mg/kg | (MTCA Method A soil cleanup level) |
| • | Zinc | 24,000 mg/kg | (MTCA Method B soil cleanup level) |

During the first week of construction, after FPXRF screening, 10 soil samples were collected for laboratory analysis for arsenic, cadmium, lead, mercury, and zinc. These samples were analyzed with a rush turnaround-time to verify that soil cleanup levels had been met and that the FPXRF was a reliable tool for field screening during excavation activities.

The subsequent frequency of field screening was dependent on the visual observations of mine-waste materials and the locations where removal activities were occurring. The FPXRF samples were collected from locations selected to assist in excavation efforts, as directed by ARCADIS' appointed on-site manager. A summary of the results is shown in Table 1, Table 2, and in Appendix A sheet C-03 and C-04.

3.2 Confirmation Sampling

Upon reaching the limits and depths of the excavation areas as determined upon indication from the FPXRF field screening tool that the appropriate soil cleanup levels have been achieved for the COCs, confirmation samples of the subgrade were collected. One sample was collected for every 2,500 square feet of excavation area as measured in the field by measuring off a 50-foot grid pattern, in accordance with the RAWP. Samples were collected using disposable nitrile gloves to collect the required 8 ounces (oz) of material and place in a laboratory supplied jar for chemical analysis. Samples were analyzed for arsenic, cadmium, lead and zinc by EPA Method 6010C and mercury by EPA Method 7471. Each sample was representative of materials exposed at the surface of the excavation prior to any backfilling. Sampling was conducted in accordance with the protocols presented in the SAP and embedded Quality Assurance Project Plan (QAPP) provided in the RAWP. A summary of the results is shown in Table 1, Table 2, and in Figures 4 and 5.

3.2.1 Sample Collection and Analysis

ARCADIS performed three soil sampling events, in accordance with the objectives and specifications in the EPA-approved Site Investigation Work Plan (LFR, 2008) which includes the Field Sampling Plan (FSP) and

¹ EPA confirmed that the MTCA Method B soil cleanup level for cadmium is applicable in an email dated April 6, 2011; "the alternate 80 mg/kg cleanup level was selected because the cleanup was focused on source control verses protection of groundwater used for drinking water use".



embedded QQAPP provided in Appendix B of the RAWP. Collected soil samples from the three events were transported to TestAmerica Laboratories, Inc. (TestAmerica) located in Spokane Valley, Washington for analysis and reported with the following Lab Job IDs:

- Lab Job ID STI0115 for samples collected on September 17, 2010
- · Lab Job ID STJ0111 for samples collected on October 19, 2010
- Lab Job ID STJ0169 for samples collected on October 26 and 27, 2010

TestAmerica is a multi-state certified laboratory. Copies of the analytical reports are included in Appendix B. The samples were analyzed for the following analytes using the methods noted below:

- Arsenic, Method: EPA 6010C
- Cadmium, Method: EPA 6010C
- Lead, Method: EPA 6010C
- Zinc, Method: EPA 6010C
- Mercury, Method: EPA 7471

A total of 34 samples were submitted to TestAmerica for laboratory analysis.

3.2.2 Initial Screening Results

The initial screening sample results were used in the evaluation of the reliability and accuracy of the FPXRF. Samples were obtained from areas that had soils removed and others that still had suspect impacted material present. The laboratory analytical results (Table 1) were found to be comparable with the field data received from the FPXRF field screening tool (Table 2).

3.2.3 Confirmation Sampling Results

Confirmation sample results were below the cleanup levels set forth in the RAWP with the exception of JM-CS-03 and JM-CS-06. At these locations, sampling results showed additional material needed to be removed. After additional material was removed, confirmation sampling at those two locations was conducted and labeled JM-CS-03A and JM-CS-06A, which yielded COC concentrations below the cleanup levels set forth in the RAWP. Confirmation sample analytical results are presented in Table 1 and the associated FPXRF screening data for the confirmation sampling is presented in Table 2.



3.3 Quality Assurance/Quality Control

Field quality assurance/quality control (QA/QC) is designed to document protocol used during the collection of samples for laboratory analyses. Field QA/QC samples collected, as part of the soils sampling, consisted of trip blanks and replicates. These field QC samples are described below.

<u>Trip Blanks</u> – One sample bottle was filled with deionized water. The sample was transported to the Site, handled like a sample, and sent to the laboratory. One trip blank was included in each cooler of samples shipped to the laboratory. These samples were placed on hold.

<u>Replicates</u> - Replicates were prepared by splitting a soil sample into two aliquots. The aliquots were then sent to the lab in two separate containers. Each replicate was analyzed for the same chemical parameters. Two replicates were taken during the sampling activities which was consistent with the 1 in every 20 samples as prescribed in the original SAP.

During sampling activities, only disposable sampling devices were used and, thus, no equipment blanks were necessary.

4. Post-Removal Action Site Conditions

On September 13, 2011, construction of the mine waste repository was completed. The soil samples collected indicate that the removal action was completed in accordance with the prescribed RAOs in the EPA approved RAWP.

4.1 Institutional Controls

Institutional Controls (IC), such as administrative and/or legal controls that minimize the potential for human exposure to contamination, will used in conjunction with the removal action. Land-use restrictions in accordance with the Washington State Uniform Environmental Covenants Act (UECA) will be implemented at the Site as a means to further isolate areas containing suspected contaminants either left in place after a removal or in areas where natural vegetation is established. These restrictions would extend into perpetuity, particularly in the event that the Site, either partially or wholly, is sold.

Restrictions will include the following:

- No residential use will be permitted unless the Site is remediated to allow such use.
- Prior to any surface disturbance associated with commercial or industrial development, soil samples will be required in accordance with a soils management plan.



- For areas in which soil sample analyses indicate exceedances of threshold metals concentrations, excavation and/or capping, as deemed appropriate, will be required.
- A separate RA plan will be submitted to the appropriate regulatory authority.
- Any future landowner will be obligated to ensure compliance with the established land-use restrictions.

4.2 Informational Devices

Informational devices (signage) such as advisories or warnings have been strategically posted at the Site to provide information or notification that residual or capped contamination remains on-site and to warn of other physical hazards. Specific devices and locations are identified in the Post-Removal Site Control Plan included at Appendix E.

4.3 Long Term Maintenance and Monitoring

The long- term maintenance and monitoring of the mine waste repository is covered by the Post-Removal Site Control Plan included in Appendix E and generally includes semiannual site inspections performed during the first two years followed by annual inspections thereafter. Additionally, inspections will be performed following significant natural events that have the potential for disturbing the mine waste repository.

5. Health and Safety

Work activities referenced in this Final Report were conducted in accordance with applicable Occupational Safety and Health Administration (OSHA) rules and regulations, as well as those procedures specifically established in the Environmental Health and Safety Plan (RAWP, Appendix C, ARCADIS July, 2010). Personnel involved in the work were current with respect to required OSHA training and refresher courses for work at hazardous waste sites, in accordance with the requirements of 29 CFR Part 1920.120. The work was conducted by workers in Level D personal protective equipment.

5.1 Air Monitoring

Air monitoring during the activities was conducted using two Thermo PDR-1000 dust monitoring instruments. At the beginning of the day, a dust monitoring station was set up along the road on the eastern and western portions of the work area and the system data logging was enabled. Monitors were checked every 1 to 2 hours and readings were recorded in the field notebook. Airborne dust levels during



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the activities did not exceed levels considered to be safe due in part to the soil type encountered and the wet weather conditions during construction. After sufficient startup, air monitoring was conducted, the results were reviewed and air monitoring was reduced to an as-needed basis based on field conditions. High precipitation weather persisted throughout the project and dust was not observed for the remainder of the activities. The results of the air monitoring are outlined in Table 3.

5.2 Decontamination Procedures

Potentially contaminated vehicles, equipment, and personnel were decontaminated prior to leaving the Site, and also upon final demobilization. Caked or loose materials on vehicles and equipment was removed, to the extent practicable, by scraping or dry-brushing at temporary decontamination stations set up close to where the work occurred. Decontamination stations consisted of gravel aprons in which potentially contaminated materials were removed from vehicles and equipment

6. References

- ARCADIS U.S. Inc. (ARCADIS), 2010, Removal Action Work Plan, Josephine Mill No. 1, Metaline Falls, Washington, July.
- LFR Inc. (LFR), 2008. Revised Site Investigation Work Plan, Josephine Mill No. 1, Metaline Falls, Washington, October 3.
- LFR, 2010a, Final Site Investigation Report, Josephine Mill No. 1, Metaline Falls, Washington. January 15.
- LFR, 2010b, Final Engineering Evaluation / Cost Analysis (EE/CA), Josephine Mill No. 1, Metaline Falls, Washington. May 27.
- U.S. Environmental Protection Agency (EPA), 1994. Methods for Determination of Metals in Environmental Samples, Supplement 1. EPA/600-R-94/111, May 1994.
- U.S. Environmental Protection Agency (EPA), 1993. Guidance on Conducting Non-Time Critical Removal Actions Under CERCLA. EPA/540-R-93-057. USEPA Office of Solid Waste and Emergency Response, Washington, D.C. 57 pages.
- U.S. Environmental Protection Agency (EPA), 1986. Test Methods for Evaluating Solid Waste. SW-846.



- U.S. Environmental Protection Agency (EPA), 1998. Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses. Hazardous Site Evaluation Division, USEPA, 19 pages.
- U.S. Environmental Protection Agency (EPA), 2010. Action Memorandum for the Josephine Mill No. 1 located near Metaline Falls, Pend Oreille County, Washington, August 25.

Tables

Table 1 Summary of Analytical Data - Metals Josephine Mill No.1 Metaline, Washington

| Sample | Sample | Sample Location | | | Total Metals ⁽¹⁾ | | |
|---|------------|-----------------------|-------------------|-------------------|-----------------------------|--------|---------|
| Identification | Date | (See Appendix A | Arsenic | Cadmium | Lead | Zinc | Mercury |
| | | Sheet #) | (As) | (Cd) | (Pb) | (Zn) | (Hg) |
| | | Init | ial Screening Sa | amples | | | |
| JM - IS - 01 | 9/17/2010 | C-03 | 5.70 | 3.86 | 161 | 873 | 0.102 |
| JM - IS - 02 | 9/17/2010 | C-03 | 6.06 | 7.13 | 103 | 2,340 | 0.236 |
| JM - IS - 03 | 9/17/2010 | C-03 | 4.64 | 0.938 | 128 | 599 | 0.0590 |
| JM - IS - 04 | 9/17/2010 | C-03 | 4.81 | 28.4 | 353 | 8,460 | 1.950 |
| JM - IS - 05 | 9/17/2010 | C-03 | 4.29 | 0.750 | 10.6 | 120 | ND |
| JM - IS - 06 | 9/17/2010 | C-03 | 5.66 | 4.34 | 103 | 1,270 | 0.217 |
| JM - IS - 07 | 9/17/2010 | C-03 | 4.73 | 4.89 | 103 | 1,860 | 0.215 |
| JM - IS - 08 | 9/17/2010 | C-03 | 7.74 | 76.2 | 1280 | 30,900 | 2.220 |
| JM - IS - 09 | 9/17/2010 | C-03 | 6.60 | 12.2 | 559 | 3,130 | 0.369 |
| JWI - 13 - 10 | 9/17/2010 | 0-03 | 5.99 | 7.82 | 35.1 | 3,930 | ND |
| | Init | ial Confirmation Samp | oles Indicating I | Further Excavatio | on Required | | |
| JM - CS - 03 | 10/19/2010 | C-04 | ND | 11.4 | 261 | 2,490 | 1.36 |
| JM - CS - 06 | 10/19/2010 | C-04 | 3.44 | 55.2 | 294 | 16,300 | 2.99 |
| | | C | onfirmation San | nples | | | |
| Road - CS - West | 10/26/2010 | C-04 | ND | ND | 8.23 | 59 | ND |
| Road - CS - East | 10/26/2010 | C-04 | ND | 1.13 | 12.0 | 135 | 0.126 |
| Road - CS - Center | 10/27/2010 | C-04 | ND | 0.450 | 9.41 | 45 | ND |
| Road - CS - Rockface | 10/27/2010 | C-04 | ND | 8.55 | 7.81 | 1,430 | 0.0977 |
| JM - CS - 01 | 10/19/2010 | C-04 | ND | 0.837 | 18.5 | 290 | 0.111 |
| JM - CS - 02 | 10/19/2010 | C-04 | ND | 6.20 | 58.0 | 1,200 | 0.317 |
| ⁽²⁾ JM - CS - 03A | 10/27/2010 | C-04 | ND | 9.54 | 20.9 | 451 | 0.177 |
| JM - CS - 04 | 10/19/2010 | C-04 | 5.18 | 1.31 | 8.60 | 260 | ND |
| JM - CS - 05 | 10/19/2010 | C-04 | 4.26 | 3.24 | 34.1 | 1,890 | 0.0914 |
| JM - CS - 05 Dup - 1 | 10/19/2010 | C-04 | 4.62 | 4.13 | 33.1 | 1,790 | 0.0764 |
| ⁽²⁾ JM - CS - 06A | 10/27/2010 | C-04 | ND | 4.38 | 20.4 | 1,560 | 0.473 |
| JM - CS - 07 | 10/19/2010 | C-04 | 3.66 | 6.80 | 43.1 | 1,650 | 0.459 |
| JM - CS - 08 | 10/19/2010 | C-04 | 6.58 | 6.8 | 58.3 | 2,600 | 0.229 |
| JM - CS - 09 | 10/19/2010 | C-04 | 3.37 | 39.7 | 21.7 | 6,370 | 0.0755 |
| JM - CS - 10 | 10/19/2010 | C-04 | 3.08 | 2.87 | 25.2 | 1,250 | 0.0912 |
| JM - CS - 11 | 10/19/2010 | C-04 | 3.22 | 2.78 | 26.4 | 574 | 0.0786 |
| JM - CS - 12 | 10/19/2010 | C-04 | ND | 1.01 | 8.77 | 633 | 0.0525 |
| JM - CS - 12 Dup - 2 | 10/19/2010 | C-04 | ND 0.75 | 1.61 | 8.59 | 675 | 0.0598 |
| JM - CS - 13 | 10/19/2010 | C-04 | 2.75 | əə.7 | 108 | 11,500 | 0.274 |
| MTCA - Soil, Method A, Unrestricted Land Use | | | 20 | NA | 250 | NS | 2 |
| ۸ Method B, ۱ [Non-carcinogen-D] | NA | 80 | NS | 24,000 | NA | | |
| Washington State Natural Background Soil Metals Concentrations (Ecology, 1994) | | | 5.76 | 0.81 | 9.85 | 67.47 | 0.02 |

Notes:

(1) Total Metals = Mercury analyzed using EPA Method 7471, other metals Metals analyzed using EPA Method 6010C,
(2) Confirmation Samples following additional excavation

ND not detected above laboratory method reporting limit

NA Not Applicable to this report

NS No Standard available

All concentrations reported in milligrams per kilogram (mg/kg) or parts per million (ppm)

Table 2 Summary of XRF Analysis Data - Metals Josephine Mill No.1 Metaline, Washington

| Sample | Sample | Sample Location | Total Metals ⁽¹⁾ | | | | |
|---|------------|-----------------------|-----------------------------|--------------------|-------------|--------|---------|
| Identification | Date | (See Appendix A | Arsenic | Cadmium | Lead | Zinc | Mercury |
| | | Sheet #) | (As) | (Cd) | (Pb) | (Zn) | (Hg) |
| | | Initi | al Screening Sa | amples | | | |
| JM - IS - 01 | 9/17/2010 | C-03 | ND | ND | 172.53 | 903 | ND |
| JM - IS - 02 | 9/17/2010 | C-03 | ND | ND | 84.42 | 2,014 | ND |
| JM - IS - 03 | 9/17/2010 | C-03 | ND | ND | 97.88 | 539 | ND |
| JM - IS - 04 | 9/17/2010 | C-03 | ND | 21.06 | 264.17 | 7,180 | ND |
| JM - IS - 05 | 9/17/2010 | C-03 | ND | ND | ND | 168 | ND |
| JM - IS - 06 | 9/17/2010 | C-03 | ND | ND | 45.2 | 1,115 | ND |
| JM - IS - 07 | 9/17/2010 | C-03 | ND | ND | 124.39 | 2,728 | ND |
| JM - IS - 08 | 9/17/2010 | C-03 | ND | 234.94 | 795.32 | 33,347 | ND |
| JM - IS - 09 | 9/17/2010 | C-03 | ND | ND | 613.68 | 3,874 | ND |
| JM - IS - 10 | 9/17/2010 | C-03 | ND | ND | 27.4 | 2,742 | ND |
| | Init | ial Confirmation Samp | les Indicating I | Further Excavation | on Required | | |
| JM - CS - 03 | 10/19/2010 | C-04 | ND | ND | 125.13 | 2,575 | ND |
| JM - CS - 06 | 10/19/2010 | C-04 | ND | 39.74 | 235.54 | 11,295 | ND |
| | | Co | onfirmation San | nples | | | |
| Road-CS-West | 10/26/2010 | C-04 | ND | ND | 18.97 | 153 | ND |
| Road-CS-East | 10/26/2010 | C-04 | ND | ND | 10.23 | 212 | ND |
| Road-CS-Center | 10/27/2010 | C-04 | ND | ND | 25.06 | 1,133 | ND |
| Road-CS-Rockface | 10/27/2010 | C-04 | ND | ND | 13.27 | 1,221 | ND |
| JM - CS - 01 | 10/19/2010 | C-04 | ND | ND | ND | 274 | ND |
| JM - CS - 02 | 10/19/2010 | C-04 | ND | ND | 15.09 | 281 | ND |
| ⁽²⁾ JM - CS - 03A | 10/27/2010 | C-04 | ND | ND | 15.29 | 2,123 | ND |
| JM - CS - 04 | 10/19/2010 | C-04 | ND | ND | ND | 303 | ND |
| JM - CS - 05 | 10/19/2010 | C-04 | ND | ND | 45.33 | 3,163 | ND |
| ⁽²⁾ JM - CS - 06A | 10/27/2010 | C-04 | ND | ND | 11.47 | 287 | ND |
| JM - CS - 07 | 10/19/2010 | C-04 | 14.08 | ND | 62.93 | 1,495 | ND |
| JM - CS - 08 | 10/19/2010 | C-04 | ND | ND | 61.93 | 2,669 | ND |
| JM - CS - 09 | 10/19/2010 | C-04 | ND | 27.31 | 15.81 | 6,609 | ND |
| JM - CS - 10 | 10/19/2010 | C-04 | ND | ND | 11.21 | 1,428 | ND |
| JM - CS - 11 | 10/19/2010 | C-04 | 13.52 | ND | 22.46 | 649 | ND |
| JM - CS - 12 | 10/19/2010 | C-04 | ND | ND | 18.87 | 850 | ND |
| JM - CS - 13 | 10/19/2010 | C-04 | ND | ND | 51.69 | 8,658 | ND |
| MTCA - Soil, Method A, Unrestricted Land Use | | 20 | NA | 250 | NS | 2 | |
| MTCA - Soil, Method B, Unrestricted Land Use | | | NA | 80 | NS | 24,000 | NA |
| Washington State Natural Background Soil Metals Concentrations (Ecology, 1994) | | | 5.76 | 0.81 | 9.85 | 67.47 | 0.02 |

Notes:

(1) Total Metals = Mercury analyzed using EPA Method 7471, other metals Metals analyzed using EPA Method 6010C,
(2) Confirmation Samples following additional excavation

Sample locations are shown in Appendix A on sheets C-03 and C-04

- ND not detected above laboratory method reporting limit
- NA Not Applicable to this report

NS No Standard available

All concentrations reported in milligrams per kilogram (mg/kg) or parts per million (ppm)

Table 3 Summary of Dust Monitoring Data Josephine Mill No.1 Metaline, Washington

| Date | Average TWA mg/m ³ | Maximum reading mg/m ³ | Number of readings mg/m ³ |
|-----------|-------------------------------------|---|--|
| 9/15/2010 | 0.007 | 0.567 | 937 |
| 9/23/2010 | 0.001 | 0.060 | 695 |

Notes: TWA = Time-Weighted Average mg/m³ = milligram per cubic meter

Figures





| | | | |) |
|----------------------------------|--|--|--|-------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | _ | | | |
| JM-CS-09 emoval depth: 4.7 ft | | | | |
| | | | - | |
| | | | | |
| JM-CS-08 Removal depth: 3.9 1 | ft | LEGEND: | | |
| | 2370 | EXISTING CONT PRIOR TO REM | OUR (2 FOOT INTERVAL) EDIATION | |
| JM-CS-01 | 2355 | as-built top Repository fo Foot interval | OF WASTE CONTOUR WITHIN DLLOWING REMEDIATION (1 -) | |
| oval depth: 6.4 ft (e | est) | | | |
| | | REMEDIATION (| DESIGN) | |
| | | REMEDIATION (| DESIGN) | |
| | _ · _ | APPROXIMATE AS-BUILT REP | STAGING AREA (DESIGN) | |
| JM-CS-02 val depth: 6.7 ft | | CONFIDMATION | SOUL SAMPLE LOCATION | |
| | JM-CS-01 | (SEE NOTE 6) | SOIL SAMPLE LOCATION | |
| <u>N01</u> | <u>ES:</u> | | | |
| 1. | EXISTING TOPOGRAPH FIELD SURVEY PERFO INC. OF SPOKANE, W | IY AND SITE FEA RMED ON MAY ASHINGTON. | ATURES WERE OBTAINED FROM A 28, 2010 BY RFK LAND SURVEYING | |
| 2. | AS-BUILT REPOSITOR SURVEYS PERFORMED BY ARCADIS. | Y WASTE TOPO | GRAPHY OBTAINED FROM FIELD 8, 2010 AND NOVEMBER 10, 2010 | |
| 3. | HORIZONTAL COORDIN 83/91) ESTABLISHED GP26031-25, GP2603 | NATE SYSTEM IS FROM GPS OBS 31-22, F483, A | WASHINGTON STATE PLANE (NAD SERVATIONS OF WADOT MONUMENTS ND 2516 22 26 (MONUMENT GP | 5 |
| | 26031-25 WAS HELD WADOT MONUMENT G |). VERTICAL DA P26031-25 (EL | TUM IS NAVD88 ÈSTABLISHED FROM 2519.68 FT). | 1 |
| 4. | EASTERN PORTION OF THUS NO EXISTING TO | F REMOVAL ARE OPOGRAPHY IS | A WAS NOT INCLUDED IN SURVEY, SHOWN. | |
| 5. | ROAD SAMPLE LOCAT THEREFORE APPROXIN ARE NOT KNOWN. | NONS WERE NOT MATE AND ELEV | SURVEYED. LOCATIONS ARE ATIONS FOLLOWING WASTE REMOVAL | L |
| 6. | CONFIRMATION SOIL S 19, 2010. | SAMPLES WERE | OBTAINED BY ARCADIS ON OCTOBE | R |
| 7. | INDICATED REMOVAL SURVEYED SPOT ELEY PREVIOUSLY EXISTING | DEPTHS ARE CA VATION FOLLOWI GRADE AT SAM | ALCULATED BY SUBTRACTING NG WASTE REMOVAL FROM ME LOCATION. | |
| 8. | SAMPLE LOCATION JA | M-CS-01 IS LOO Y, THUS REMOVA | CATED OUTSIDE EXISTING AL DEPTH IS ESTIMATED. | |
| | | | | |
| | | 0 30' GRAPHIC | 60' SCALE | |
| | | | STIMSON LUMBER COMPANY METALINE FALLS, WASHINGTON JOSEPHINE MILL NO. 1 - RECORD DR/ | WINGS |
| | | | AS-BUILT REPOSITORY WASTE | RADING |
| | | | ARCADIS | FIGURE 2 |



| | ALLOWABLE CONCENTRATIONS |
|---------|---|
| ARSENIC | 20 MG/KG (MTCA METHOD A SOIL CLEANUP LEVEL) |
| CADMIUM | 80 MG/KG (MTCA METHOD B SOIL CLEANUP LEVEL) |
| LEAD | 250 MG/KG (MTCA METHOD A SOIL CLEANUP LEVEL) |
| ZINC | 24,000 MG/KG (MTCA METHOD B SOIL CLEANUP LEVEL) |
| MERCURY | 2 MG/KG (MTCA METHOD A SOIL CLEANUP LEVEL) |



| \frown | |
|----------|--|
| N | |

| <u>-2</u> | Ľ |
|-----------|---|
| 2.48 | |
| .61 | |
| .59 | |
| 75 | |
| .0598 | |
| | |

| | AST | | |
|--------------|----------------|----------|--|
| RUAD-03-E | <3.69 | | |
| admium (Cd) | 113 | | |
| ad (Pb) | 12 | | |
| nc (7n) | 135 | | |
| ercury (Ha) | 0.126 | | |
| | | | |
| | <u> </u> | | |
| | 7 77 | | |
| admium (Cd) | 30.7 | | |
| | 21.7 | | |
| inc (7n) | 6370 | | |
| ercury (Ha) | 0.0755 | | |
| oroury (rig/ | 0.0700 | | |
| N 05 0 | | | |
| | 6 5 9 | | |
| admium (Cd) | 6.8 | | - |
| ead (Pb) | 58 3 | | |
| Zinc (Zn) | 2600 | | |
| Aercury (Ha) | 0.229 | | |
| | 0.220 | | |
| | | | LEGEND: |
| JM-CS-01 | | | EXISTING CONTOUR (2 FOOT INTERVAL) PRIOR |
| dmium (Cd) | <2.48 0.837 | 20,0 | TO REMEDIATION |
| ad (Pb) | 1 18 5 | 0755 | AS-BUILT TOP OF WASTE CONTOUR WITHIN |
| ic (Zn) | 1 290 | 2355 | REPOSITORY FOLLOWING REMEDIATION (1 FOOT |
| rcurv (Ha) | 0.111 | | INTERVAL) |
| | | | PROPERTY LINE (APPROXIMATE) |
| | | | ESTIMATED LIMIT OF WASTE PRIOR TO |
| | | | REMEDIATION (DESIGN) |
| | | <u> </u> | APPROXIMATE STAGING AREA (DESIGN) |
| JM-CS-02 | | | AS-BUILT REPOSITORY GRADE BREAK / IMIT |
| ic (As) <2. | 45 | | OF WASTE WITHIN REPOSITORY FOLLOWING |
| ium (Cd) 6.2 | :0 | | REMEDIATION |
| (Pb) 58 | | | CONFIDUATION CON CAMPLE LOCATION (SEE |
| (Zn) 120 | 00 | M-C2-08 | NOTE 6) |
| | | | |

NOTES:

- EXISTING TOPOGRAPHY AND SITE FEATURES WERE OBTAINED FROM A FIELD SURVEY PERFORMED ON MAY 28, 2010 BY RFK LAND SURVEYING, INC. OF SPOKANE, WASHINGTON.
- AS-BUILT REPOSITORY WASTE TOPOGRAPHY OBTAINED FROM FIELD SURVEYS PERFORMED ON NOVEMBER 8, 2010 AND NOVEMBER 10, 2010 BY ARCADIS.
- HORIZONTAL COORDINATE SYSTEM IS WASHINGTON STATE PLANE (NAD 83/91) ESTABLISHED FROM GPS OBSERVATIONS OF WADOT MONUMENTS GP26031-25, GP26031-22, F483, AND 2516 22 26 (MONUMENT GP 26031-25 WAS HELD). VERTICAL DATUM IS NAVD88 ESTABLISHED FROM WADOT MONUMENT GP26031-25 (EL. 2519.68 FT).
- 4. EASTERN PORTION OF REMOVAL AREA WAS NOT INCLUDED IN SURVEY, THUS NO EXISTING TOPOGRAPHY IS SHOWN.
- ROAD SAMPLE LOCATIONS WERE NOT SURVEYED. LOCATIONS ARE THEREFORE APPROXIMATE AND ELEVATIONS FOLLOWING WASTE REMOVAL ARE NOT KNOWN.
- CONFIRMATION SOIL SAMPLES WERE OBTAINED BY ARCADIS ON OCTOBER 19, 2010. SAMPLES WERE COLLECTED FROM THE GROUND SURFACE FOLLOWING REMEDIATION. RESULTS REPORTED IN PPM (MG/KG).

| ALLOWABLE CONCENTRATIONS | | |
|--------------------------|---|--|
| ARSENIC | 20 MG/KG (MTCA METHOD A SOIL CLEANUP LEVEL) | |
| CADMIUM | 80 MG/KG (MTCA METHOD B SOIL CLEANUP LEVEL) | |
| LEAD | 250 MG/KG (MTCA METHOD A SOIL CLEANUP LEVEL) | |
| ZINC | 24,000 MG/KG (MTCA METHOD B SOIL CLEANUP LEVEL) | |
| MERCURY | 2 MG/KG (MTCA METHOD A SOIL CLEANUP LEVEL) | |

STIMSON LUMBER COMPANY METALINE FALLS, WASHINGTON JOSEPHINE MILL NO. 1 - RECORD DRAWINGS

CONFIRMATION SAMPLE LOCATIONS

ARCADIS

4

Appendix A

Record Drawings

JOSEPHINE MILL NO. 1 **REMOVAL ACTION DESIGN**



REFERENCE: BASE MAP USGS 7.5 MINUTE QUADRANGLE., ABERCROMBIE MTN, WA 1992 METALINE, WA 1992, BOUNDARY DAM, WA 1992, METALINE FALLS, WA 1886



WASHINGTON

RECORD DRAWINGS

DATE ISSUED / DATE REVISED FEBRUARY 2012

STIMSON LUMBER COMPANY METALINE FALLS, WASHINGTON



ARCADIS U.S., INC.

KEY CONTACTS:

PROJECT SITE:

STIMSON LUMBER CO. ON OLD PEND OREILLE MINE RD NEAR BOUNDARY DAM RD. METALINE FALLS. WA 99153 TELEPHONE: 503.357.2131 CONTACT: STEVEN PETRIN

ENGINEER:

ARCADIS 2310 N. MOLTER RD., STE. 101 LIBERTY LAKE, WA 99019 TELEPHONE: 315.671.9445 CONTACT: BRIAN M. STONE

OWNER:

STIMSON LUMBER CO. CORPORATE ENVIRONMENTAL MANAGER 520 SW YAMHILL STREET, STE 700 PORTLAND, OR 97204 CONTACT: STEVEN PETRIN

SURVEYOR:

RFK LAND SURVEYING INC. 1420 WEST GARLAND AVE. SPOKANE, WA 99205 TELEPHONE: 509.324.7861 CONTACT: RUDY F. KITZAN, PLS

INDEX TO DRAWINGS

CIVIL

- AS-BUILT REPOSITORY WASTE GRADING PLAN C-01
- AS-BUILT FINAL GRADING PLAN C-02
- CROSS SECTION C-03
- **DITCH PROFILES** C-04
- DETAILS C-05
- DETAILS C-06
- C-07 PERIMETER UNDERDRAIN DETAILS



JOSEPHINE MILL NO. 1 - REC

CONSOLIDATION GI

| | LEGEND: | | |
|-------|---|--|--|
| | PREVIOUSLY EXISTING CONTOUR (2 FOOT INTERVAL) PRIOR TO REMEDIATION | | |
| 2355 | AS-BUILT TOP OF WASTE CONTOUR WITHIN REPOSITORY FOLLOWING REMEDIATION (1 FOOT INTERVAL) | | |
| | PROPERTY LINE (APPROXIMATE) | | |
| ***** | AS-BUILT REPOSITORY GRADE BREAK/LIMIT OF WASTE WITHIN REPOSITORY FOLLOWING REMEDIATION | | |

NOTES:

- 1. PREVIOUSLY EXISTING TOPOGRAPHY AND SITE FEATURES WERE OBTAINED FROM A FIELD SURVEY PERFORMED ON MAY 28, 2010 BY RFK LAND SURVEYING, INC. OF SPOKANE, WASHINGTON.
- 2. AS-BUILT REPOSITORY WASTE TOPOGRAPHY OBTAINED FROM FIELD SURVEYS PERFORMED ON NOVEMBER 8, 2010 AND NOVEMBER 10, 2010 BY ARCADIS.
- HORIZONTAL COORDINATE SYSTEM IS WASHINGTON STATE PLANE (NAD 83/91) ESTABLISHED FROM GPS OBSERVATIONS OF WADOT MONUMENTS GP26031-25, GP26031-22, F483, AND 2516 22 26 (MONUMENT GP 26031-25 WAS HELD). VERTICAL DATUM IS NAVD88 ESTABLISHED FROM WADOT MONUMENT GP26031-25 (EL. 2519.68 FT).

| 0 | 30' | | 60' |
|---|---------|-------|-----|
| | GRAPHIC | SCALE | |

| INE FALLS, WASHINGTON | ARCADIS Project No. SK030179.0001 | |
|-----------------------|---|------|
| | Date FEBRUARY 2012 | C 01 |
| RADING PLAN | ARCADIS 2310 N. MOLTER RD., STE 101 LIBERTY LAKE, WA 99019 TEL. 509.535.7225 | C-01 |



LEGEND:

| 2370 | PREVIOUSLY EXISTING CONTOUR (2 FOOT INTERVAL) |
|---|--|
| | POST-REMEDIATION AS-BUILT CONTOUR (1 FOOT INTERVAL) |
| | PROPERTY LINE (APPROXIMATE) |
| \triangle | MILL STRUCTURE REMNANTS |
| | RENO MATTRESS OVERLAID WITH MACMAT R6 AND STRAW MESH FABRIC |
| | 10"-12"x30' LONG LOGS (EROSION CONTROL/SECURITY BARRIERS) |
| | PERMANENT TURF REINFORCEMENT MAT |
| | ROCK RIP RAP, 8" SIZE AND LARGER |
| | ROCK RIP RAP, 3"-6" SIZE |
| - Jun | SLASH PILE (EROSION CONTROL MEASURES) |
| ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | APPROXIMATE TREE LINE |
| \bigcirc | 6" CORRUGATED PLASTIC CLEAN OUT PIPE WITH COVER |
| OF | 6" CORRUGATED PLASTIC OUTFALL PIPE NO COVER |
| \bigcirc | LARGE BOULDER |
| NT | NO TRESPASSING SIGN |
| | |

NOTES:

- PREVIOUSLY EXISTING TOPOGRAPHY AND SITE FEATURES OUTSIDE LIMIT 1. OF POST-REMEDIATION AS-BUILT SURVEY WERE OBTAINED FROM A FIELD SURVEY PERFORMED ON MAY 28, 2010 BY RFK LAND SURVEYING, INC. OF SPOKANE, WASHINGTON.
- 2. POST-REMEDIATION AS-BUILT TOPOGRAPHY AND SITE FEATURES OBTAINED FROM A FIELD SURVEY PERFORMED IN OCTOBER 2011 BY RFK LAND SURVEYING, INC. OF SPOKANE WASHINGTON.
- 3. HORIZONTAL COORDINATE SYSTEM IS WASHINGTON STATE PLANE (NAD 83/91) ESTABLISHED FROM GPS OBSERVATIONS OF WADOT MONUMENTS GP26031-25, GP26031-22, F483, AND 2516 22 26 (MONUMENT GP 26031-25 WAS HELD). VERTICAL DATUM IS NAVD88 ESTABLISHED FROM WADOT MONUMENT GP26031-25 (EL. 2519.68 FT).
- 4. TOPSOIL WAS INSTALLED ACROSS THE REPOSITORY AND REMOVAL AREAS THAT WERE BEYOND LIMITS OF REPOSITORY.
- 5. ROAD WAS RECONSTRUCTED BY PLACING ROAD BASE MATERIAL TO THE APPROXIMATE EXTENTS OF THE PRE-EXISTING ROAD. ROAD BASE THICKNESS VARIED DEPENDING ON LOCATION.
- 6. STAGING AREA WAS STABILIZED BY FINE-GRADING TOPSOIL ACROSS DISTURBED PORTIONS AND SEEDING.
- 7. ALL TOPSOILED AREAS AND OTHER PREVIOUSLY VEGETATED AREAS THAT WERE DISTURBED BY CONSTRUCTION ACTIVITIES WERE SEEDED WITH NATIVE GRASS.

| | 0 30' GRAPHIC SCALE | 60' |
|---|---|------|
| ALINE FALLS, WASHINGTON ECORD DRAWINGS | ARCADIS Project No. SK030179.0001 | |
| | Date FEBRUARY 2012 | C 02 |
| RADING PLAN | ARCADIS 2310 N. MOLTER RD., STE 101 LIBERTY LAKE, WA 99019 TEL. 509.535.7225 | C-02 |





| LINE FALLS, WASHINGTON | ARCADIS Project No. SK030179.0001 | |
|------------------------|---|------|
| ΟΤΙΟΝΙ | Date FEBRUARY 2012 | C 02 |
| CTION | ARCADIS 2310 N. MOLTER RD., STE 101 LIBERTY LAKE, WA 99019 TEL. 509.535.7225 | C-03 |





| LINE FALLS, WASHINGTON ECORD DRAWINGS | ARCADIS Project No. SK030179.0001 | |
|--|---|------|
| | Date FEBRUARY 2012 | |
| OFILE | ARCADIS 2310 N. MOLTER RD., STE 101 LIBERTY LAKE, WA 99019 TEL. 509.535.7225 | C-04 |



CIVIL

- 1. FINAL COVER COLLECTION PIPE SHALL BE INSTALLED WHEREVER FINAL COVER SYSTEM TERMINATES ADJACENT TO
- 2. FINAL COVER COLLECTION PIPE SHALL CONSIST OF 6" DIA PERFORATED CORRUGATED SMOOTH-BORE HDPE. PIPE SHALL BE N-12 AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS OR EQUAL. PIPE SHALL BE SURROUNDED WITH PEA STONE AND WRAPPED WITH 8 OZ. NON-WOVEN GEOTEXTILE.
- 3. ANCHOR TRENCH SHALL RECEIVE NON-WOVEN CUSHION GEOTEXTILE, GEOMEMBRANE, AND GEOCOMPOSITE DRAINAGE

| NE FALLS, WASHINGTON | ARCADIS Project No. SK030179.0001 | |
|----------------------|---|------|
| | Date FEBRUARY 2012 | C 05 |
| .5 | ARCADIS 2310 N. MOLTER RD., STE 101 LIBERTY LAKE, WA 99019 TEL. 509.535.7225 | C-05 |







Appendix B

Sampling Analytical Results

Data Validation Summary September, October 2010 Soil Monitoring Event Josephine Mill No. 1 Property Metaline Falls, Washington

ARCADIS performed a data validation evaluation of the analytical data collected during the Josephine Mill No. 1 Property (the "Site") soil sampling events conducted on September 17, October 19, October 26 and October 27. The data validation evaluation was conducted in accordance with the objectives and specifications in the USEPA approved Site Investigation Work Plan which includes the Field Sampling Plan (FSP) and project Quality Assurance Project Plan (QAPP). Collected soil samples were transported to TestAmerica located in Spokane Valley, Washington in three separate batches on three separate dates as follows:

- 1. Lab Job ID STI0115 for samples collected on September 17, 2010
- 2. Lab Job ID STJ0111 for samples collected on October 19, 2010
- 3. Lab Job ID STJ0169 for samples collected on October 26 and 27, 2010

TestAmerica is a multi-state certified laboratory. The samples were analyzed for the following analytes and methods:

- Arsenic (EPA 6010C)
- Cadmium (EPA 6010C)
- Lead (EPA 6010C)
- Zinc (EPA 6010C)
- Mercury (EPA 7471)

CHAIN OF CUSTODY

Thirty four (34) samples were submitted to TestAmerica for laboratory analysis. Three of those were trip blanks, and two were duplicates. Samples were received by TestAmerica intact and with the proper labeling and chain-of-custody.

The field documentation was complete and chain-of-custody sample transfers were conducted in accordance with the procedures outlined in the QAPP.

HOLDING TIMES

Samples were in compliance with their hold times between sampling, extraction, and analysis. None of the sample results were flagged with qualifiers due to hold time exceedances.

LABORATORY CONTROL

Laboratory control measures (e.g., lab surrogate recovery, duplicate precision, and method blank analysis) were analyzed for all the analytical batches where all the samples were included. All laboratory data are useable for the purpose of this project.

As discussed in the lab reports, zinc was detected in a method blank associated with samples JM-CS-01 through JM-CS-13 inclusive, and corresponding duplicates. However the analyte concentration in each of the samples is greater than ten (10) times the concentration in the method blank. Subsequently the reporting limits and results were not affected.

Several analytical results were J flagged due to non-compliant laboratory control measures as follows:
- Lead and Zinc in JM-CS-01 because the Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were above the acceptance limits due to sample matrix interference. Also, the Relative Percent Difference (RPD) for lead in JM-CS-01 laboratory duplicate, exceeded the acceptance limit.
- Zinc in JM-CS-10 because the laboratory replicate analysis yielded an RPD which exceeded the acceptance limit.

FIELD ACCURACY

A total of three trip blanks were included with the two confirmation sample batches. The analytes of interest were not detected in any of the trip blanks.

Duplicate samples were taken and analyzed for each of JM-CS-05 and JM-CS-12. The RPDs for each analyte for each pair of samples were less than 50%. No data was qualified as a result of the duplicate samples.

SUMMARY

A review of the laboratory QC results revealed a few issues which caused the analytical data to be qualified.

Although the temperatures of the coolers exceeded 6°C, the methods for the selected analytes are not affected by temperature. The holding times in 40 CFR § 136.3 Table IIB do not specify a maximum temperature for preservation of samples for these analytes. No samples were J flagged as a result of the elevated temperatures of the samples upon receipt.

Three analytical results were J qualified due to non-compliant duplicate and/or matrix spike percent recoveries

In conclusion, based upon a data validation evaluation, the project data are valid and acceptable for use.



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Spokane 11922 East 1st. Avenue Spokane, WA 99206 Tel: (509)924-9200

TestAmerica Job ID: STI0115

TestAmerica Sample Delivery Group: STI0115 Client Project/Site: SK030179 Client Project Description: Stimson- Josephine Mill #1

For:

ARCADIS U.S., Inc. - Liberty Lake 2310 N. Molter Rd. Suite 101 Liberty Lake, WA 99019

Attn: Paula Lyon

tander

Authorized for release by: 9/21/2010 1:42 PM

Randee Decker Project Manager Randee.Decker@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.



Table of Contents

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|-----------------------|----|
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| Sample Summary | 3 |
| Definitions | 4 |
| Client Sample Results | 5 |
| QC Sample Results | 8 |
| Certification Summary | 11 |
| Chain of Custody | 12 |

Sample Summary

| 3 |
|---|
| |
| 5 |
| |
| |

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---------------|------------------|--------|----------------|----------------|
| STI0115-01 | JM-IS-01 | Soil | 09/17/10 09:45 | 09/17/10 16:25 |
| STI0115-02 | JM-IS-02 | Soil | 09/17/10 10:10 | 09/17/10 16:25 |
| STI0115-03 | JM-IS-03 | Soil | 09/17/10 10:40 | 09/17/10 16:25 |
| STI0115-04 | JM-IS-04 | Soil | 09/17/10 11:00 | 09/17/10 16:25 |
| STI0115-05 | JM-IS-05 | Soil | 09/17/10 11:15 | 09/17/10 16:25 |
| STI0115-06 | JM-IS-06 | Soil | 09/17/10 11:30 | 09/17/10 16:25 |
| STI0115-07 | JM-IS-07 | Soil | 09/17/10 11:50 | 09/17/10 16:25 |
| STI0115-08 | JM-IS-08 | Soil | 09/17/10 12:00 | 09/17/10 16:25 |
| STI0115-09 | JM-IS-09 | Soil | 09/17/10 12:15 | 09/17/10 16:25 |
| STI0115-10 | JM-IS-10 | Soil | 09/17/10 12:40 | 09/17/10 16:25 |

Qualifier Definition/Glossary

Qualifiers

Metals 4 Qualifier Qualifier Description 4 R2 The RPD exceeded the acceptance limit. 5 R4 Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information. 5 Glossary Glossary Description 6 X Listed under the "D" column to designate that the result is reported on a dry weight basis. 7

Analytical Data

Zinc

| Client Sample ID: JM-IS-01 | | | | | | | Lab Sam | ple ID: STI0 ⁻ | 115-01 |
|-----------------------------------|-------------|---------------|----------|-----|-----------|--------------|----------------|---------------------------|-----------|
| Date Collected: 09/17/10 09:45 | | | | | | | | Mat | rix: Soil |
| Date Received: 09/17/10 16:25 | | | | | | | | Percent Solie | ds: 91.7 |
| | | | | | | | | | |
| Method: EPA 6010C - Total Metals | by EPA 6010 | J/7000 Series | Methods | MDI | Unit | D | Bronorod | Analyzad | |
| Analyte | Result | Qualifier | | MDL | Unit | | | | |
| Arsenic | 5.70 | | 2.73 | | mg/kg ary | * | 09/20/10 07.43 | 09/20/10 17.41 | 1 |
| Cadmium | 3.86 | | 0.218 | | mg/kg dry | ж ж | 09/20/10 07:43 | 09/20/10 17:41 | 1 |
| Lead | 161 | | 1.64 | | mg/kg dry | | 09/20/10 07:43 | 09/20/10 17:41 | 1 |
| Zinc | 873 | | 0.545 | | mg/kg dry | - <u>р</u> - | 09/20/10 07:43 | 09/21/10 08:30 | 1 |
| Method: EPA 7471 - Total Metals b | y EPA 6010/ | 7000 Series N | lethods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | 102 | | 50.0 | | ug/kg dry | ₽ | 09/21/10 06:43 | 09/21/10 11:34 | 1 |
| Client Sample ID: JM-IS-02 | | | | | | | Lab Sam | ple ID: STI0 [,] | 115-02 |
| Date Collected: 09/17/10 10:10 | | | | | | | | Mat | rix: Soil |
| Date Received: 09/17/10 16:25 | | | | | | | | Percent Soli | ds: 79.3 |
| Method: EPA 6010C - Total Metals | by FPA 601 | 0/7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Arsenic | 6.06 | | 3.15 | | ma/ka drv | ₽ ₽ | 09/20/10 07:43 | 09/20/10 17:46 | 1 |
| Cadmium | 7 13 | | 0 252 | | ma/ka drv | ₽ | 09/20/10 07:43 | 09/20/10 17:46 | 1 |
| Lead | 103 | | 1.89 | | ma/ka dry | ¢ | 09/20/10 07:43 | 09/20/10 17:46 | . 1 |
| Zinc | 2340 | | 0.631 | | mg/kg dry | ¢ | 09/20/10 07:43 | 09/21/10 08:34 | 1 |
| | | | | | | | | | |
| Method: EPA 7471 - Total Metals b | y EPA 6010/ | 7000 Series N | lethods_ | | | _ | <u> </u> | | |
| Analyte | Result | Qualifier | | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | 236 | | 50.0 | | ug/kg dry | - <u></u> | 09/21/10 06:43 | 09/21/10 11:36 | 1 |
| Client Sample ID: JM-IS-03 | | | | | | | Lab Sam | ple ID: STI0 ⁻ | 115-03 |
| Date Collected: 09/17/10 10:40 | | | | | | | | Mat | rix: Soil |
| Date Received: 09/17/10 16:25 | | | | | | | | Percent Soli | ds: 85.9 |
| Method: EPA 6010C - Total Metals | by EPA 6010 | 0/7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Arsenic | 4.64 | | 2.91 | | mg/kg dry | ₿ (| 09/20/10 07:43 | 09/20/10 17:52 | 1 |
| Cadmium | 0.938 | | 0.233 | | mg/kg dry | ₽ | 09/20/10 07:43 | 09/20/10 17:52 | 1 |
| Lead | 128 | | 1.75 | | ma/ka drv | ₽ | 09/20/10 07:43 | 09/20/10 17:52 | 1 |
| Zinc | 599 | | 0.582 | | mg/kg dry | ¢ | 09/20/10 07:43 | 09/21/10 08:39 | 1 |
| Method: EPA 7471 - Total Metals h | W EPA 6010/ | 7000 Series N | lethods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | 59.0 | | 50.0 | | ug/kg dry | ₽ | 09/21/10 06:43 | 09/21/10 11:38 | 1 |
| | | | | | | | | | |
| Client Sample ID: JM-IS-04 | | | | | | | Lab Sam | ple ID: STI0 [,] | 115-04 |
| Date Collected: 09/17/10 11:00 | | | | | | | | Mat | rix: Soil |
| Date Received: 09/17/10 16:25 | | | | | | | | Percent Soli | ds: 73.4 |
| Method: EPA 6010C - Total Metals | by EPA 6010 | 0/7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Arsenic | 4.81 | | 3.41 | | mg/kg dry | ₽ | 09/20/10 07:43 | 09/20/10 18:13 | 1 |
| Cadmium | 28.4 | | 0.272 | | mg/kg dry | ₽ | 09/20/10 07:43 | 09/20/10 18:13 | 1 |
| Lead | 353 | | 2.04 | | mg/kg dry | ₽ | 09/20/10 07:43 | 09/20/10 18:13 | 1 |

10

09/21/10 08:44

6.81

8460

mg/kg dry 🔅

09/20/10 07:43

| Client Sample ID: JM-IS-04 | | | | | | | Lab Sam | ple ID: STI0 | 115-04 |
|---|----------------|---------------|----------------|-----|-----------|--------------|----------------|---------------------------|-----------------------|
| Date Beceived: 09/17/10 16:25 | | | | | | | | Percent Soli | de: 73 / |
| | | | | | | | | Tercent oon | <u>us. 70.4</u> |
| Method: EPA 7471 - Total Metals by | EPA 6010/ | 7000 Series M | Nethods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | 1950 | | 250 | | ug/kg dry | ¢ | 09/21/10 06:43 | 09/21/10 12:32 | 5 |
| Client Sample ID: JM-IS-05 | | | | | | | Lab Sam | ple ID: STI0 [,] | 115-05 |
| Date Collected: 09/17/10 11:15 | | | | | | | | Mat | rix: Soil |
| Date Received: 09/17/10 16:25 | | | | | | | | Percent Soli | ds: 78.6 |
| Method: EPA 6010C - Total Metals b | y EPA 6010 |)/7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Arsenic | 4.29 | | 3.18 | | mg/kg dry | ₽ | 09/20/10 07:43 | 09/20/10 18:18 | 1 |
| Cadmium | 0.750 | | 0.254 | | mg/kg dry | ₽ | 09/20/10 07:43 | 09/20/10 18:18 | 1 |
| Lead | 10.6 | | 1.91 | | mg/kg dry | ₽ | 09/20/10 07:43 | 09/20/10 18:18 | 1 |
| Zinc | 120 | | 0.636 | | mg/kg dry | ¢ | 09/20/10 07:43 | 09/21/10 08:48 | 1 |
| Method: EPA 7471 - Total Metals by | FPA 6010/ | 7000 Series M | Vethods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analvzed | Dil Fac |
| Mercury | ND | | 50.0 | | ug/kg dry | \$ | 09/21/10 06:43 | 09/21/10 11:48 | 1 |
| Client Semple ID: IM IS 06 | | | | | | | Lob Som | | 445.00 |
| | | | | | | | Lap San | | 115-00 |
| Date Collected: 09/17/10 11:30 | | | | | | | | Mat | rix: Soil |
| Date Received: 09/17/10 16:25 | | | | | | | | Percent Solie | ds: 78.9 |
| Method: EPA 6010C - Total Metals h | W EPA 6010 | 1/7000 Sories | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Arsonic | 5 66 | | 3 17 | | ma/ka dry | - | 09/20/10 07:43 | 09/20/10 18:24 | 1 |
| Cadmium | 4 34 | | 0 253 | | ma/ka dry | ₽ | 09/20/10 07:43 | 09/20/10 18:24 | 1 |
| Lead | 103 | | 1 90 | | ma/ka dry | ₽ | 09/20/10 07:43 | 09/20/10 18:24 | 1 |
| Zinc | 1270 | | 0.634 | | mg/kg dry | ¢ | 09/20/10 07:43 | 09/21/10 08:53 | 1 |
| Method: EPA 7471 - Total Metals by | EPA 6010/ | 7000 Series M | Nethods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | 217 | | 50.0 | | ug/kg dry | ¢ | 09/21/10 06:43 | 09/21/10 11:51 | 1 |
| Client Semple ID: IM IS 07 | | | | | | | Lob Som | | 445.07 |
| | | | | | | | Lap San | ipie iD: 5110 | 115-07 |
| Date Collected: 09/17/10 11:50 Date Received: 09/17/10 16:25 | | | | | | | | Mat Percent Soli | rix: Soli ds: 86.6 |
| Method: EPA 6010C - Total Metals b | EPA 601 |)/7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Arsenic | 4.73 | | 2.89 | | mg/kg dry | ₽ | 09/20/10 07:43 | 09/20/10 18:30 | 1 |
| Cadmium | 4.89 | | 0.231 | | mg/kg dry | ₽ | 09/20/10 07:43 | 09/20/10 18:30 | 1 |
| Lead | 103 | | 1.73 | | mg/kg dry | ₽ | 09/20/10 07:43 | 09/20/10 18:30 | 1 |
| Zinc | 1860 | | 0.577 | | mg/kg dry | ¢ | 09/20/10 07:43 | 09/21/10 09:11 | 1 |
| Method: EPA 7471 - Total Metals by | EPA 6010/ | 7000 Series M | Nethods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | 215 | | 50.0 | | ug/kg dry | ₽ | 09/21/10 06:43 | 09/21/10 11:53 | 1 |

Analytical Data

| Client Sample ID: JM-IS-08 | | | | | | | Lab Sam | ple ID: STI0 ⁻ | 115-08 |
|------------------------------------|-------------|---------------|---------------|-----|-----------|------------------|----------------|---------------------------|-----------|
| Date Collected: 09/17/10 12:00 | | | | | | | | Mat | rix: Soil |
| Date Received: 09/17/10 16:25 | | | | | | | | Percent Solie | ds: 84.2 |
| Γ | | | | | | | | | |
| Method: EPA 6010C - Total Metals | by EPA 6010 | 0/7000 Series | Methods | | | _ | <u> </u> | | |
| | Result | Qualifier | RL | MDL | Unit | | Prepared | Analyzed | DII Fac |
| Arsenic | 7.74 | | 2.97 | | mg/kg dry | 3,r ~ | 09/20/10 07:43 | 09/20/10 18:35 | 1 |
| Cadmium | 76.2 | | 0.238 | | mg/kg dry | 14: | 09/20/10 07:43 | 09/20/10 18:35 | 1 |
| Lead | 1280 | | 1.78 | | mg/kg dry | - Q - | 09/20/10 07:43 | 09/20/10 18:35 | 1 |
| Zinc | 30900 | | 29.7 | | mg/kg dry | æ | 09/20/10 07:43 | 09/21/10 09:16 | 50 |
| Method: EPA 7471 - Total Metals by | V EPA 6010/ | 7000 Series N | lethods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analvzed | Dil Fac |
| Mercury | 2220 | | 500 | | ug/kg dry | ₽ | 09/21/10 06:43 | 09/21/10 12:34 | 10 |
| | | | | | | | | | |
| Client Sample ID: JM-IS-09 | | | | | | | Lab Sam | ple ID: STI0 | 115-09 |
| Date Collected: 09/17/10 12:15 | | | | | | | | Mat | rix: Soil |
| Date Received: 09/17/10 16:25 | | | | | | | | Percent Soli | ds: 87.3 |
| Method: EPA 6010C - Total Metals | by EPA 601(| 1/7000 Sorios | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Arsenic | 6 60 | | 2.86 | | ma/ka drv | ₽ | 09/20/10 07:43 | 09/20/10 18:41 | 1 |
| Cadmium | 12.2 | | 0.229 | | ma/ka dry | ₽ | 09/20/10 07:43 | 09/20/10 18:41 | 1 |
| | 559 | | 1 72 | | ma/ka dry | ₽ | 09/20/10 07:43 | 09/20/10 18:41 | 1 |
| Zinc | 3130 | | 5.73 | | mg/kg dry | | 09/20/10 07:43 | 09/21/10 09:19 | 10 |
| | | | | | | | | | |
| Method: EPA 7471 - Total Metals by | y EPA 6010/ | 7000 Series N | lethods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | 369 | | 50.0 | | ug/kg dry | ¢ | 09/21/10 06:43 | 09/21/10 11:59 | 1 |
| Client Sample ID: JM-IS-10 | | | | | | | Lab Sam | ple ID: STI0 | 115-10 |
| Date Collected: 09/17/10 12:40 | | | | | | | | Mat | rix: Soil |
| Date Received: 09/17/10 16:25 | | | | | | | | Percent Soli | ds: 75.6 |
| | | | | | | | | | |
| Method: EPA 6010C - Total Metals | by EPA 6010 | 0/7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Arsenic | 5.99 | | 3.31 | | mg/kg dry | ☆ | 09/20/10 07:43 | 09/20/10 18:47 | 1 |
| Cadmium | 7.82 | | 0.265 | | mg/kg dry | ₽ | 09/20/10 07:43 | 09/20/10 18:47 | 1 |
| Lead | 35.1 | | 1.98 | | mg/kg dry | ₽ | 09/20/10 07:43 | 09/20/10 18:47 | 1 |
| Zinc | 3930 | | 6.61 | | mg/kg dry | ¢ | 09/20/10 07:43 | 09/21/10 09:23 | 10 |
| Mothodi EDA 7474 Total Matala ka | | 7000 Corles | lathada | | | | | | |
| Metriou: EPA (4/1 - Total Metals D | y EPA 6010/ | Oualifice | nethous Bi | MDI | l Init | Р | Propared | Analyzed | Dil Eac |
| Mercury | | | <u> </u> | | | ŭ Ž | | | |
| weroury | IND | | 50.0 | | uy/ky uly | | 03/21/10 00.43 | U3121/10 12.02 | 1 |

Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods

| Lab Sample ID: 1010128-BLK1 | | | | | | | | | (| Client Sa | mple ID: 10 | 010128 | -BLK1 |
|-----------------------------|--------|-------|-----------|-------|----------|-----------|--------------|-----------|----------------|-----------------|---|----------------|----------|
| Matrix: Soil | | | | | | | | | | | Prej | р Туре | e: total |
| Analysis Batch: 10I0128 | | | | | | | | | | | Prep Batch | h: 1010 | 128_P |
| | В | lank | Blank | | | | | | | | - i - i - i - i - i - i - i - i - i - i | | |
| Analyte | R | esult | Qualifier | | RL | м | IDL | Unit D | | Prepared | Anal | yzed | Dil Fac |
| Arsenic | | ND | | | 2.50 | | mg/ | /kg wet | 09/2 | 0/10 07:43 | 09/20/10 1 | 7:08 | 1 |
| Cadmium | | ND | | | 0.200 | | mg | /kg wet | 09/2 | 0/10 07:43 | 09/20/10 1 | 7:08 | 1 |
| Lead | | ND | | | 1.50 | | mg | /kg wet | 09/2 | 0/10 07:43 | 09/20/10 1 | 7:08 | 1 |
| Lab Sample ID: 10I0128-BLK1 | | | | | | | | | (| Client Sa | mple ID: 10 | 010128 | -BLK1 |
| Matrix: Soil | | | | | | | | | | | Prej | р Туре | : total |
| Analysis Batch: 10I0128 | | | | | | | | | | | Prep Batch | n: 1010 | 128_P |
| | В | lank | Blank | | | | | | | | | | _ |
| Analyte | R | esult | Qualifier | | RL | м | IDL | Unit D | | Prepared | Anal | yzed | Dil Fac |
| Zinc | | ND | | | 0.500 | | mg | /kg wet | 09/2 | 0/10 07:43 | 09/21/10 0 | 8:16 | 1 |
| Lab Sample ID: 1010128-BS1 | | | | | | | | | | Client S | ample ID: | 101012 | 8-BS1 |
| Matrix: Soil | | | | | | | | | | | Pre | | e: total |
| Analysis Batch: 10I0128 | | | | | | | | | | | Prep Batch | n: 1010 | 128 P |
| | | | | Spike | | LCS | LCS | | | | % Rec. | | |
| Analyte | | | | Added | | Result | Qualifier | Unit | D | % Rec | Limits | | |
| Arsenic | | | | 42.0 | | 43.8 | | mg/kg wet | | 104 | 80 - 120 | | |
| Cadmium | | | | 42.0 | | 43.5 | | mg/kg wet | | 104 | 80 - 120 | | |
| Lead | | | | 42.0 | | 45.4 | | mg/kg wet | | 108 | 80 - 120 | | |
| | | | | | | | | | | | | | |
| Lab Sample ID: 10I0128-BS1 | | | | | | | | | | Client S | ample ID: | 101012 | 8-BS1 |
| Matrix: Soil | | | | | | | | | | | Pre | р Туре | e: total |
| Analysis Batch: 10I0128 | | | | | | | | | | | Prep Batch | h: 1010 | 128_P |
| | | | | Spike | | LCS | LCS | | | | % Rec. | | |
| Analyte | | | | Added | | Result | Qualifier | Unit | D | % Rec | Limits | | |
| Zinc | | | | 42.0 | | 45.2 | | mg/kg wet | | 108 | 80 - 120 | | |
| _ _ | | | | | | | | | | | | | |
| Lab Sample ID: 10I0128-MS1 | | | | | | | | | | Client | Sample ID | : STI0 | 098-01 |
| Matrix: Soil | | | | | | | | | | | Pre | р Туре | e: total |
| Analysis Batch: 10I0128 | | _ | | | | | | | | | Prep Batch | n: 1010 | 128_P |
| | Sample | Sam | ple | Spike | Mat | rix Spike | Matrix Spik | e | | | % Rec. | | |
| Analyte | Result | Qua | ifier | Added | | Result | Qualifier | Unit | | % Rec | Limits | | |
| Arsenic | 4.84 | | | 45.9 | | 49.0 | | mg/kg dry | ф. | 96.4 | 75 - 125 | | |
| Cadmium | 0.139 | | | 45.9 | | 45.6 | | mg/kg dry | ф. | 99.1 | 75 - 125 | | |
| Lead | 7.68 | | | 45.9 | | 49.7 | | mg/kg dry | ¢ | 91.7 | 75 - 125 | | |
| Lab Sample ID: 1010128-MS1 | | | | | | | | | | Client | Sample ID | : STI0 | 098-01 |
| Matrix: Soil | | | | | | | | | | | Prei | | e: total |
| Analysis Batch: 1010128 | | | | | | | | | | | Pren Batch | h: 1010 | 128 P |
| | Sample | Sam | ple | Spike | Mat | rix Spike | Matrix Spike | e | | | % Rec. | | |
| Analyte | Result | Qua | lifier | Added | | Result | Qualifier | Unit | D | % Rec | Limits | | |
| Zinc | 39.5 | | | 45.9 | | 83.2 | | mg/kg dry | - ` | 95.4 | 75 - 125 | | |
| | | | | | | | | / | | | | | |
| Lab Sample ID: 10I0128-MSD1 | | | | | | | | | | Client | Sample ID | : STI0 | 098-01 |
| Matrix: Soil | | | | | | | | | | | Pre | р Туре | e: total |
| Analysis Batch: 10I0128 | | | | | | | | | | | Prep Batch | h: 1010 | 128_P |
| | Sample | Sam | ple | Spike | Matrix S | pike Dup | Matrix Spike | e Dup | | | % Rec. | | RPD |
| Analyte | Result | Qua | ifier | Added | _ | Result | Qualifier | Unit | D | % Rec | Limits | RPD | Limit |
| Arsenic | 4.84 | | | 45.9 | | 48.5 | | mg/kg dry | ¢ | 95.2 | 75 - 125 | 1.08 | 20 |
| Cadmium | 0.139 | | | 45.9 | | 45.2 | | mg/kg dry | ₽ | 98.2 | 75 - 125 | 0.97 | 20 |
| | | | | | | | | | | | | 5 | |

Quality Control Data

Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods (Continued)

| Lab Sample ID: 10I0128-MSD1 Matrix: Soil | | | | | | | | Client | Sample ID Pre |): STI00 p Type |)98-01 : total |
|---|--------|-----------|-------|------------------|-------------|-------------|-----------------|--------|------------------|--------------------|-------------------|
| Analysis Batch: 10I0128 | | | | | | | | | Prep Batc | h: 1010 | 128_P |
| | Sample | Sample | Spike | Matrix Spike Dup | Matrix Spil | ke Dup | | | % Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | % Rec | Limits | RPD | Limit |
| Lead | 7.68 | | 45.9 | 49.3 | | mg/kg dry | \ \\ | 90.7 | 75 - 125 | 0.84 | 20 |
| | | | | | | | | | | 1 | |
| Lab Sample ID: 10I0128-MSD1 | | | | | | | | Client | Sample ID |): STI00 | 98-01 |
| Matrix: Soil | | | | | | | | | Pre | р Туре | : total |
| Analysis Batch: 10I0128 | | | | | | | | | Prep Batc | h: 1010 | 128_P |
| | Sample | Sample | Spike | Matrix Spike Dup | Matrix Spil | ke Dup | | | % Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | % Rec | Limits | RPD | Limit |
| Zinc | 39.5 | | 45.9 | 82.9 | | mg/kg dry | \ \\ | 94.7 | 75 - 125 | 0.36 | 20 |
| | | | | | | | | | | 6 | |
| Lab Sample ID: 10I0128-DUP1 | | | | | | | | Client | Sample ID |): STI00 | 98-01 |
| Matrix: Soil | | | | | | | | | Pre | p Type | : total |
| Analysis Batch: 10I0128 | | | | | | | | | Prep Batc | h: 1010 | 128 P |
| | Sample | Sample | | Duplicate | Duplicate | | | | | | RPD |
| Analyte | Result | Qualifier | | Result | Qualifier | Unit | D | | | RPD | Limit |
| Arsenic | 4.84 | | | 4.81 | | mg/kg dry | ₽ | | | 0.62 | 20 |
| Cadmium | 0 139 | | | 0 170 | R4 | ma/ka day | ¢ | | | 0 20.2 | 20 |
| Lead | 7.68 | | | 8 40 | 114 | ma/ka dry | æ | | | 9.07 | 20 |
| | 7.00 | | | 0.40 | | ing/itg ury | | | | 0.07 | 20 |
| Lab Sample ID: 10I0128-DUP1 | | | | | | | | Client | Sample ID |): STI00 | 98-01 |
| Matrix: Soil | | | | | | | | | Pre | р Туре | : total |
| Analysis Batch: 10I0128 | | | | | | | | | Prep Batc | h: 1010 | 128_P |
| | Sample | Sample | | Duplicate | Duplicate | | | | - | | RPD |
| Analyte | Result | Qualifier | | Result | Qualifier | Unit | D | | | RPD | Limit |
| Zinc | 39.5 | | | 37.6 | | mg/kg dry | ₿ Ţ | | | 4.79 | 20 |

Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods

| Lab Sample ID: 10I0135-BLK1 Matrix: Soil Analysis Batch: 10I0135 | в | lank | Blank | | | | | | (| Client Sa | mple ID: 10l01 Prep Ty Prep Batch: 10 | 35-BLK1 pe: total 010135_P |
|--|--------|-------|-----------|-------|------|------------|-------------|-----------|------|------------|---|----------------------------------|
| Analyte | Re | esult | Qualifier | | RL | м | DL | Unit D |) | Prepared | Analyzed | Dil Fac |
| Mercury | | ND | | | 50.0 | | uç | g/kg wet | 09/2 | 1/10 06:43 | 09/21/10 11:20 | 1 |
| Lab Sample ID: 10I0135-BS1 | | | | | | | | | | Client S | Sample ID: 1010 | 135-BS1 |
| Matrix: Soil | | | | | | | | | | | Prep Ty | pe: total |
| Analysis Batch: 10I0135 | | | | | | | | | | | Prep Batch: 1 | 010135_P |
| - | | | | Spike | | LCS | LCS | | | | % Rec. | |
| Analyte | | | | Added | | Result | Qualifier | Unit | D | % Rec | Limits | |
| Mercury | | | | 100 | | 104 | | ug/kg we | t – | 104 | 80 - 120 | |
| Lab Sample ID: 10I0135-MS1 Matrix: Soil | | | | | | | | | | Clie | ent Sample ID: Pren Ty | JM-IS-10 |
| Analysis Batch: 1010135 | | | | | | | | | | | Pron Batch: 1 | 10135 D |
| Analysis Batch. 1010100 | Sample | Sam | ple | Spike | Ма | trix Spike | Matrix Spil | (e | | | % Rec. | //0100_I |
| Analyte | Result | Qual | ifier | Added | | Result | Qualifier | Unit | D | % Rec | Limits | |
| Mercury | ND | | | 132 | | 167 | | ug/kg dry | / 7 | 95.4 | 80 - 120 | |

Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods (Continued)

| Lab Sample ID: 10I0135-MSD1 Matrix: Soil Analysis Batch: 10I0135 | Comula | Comula | Spiles | Mateix Saika Dua | Matrix Call | | | Clie | ent Sample Pre Prep Batc | ID: JM p Type h: 1010 | I-IS-10 :: total 135_P |
|--|--------|-----------|--------|------------------|-------------|-----------|--------|------------|--------------------------------|-----------------------------|------------------------------|
| | Sample | Sample | Spike | | | ke Dup | _ | ~ - | % Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | % Rec | Limits | RPD | Limit |
| Mercury | ND | | 132 | 176 | | ug/kg dry | \ ₽ | 102 | 80 - 120 | 5.41 | 20 |
| Lab Sample ID: 10I0135-DUP1 Matrix: Soil Analysis Batch: 10I0135 | | | | | | | | Clie | nt Sample Pre Prep Batc | ID: JM p Type h: 1010 | I-IS-10 :: total 135_P |
| | Sample | Sample | | Duplicate | Duplicate | | | | | | RPD |
| Analyte | Result | Qualifier | | Result | Qualifier | Unit | D | | | RPD | Limit |
| Mercury | ND | | | 82.9 | R2 | ug/kg dry | ¢ | | | 68.8 | 40 |

Certification Summary

Client: ARCADIS U.S., Inc. - Liberty Lake Project/Site: SK030179

| Laboratory | Authority | Program | EPA Region | Certification ID | Expiration Date |
|---------------------|------------|---------------|------------|------------------|-----------------|
| TestAmerica Spokane | Alaska | Alaska UST | 10 | UST-071 | 10/31/10 |
| TestAmerica Spokane | Washington | State Program | 10 | C569 | 01/06/11 |

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

TestAmerica Spokane Sample Receipt Form

| Work Order #STICN 5 Client: A | readis | | | Project: Stimson - JASSphine | Mill# |
|---|-------------------------|-------------|--------------|---------------------------------------|-------|
| Date/Time Received: 9-17-10 16:25 | ву: (19 | | | | |
| Samples Delivered By: Shipping Service Courie | r ဩa?ient ⊡Other:_ | | | | |
| List Air Bill Number(s) or Attach a photocopy of the Air | Bill: | , , | | | _ |
| Receipt Phase | Yes | No | NA | Comments | _ |
| Were samples received in a cooler: | | λ | | • •• •••• | - |
| Custody Seals are present and intact: | | · · | | · | _ |
| Are CoC documents present: | \times | | | | _ |
| Necessary signatures: | | | | | |
| Thermal Preservation Type: Blue Ice Gel Ice | Real Ice Dry Ice | None |]Other: | | |
| Temperature by IR Gun: 22-7 °C Thermometer | r Serial #81500 (accept | ance criter | ia 0-6 ⁰C) | | |
| Temperature out of range:Not enough icelce m | elted w/in 4hrs of c | ollection | <u>NA</u> Ot | her: | |
| Log-in Phase Date/Time: <u>9-17-10 16:41</u> By: <u>()</u> | Yes | No | NA | Comments | |
| Are sample labels affixed and completed for each conta | ainer X | | | · | |
| Samples containers were received intact: | \sim | | | | _ |
| Do sample IDs match the CoC | · × | | | | |
| Appropriate sample containers were received for tests | requested X | | | | |
| Are sample volumes adequate for tests requested | | | | | |
| Appropriate preservatives were used for the tests reque | ested | | X | · · · · · · · · · · · · · · · · · · · | _ |
| pH of inorganic samples checked and is within method | specification | | X | ······· | |
| Are VOC samples free of bubbles >6mm (1/4" diameter |) | | $ \chi$ | | |
| Are dissolved parameters field filtered | | | λ | | |
| Do any samples need to be filtered or preserved by the | lab | X | i i | ······ | |
| Does this project require quick turnaround analysis | | | | 2 day | - |
| Are there any short hold time tests (see chart below) | | X | | | |
| Are any samples within 2 days of or past expiration | | X | | | |
| Was the CoC scanned | X | | | | |
| Were there Non-conformance issues at login | | X | | |] |
| If ves was a CAR generated # | | | X | | |

| 24 hours or less | 48 hours | 7 days |
|-------------------|------------------|----------------------|
| Coliform Bacteria | BOD, Color, MBAS | TDS, TSS, VDS, FDS |
| Chromium +6 | Nitrate/Nitrite | Sulfide |
| | Orthophosphate | Aqueous Organic Prep |

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 11922 E. First Ave, Spokane, WA 99206-5302 9405 SW Nimbus Ave, Beaverton, OR 97008-7145 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

 $\mathbf{0}$

425-420-9200 FAX 420-9210 509-924-9200 FAX 924-9290 503-906-9200 FAX 906-9210 907-563-9200 FAX 563-9210

| • | | CHAIN OF CUSTODY | REPORT | Work Order #: STICO15 | |
|--------|---|----------------------|--|--|--------------------|
| | CLIENT: | INVOICE TO: ACCORDIN | | TURNAROUND REQUEST | |
| | REPORT TO: Arcadis Paula, Ixons | | | in Business Days * | |
| | ADDRESS: 2310 N, MOLTOR RD Suite 101 | | | Organic & Inorganic Analyses | |
| | Liberty lake WA 99019 | | · · · · · · · · · · · · · · · · · · · | | <1 |
| | PHONE: 509-535 P25 FAX: | P.O. NUMBER: | | Petroleum Hydrocarbon Analyses | 1 |
| | PROJECT NAMES TIMSER - Josephine Millie | PRESERVAL | | - 5TD. 4 3 2 | |
| | PROJECT NUMBER: 5 KO30 179 | REQUESTED A | NALYSES | OTHER Society | = |
| | SAMPLED BY: Stohn DrabAg | | | * Turnaround Requests less than standard may incur R | Charges |
| | CLIENT SAMPLE IDENTIFICATION DATE/TIME | 2000204733 | | MATRIX # OF LOCATION/ (W, S, O) CONT. COMMENTS | TA WO ID |
| Pag | JM-IS-01 9-17-0 0945 | XXXXX | | 5 1 | |
| e 1 | JM-15-02 1 1010 | XXXXX | | $ \leq $ | |
| 3 of 1 | , JM-IS-03 (040 | XXXXX | | 51 | |
| ω | NM-IS-04 1100 | XXXXX | | 51 | |
| | , JM-15-05 1115 | XXXX | | | |
| | · JM-IS-06 1130 | | | 5 1 | |
| | , JM-75-07 1150 | XXXXX | | 5 1 | |
| | · JM-IS-08 1200 | XXXXX | | 51 | |
| | , JM-IS-09 1215 | | | 51 | |
| | 10 JM-IS-10 1240 | | | 51 | |
| | PRINT NAME: VORITAS DAY FIRM: 1 | Freadis TIME: 1625 | RECEIVED BY: J.L. Stapliton PRINT NAME: Pot Stapleton | FIRM: Test Anumar TIME: 16 | 17-10 |
| | RELEASED BY: | DATE: | RECEIVED BY: | DATE: | ~ |
| 60 | PRINT NAMP: FIRM: ADDITIONAL REMARKS: | TIME: | PRINT NAME: | FIRM: TIME: | |
| /21 | | 24 4 0 | | PAGE TA | OF L-1000(0408) |
| 2010 | 1:0 - +1+-10 | ON NOV- | | | |

Page 13 of 13



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Spokane 11922 East 1st. Avenue Spokane, WA 99206 Tel: (509)924-9200

TestAmerica Job ID: STJ0111

TestAmerica Sample Delivery Group: STJ0111 Client Project/Site: SK030179.0002 Task 002 Client Project Description: Josephine Mill

For:

..... Links

Review your project results through

TotalAccess

Have a Question?

www.testamericainc.com

Visit us at:

Ask-The

Expert

ARCADIS U.S., Inc. - Liberty Lake 2310 N. Molter Rd. Suite 101 Liberty Lake, WA 99019

Attn: Paula Lyon

tander

Authorized for release by: 10/26/2010 3:42 PM

Randee Decker Project Manager Randee.Decker@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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| QC Sample Results | 10 |
| Certification Summary | 14 |
| Chain of Custody | 15 |

Sample Summary

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---------------|------------------|--------|----------------|----------------|
| STJ0111-01 | JM-CS-01 | Soil | 10/19/10 10:15 | 10/20/10 11:55 |
| STJ0111-02 | JM-CS-02 | Soil | 10/19/10 10:45 | 10/20/10 11:55 |
| STJ0111-03 | JM-CS-03 | Soil | 10/19/10 11:00 | 10/20/10 11:55 |
| STJ0111-04 | JM-CS-04 | Soil | 10/19/10 11:15 | 10/20/10 11:55 |
| STJ0111-05 | JM-CS-05 | Soil | 10/19/10 11:20 | 10/20/10 11:55 |
| STJ0111-06 | JM-CS-06 | Soil | 10/19/10 11:30 | 10/20/10 11:55 |
| STJ0111-07 | JM-CS-07 | Soil | 10/19/10 11:40 | 10/20/10 11:55 |
| STJ0111-08 | JM-CS-08 | Soil | 10/19/10 12:05 | 10/20/10 11:55 |
| STJ0111-09 | JM-CS-09 | Soil | 10/19/10 12:15 | 10/20/10 11:55 |
| STJ0111-10 | JM-CS-10 | Soil | 10/19/10 12:35 | 10/20/10 11:55 |
| STJ0111-11 | JM-CS-11 | Soil | 10/19/10 12:45 | 10/20/10 11:55 |
| STJ0111-12 | JM-CS-12 | Soil | 10/19/10 13:10 | 10/20/10 11:55 |
| STJ0111-13 | JM-CS-13 | Soil | 10/19/10 13:25 | 10/20/10 11:55 |
| STJ0111-14 | Dup-1 | Soil | 10/19/10 13:10 | 10/20/10 11:55 |
| STJ0111-15 | Dup-2 | Soil | 10/19/10 13:10 | 10/20/10 11:55 |
| STJ0111-16 | Trip Blank | Water | 10/19/10 00:00 | 10/20/10 11:55 |

Qualifiers

| Qualifier | 'S | |
|-----------|---|---|
| Metals | | |
| Qualifier | Qualifier Description | 4 |
| B1 | Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank. | 5 |
| M1 | The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS). | |
| R2 | The RPD exceeded the acceptance limit. | |
| Glossary | / | |
| Glossary | Glossary Description | |
| ¢. | Listed under the "D" column to designate that the result is reported on a dry weight basis. | 8 |

Zinc

| Client Sample ID: JM-CS-01 | | | | | | | Lab Sam | ole ID: STJ0 [,] | 111-01 |
|------------------------------------|-------------|---------------|----------------|------|-----------|-----------------|----------------|---------------------------|-----------|
| Date Collected: 10/19/10 10:15 | | | | | | | | Mat | rix: Soil |
| Date Received: 10/20/10 11:55 | | | | | | | | Percent Solie | ds: 62.9 |
| | | | | | | | | | |
| Method: EPA 6010C - Total Metals | by EPA 6010 | 0/7000 Series | Methods | MDI | l lució | | Drenered | Analyzad | |
| | Result | Qualifier | RL | WIDL | Unit | _ | Prepared | Analyzed | |
| Arsenic | ND | | 2.48 | | mg/kg | | 10/21/10 09:15 | 10/22/10 16:46 | 1 |
| Cadmium | 0.837 | | 0.198 | | mg/kg | | 10/21/10 09:15 | 10/22/10 16:46 | 1 |
| Lead | 18.5 | | 1.49 | | mg/kg | | 10/21/10 09:15 | 10/22/10 16:46 | 1 |
| Zinc | 290 | B1 | 0.495 | | mg/kg | | 10/21/10 09:15 | 10/22/10 16:46 | 1 |
| Method: EPA 7471 - Total Metals by | y EPA 6010/ | 7000 Series M | Nethods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | 111 | | 49.0 | | ug/kg dry | \ \\ | 10/21/10 09:19 | 10/22/10 13:37 | 1 |
| Client Sample ID: IM-CS-02 | | | | | | | Lah Sami | | 111_02 |
| Data Collected: 10/19/10 10:45 | | | | | | | Lub Ouni | Mate | |
| Date Received: 10/20/10 11:55 | | | | | | | | Percent Solie | ds: 30.9 |
| Mothod: EBA 6010C Total Motals | | V7000 Sorias | Mothodo | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analvzed | Dil Fac |
| Arsenic | ND | | 2.45 | | ma/ka | _ | 10/21/10 09:15 | 10/22/10 16:51 | 1 |
| Cadmium | 6.20 | | 0 196 | | ma/ka | | 10/21/10 09:15 | 10/22/10 16:51 | 1 |
| Load | 58.0 | | 1 47 | | ma/ka | | 10/21/10 09:15 | 10/22/10 16:51 | 1 |
| Zinc | 1200 | B1 | 4.90 | | mg/kg | | 10/21/10 09:15 | 10/25/10 22:50 | 10 |
| | | | | | 5 5 | | | | |
| Method: EPA 7471 - Total Metals by | y EPA 6010/ | 7000 Series M | Nethods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | 317 | | 49.0 | | ug/kg dry | ¢ | 10/21/10 09:19 | 10/22/10 13:39 | 1 |
| Client Sample ID: IM-CS-03 | | | | | | | Lah Sami | | 111_03 |
| Data Collected: 10/19/10 11:00 | | | | | | | Lub Ouni | Mate | |
| Date Boosived: 10/20/10 11:55 | | | | | | | | Porcont Soli | de: 22 6 |
| Date Received: 10/20/10 11:55 | | | | | | | | Percent Solid | us: 32.0 |
| Method: EPA 6010C - Total Metals | by EPA 6010 |)/7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Arsenic | ND | | 2.43 | | mg/kg | _ | 10/21/10 09:15 | 10/22/10 16:57 | 1 |
| Cadmium | 11.4 | | 0.194 | | mg/kg | | 10/21/10 09:15 | 10/22/10 16:57 | 1 |
| Lead | 261 | | 1.46 | | mg/kg | | 10/21/10 09:15 | 10/22/10 16:57 | 1 |
| Zinc | 2490 | B1 | 4.85 | | mg/kg | | 10/21/10 09:15 | 10/25/10 22:52 | 10 |
| Method: FPA 7471 - Total Metals by | v FPA 6010/ | 7000 Series M | Vethods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | 1360 | | 50.0 | | ug/kg dry | p | 10/21/10 09:19 | 10/22/10 13:41 | 1 |
| <u> </u> | | | | | | | | | |
| Client Sample ID: JM-CS-04 | | | | | | | Lab Sam | ple ID: STJ0 [,] | 111-04 |
| Date Collected: 10/19/10 11:15 | | | | | | | | Mat | rix: Soil |
| Date Received: 10/20/10 11:55 | | | | | | | | Percent Solie | ds: 77.1 |
| Method: EPA 6010C - Total Metals | by EPA 6010 |)/7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Arsenic | 5.18 | | 2.50 | | mg/kg | _ | 10/21/10 09:15 | 10/22/10 17:02 | 1 |
| Cadmium | 1.31 | | 0.200 | | mg/kg | | 10/21/10 09:15 | 10/22/10 17:02 | 1 |
| Lead | 8.60 | | 1.50 | | mg/kg | | 10/21/10 09:15 | 10/22/10 17:02 | 1 |

1

10/22/10 17:02

0.500

260 B1

mg/kg

10/21/10 09:15

| Client Sample ID: JM-CS-04 | | | | | | | Lab Sam | ple ID: STJ0 ⁻ | 111-04 |
|---|----------------------|----------------------------|----------------|-----|---------------|---------|----------------|---------------------------|-----------|
| Date Collected: 10/19/10 11:15 | | | | | | | | Mat | rix: Soil |
| Date Received: 10/20/10 11:55 | | | | | | | | Percent Soli | ds: 77.1 |
| Method: EPA 7471 - Total Metals by | EPA 6010/ | 7000 Series N | Methods | MDI | Unit | Б | Propared | Analyzod | Dil Eac |
| | Result | Quaimer | RL | MDL | Unit | | 10/21/10 00:10 | Analyzed | |
| Mercury | ND | | 49.0 | | ug/kg ary | ** | 10/21/10 09:19 | 10/22/10 13:44 | 1 |
| Client Sample ID: JM-CS-05 | | | | | | | Lab Sam | ole ID: STJ0 ⁻ | 111-05 |
| Date Collected: 10/19/10 11:20 | | | | | | | | Mat | rix: Soil |
| Date Received: 10/20/10 11:55 | | | | | | | | Percent Solie | ds: 79.8 |
| Method: EPA 6010C - Total Metals b | V EPA 6010 | 1/7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Arsonic | 4 26 | | 2 48 | | ma/ka | _ | 10/21/10 09:15 | 10/22/10 17:08 | 1 |
| Cadmium | 3.24 | | 0 198 | | mg/kg | | 10/21/10 00:15 | 10/22/10 17:08 | 1 |
| Land | 3.24 | | 1 40 | | mg/kg | | 10/21/10 00:15 | 10/22/10 17:00 | 1 |
| | 34.1 | | 1.49 | | mg/kg | | 10/21/10 09:15 | 10/22/10 17.06 | 10 |
| | 1890 | B1 | 4.95 | | mg/kg | | 10/21/10 09:15 | 10/25/10 22:55 | 10 |
| Method: EPA 7471 - Total Metals by | EPA 6010/ | 7000 Series N | Nethods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | 91.4 | | 49.0 | | ug/kg dry | ₽ | 10/21/10 09:19 | 10/22/10 13:46 | 1 |
| Client Semple ID: IM CS 06 | | | | | | | | | 111 00 |
| | | | | | | | Lab Sam | | 111-00 |
| Date Collected: 10/19/10 11:30 | | | | | | | | Mat | rix: Soil |
| Date Received: 10/20/10 11:55 | | | | | | | | Percent Soli | ds: 76.5 |
| Method: EPA 6010C - Total Metals b | v FPA 6010 |)/7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analvzed | Dil Fac |
| Arsenic | 3.44 | | 2.50 | | ma/ka | — | 10/21/10 09:15 | 10/22/10 17:13 | 1 |
| Cadmium | 55.2 | | 0 200 | | ma/ka | | 10/21/10 09.15 | 10/22/10 17.13 | 1 |
| Lead | 294 | | 1 50 | | ma/ka | | 10/21/10 09.15 | 10/22/10 17.13 | 1 |
| Zinc | 16300 | B1 | 50.0 | | mg/kg | | 10/21/10 09:15 | 10/25/10 23:00 | 100 |
| | | | | | | | | | |
| Method: EPA 7471 - Total Metals by | EPA 6010/ | 7000 Series N | Nethods | MDI | Unit | • | Bronorod | Analyzed | |
| | Result | Quaimer | | MDL | | | 10/21/10 00:10 | 40/22/10 15:02 | |
| Mercury | 2990 | | 250 | | ug/kg ury | ** | 10/21/10 09.19 | 10/22/10 15.03 | 5 |
| Client Sample ID: JM-CS-07 | | | | | | | Lab Sam | ole ID: STJ0 [,] | 111-07 |
| Date Collected: 10/19/10 11:40 | | | | | | | | Mat | rix: Soil |
| Date Received: 10/20/10 11:55 | | | | | | | | Percent Soli | ds: 84.5 |
| Mothod: EDA 6010C Total Matala h | |)/7000 Series | Mathada | | | | | | |
| Analyte | y EPA 6010 Result | Qualifier | RL | MDL | Unit | D | Prepared | Analvzed | Dil Fac |
| Arsenic | 3 66 | | 2.50 | | ma/ka | _ | 10/21/10 09:15 | 10/22/10 17:19 | 1 |
| Cadmium | 08.0 | | 0 200 | | ma/ka | | 10/21/10 09 15 | 10/22/10 17.19 | 1 |
| Lead | 43.1 | | 1 50 | | ma/ka | | 10/21/10 09:15 | 10/22/10 17.19 | 1 |
| Zinc | 1650 | B1 | 5.00 | | mg/kg | | 10/21/10 09:15 | 10/25/10 23:03 | 10 |
| | | | | | | | | | |
| Method: EPA 7471 - Total Metals by Analyte | EPA 6010/ Result | 7000 Series N Qualifier | Viethods Ri | мы | Unit | D | Prenared | Analyzed | Dil Fac |
| Mercury | 459 | | 50.0 | | ug/ka drv | <u></u> | 10/21/10 09 19 | 10/22/10 13:52 | 1 |
| | | | 00.0 | | ~ 5/1 5 0 1 9 | | | | |

Zinc

| Client Sample ID: JM-CS-08 | | | | | | | Lab Sam | ole ID: STJ0 [,] | 111-08 |
|------------------------------------|-----------------------|---------------|---------|-----|-----------|----------|----------------|---------------------------|-----------|
| Date Collected: 10/19/10 12:05 | | | | | | | | Mat | rix: Soil |
| Date Received: 10/20/10 11:55 | | | | | | | | Percent Solie | ds: 85.5 |
| | | | Mathada | | | | | | |
| Method: EPA 6010C - Total Metals | Dy EPA 6010 Result | Qualifier | RI | мы | Unit | р | Prepared | Analyzed | Dil Fac |
| Analyte | 6 58 | | 2 50 | | ma/ka | _ | 10/21/10 09:15 | 10/22/10 17:25 | 1 |
| Cadmium | 6.90 | | 0.200 | | mg/kg | | 10/21/10 09:15 | 10/22/10 17:25 | 1 |
| Lood | 50.00 | | 1 50 | | mg/kg | | 10/21/10 09:15 | 10/22/10 17:25 | 1 |
| Zinc | 2600 | B1 | 5.00 | | mg/kg | | 10/21/10 09:15 | 10/25/10 23:08 | 10 |
| | | | | | | | | | |
| Method: EPA 7471 - Total Metals by | y EPA 6010/ | 7000 Series N | lethods | | | | | | |
| Analyte | Result | Qualifier | | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | 229 | | 49.0 | | ug/kg dry | 3,2 | 10/21/10 09:19 | 10/22/10 13:59 | 1 |
| Client Sample ID: JM-CS-09 | | | | | | | Lab Sam | ole ID: STJ0 [,] | 111-09 |
| Date Collected: 10/19/10 12:15 | | | | | | | - | Mat | rix: Soil |
| Date Received: 10/20/10 11:55 | | | | | | | | Percent Soli | ds: 70.3 |
| Method: EPA 6010C - Total Metals | by FPA 6010 |)/7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Arsenic | 3.37 | · | 2.50 | | mg/kg | _ | 10/21/10 09:15 | 10/22/10 17:30 | 1 |
| Cadmium | 39.7 | | 0.200 | | mg/kg | | 10/21/10 09:15 | 10/22/10 17:30 | 1 |
| Lead | 21.7 | | 1.50 | | mg/kg | | 10/21/10 09:15 | 10/22/10 17:30 | 1 |
| Zinc | 6370 | B1 | 25.0 | | mg/kg | | 10/21/10 09:15 | 10/25/10 23:12 | 50 |
| | | | | | | | | | |
| Method: EPA 7471 - Total Metals by | y EPA 6010/ | 7000 Series N | lethods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | <u>D</u> | Prepared | Analyzed | Dil Fac |
| Mercury | 75.5 | | 50.0 | | ug/kg dry | ¢ | 10/21/10 09:19 | 10/22/10 14:01 | 1 |
| Client Sample ID: JM-CS-10 | | | | | | | Lab Sam | ole ID: STJ0 ⁻ | 111-10 |
| Date Collected: 10/19/10 12:35 | | | | | | | | Mat | rix: Soil |
| Date Received: 10/20/10 11:55 | | | | | | | | Percent So | lids: 77 |
| Mothod: EBA 6010C - Total Motals | by EDA 6010 | V7000 Sorios | Mothode | | | | | | |
| Analyte | Bosult | Qualifier | RI | мы | Unit | п | Prenared | Analyzed | Dil Fac |
| Arsonic | 3.08 | | 2 48 | | ma/ka | _ | 10/21/10 09:15 | 10/22/10 17:59 | 1 |
| Cadmium | 2.97 | | 0 198 | | ma/ka | | 10/21/10 09:15 | 10/22/10 17:59 | 1 |
| | 2.07 | | 1 49 | | ma/ka | | 10/21/10 09:15 | 10/22/10 17:59 | 1 |
| Zinc | 1250 | B1 | 4.95 | | mg/kg | | 10/21/10 09:15 | 10/25/10 23:15 | 10 |
| Mothod: EBA 7471 Total Motals h | | 7000 Sarias N | lathoda | | | | | | |
| Analyte | PA 0010/ Result | Qualifier | RI | мы | Unit | п | Prenared | Analyzed | Dil Fac |
| Mercury | 91.2 | | 50.0 | | ug/kg dry | × | 10/21/10 09:19 | 10/22/10 14:03 | 1 |
| L | | | | | | | | | |
| Client Sample ID: JM-CS-11 | | | | | | | Lab Sam | ole ID: STJ0 | 111-11 |
| Date Collected: 10/19/10 12:45 | | | | | | | | Mat | rix: Soil |
| Date Received: 10/20/10 11:55 | | | | | | | | Percent Soli | ds: 83.7 |
| Method: EPA 6010C - Total Metals | by EPA 6010 |)/7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Arsenic | 3.22 | | 2.48 | | mg/kg | | 10/21/10 09:15 | 10/22/10 18:05 | 1 |
| Cadmium | 2.78 | | 0.198 | | mg/kg | | 10/21/10 09:15 | 10/22/10 18:05 | 1 |
| Lead | 26.4 | | 1.49 | | mg/kg | | 10/21/10 09:15 | 10/22/10 18:05 | 1 |

10

10/25/10 23:20

4.95

574 B1

mg/kg

10/21/10 09:15

| Date Collected: Off/1012-45 Matrix: Sol Mathod: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Analyte Result Moli Unit D Prepared Analyzed DIF 6 Client Sample ID: JM-CS-12 Lab Sample ID: STJ0111-11 Lab Sample ID: STJ0111-12 Matrix: Sol Date Collected: 10/9/10 00-15 Total Metals by EPA 6010/7000 Series Methods Analyzed DIF 6 Analyte ND 2.50 mgkg 10/2/10 00-15 10/2/10 1543 Caterium 1.01 0.200 mgkg 10/2/10 00-15 10/2/10 1543 Caterium 1.01 0.200 mgkg 10/2/10 00-15 10/2/10 1543 10/2/10 00-15 10/2/10 1543 Caterium 1.01 0.200 mgkg 10/2/10 00-15 10/2/10 1543 10/2/10 00-15 10/2/10 1543 10/2/10 00-15 10/2/10 1543 10/2/10 00-15 10/2/10 1543 10/2/10 00-15 10/2/10 1543 10/2/10 00-15 10/2/10 00-15 10/2/10 1543 10/2/10 00-15 10/2/10 1543 10/2/10 00-15 10/2/10 1646 10/2/10 00-15 10/2/10 00-15 10/2/10 00-15 | Client Sample ID: JM-CS-11 | | | | | | | Lab Sam | ole ID: STJ0 [,] | 111-11 |
|--|---|--------------------|---------------|----------------|-----|-----------|----------------|----------------|---------------------------|-----------------------|
| Date Received: 10/20/10 11:55 Percent Solids: 83: Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Markive Mob. Unit D ugkg av Prepared 0/02/10/0318 Analyze 10/22/10/343 Dif Fe Client Sample ID: JM-CS-12 Date Collected: 10/19/10/13:10 Lab Sample ID: STJ0111-12 Matrix: 500 Lab Sample ID: STJ0111-12 Matrix: 500 Lab Sample ID: STJ0111-12 Matrix: 500 Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods Markene MDL Unit D Prepared Analyzed 10/21/10/0815 Dif Fe Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods Markene mgkg 10/21/10/0815 10/22/10/15.43 Dif Fe Clead 9.77 1.50 mgkg 10/21/10/0815 10/22/10/15.43 Dif Fe Zine 633 B1 25.0 mgkg 10/21/10/0815 10/22/10/14.83 5 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Markive MDL Unit D Prepared Analyzed Dif Fe Markive Result Qualifier RL MDL Unit D Prepared Analyzed Dif Fe Markive Result Qualifier RL MDL <th>Date Collected: 10/19/10 12:45</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>Mat</th> <th>rix: Soil</th> | Date Collected: 10/19/10 12:45 | | | | | | | | Mat | rix: Soil |
| Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Analyte MDL upR dy Unit upR dy D repared 10/2/10/0615 Analyzed 10/2/10/615 DIF a manage Client Sample ID: JM-CS-12 Date Collected: 10/19/10 13:10 Lab Sample ID: STJ0111-12 Matrix: Soi Date Received: 10/20/10 11:55 Lab Sample ID: STJ0111-12 Matrix: Soi Date Received: 10/20/10 11:55 Percent Solids: 65: Percent Solids: 67: Percent Solids: 67: Perce | Date Received: 10/20/10 11:55 | | | | | | | | Percent Solie | ds: 83.7 |
| Analyse Result Qualifier RL MDL Unit D Prepared Analyzed Dill Client Sample ID: JM-CS-12 Lab Sample ID: STJ0111-12 Lab Sample ID: STJ0111-12 Matrix: Sol Date Collected: 10/19/10 13:10 Lab Sample ID: STJ0111-12 Matrix: Sol Percent Solids: 65: Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods mg/kg 1022/10.08:16 1022/10.18:43 Analyze ND 2.50 mg/kg 1022/10.08:15 1022/10.18:43 Cadmium 1.61 0.200 mg/kg 1022/10.08:15 1022/10.18:43 Zinc 6.33 B1 2.50 mg/kg 1022/10.08:15 1022/10.18:43 Analyze 8.32 B1 2.50 mg/kg 1022/10.08:15 1022/10.18:43 Analyze Result Qualifier RL MDL Unit D Prepared Analyzed DIFs Analyze S2.5 50.0 Ug/kg dry 1022/10.08:15 1022/10.18:10 1022/10.18:10 1022/10.18:10 1022/10.18:10 1022/10.18:10 1022/ | Method: EPA 7471 - Total Metals by E | PA 6010/ | 7000 Series M | Methods | | | | | | |
| Image: | Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Client Sample ID: JM-CS-12 Lab Sample ID: STJ0111-12 Date Collected: 10/19/10 13:10 Matrix: Soi Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods Multice RL MDL Unit Prepared Analyzed DI Fa Cademium 1.01 0.000 mgkg 1002110 09:15 1002210 15:43 East Lead 8.77 1.50 mgkg 1002110 09:15 1002210 15:43 East Zinc 633 B1 25.0 mgkg 1002110 09:15 1002210 15:43 5 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed DI Fa Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed DI Fa Analyze 2.75 2.50 0.00 mgkg 1002110 09:15 1002210 15:48 East | Mercury | 78.6 | | 49.0 | | ug/kg dry | \$2 | 10/21/10 09:19 | 10/22/10 14:05 | 1 |
| Date Collected: 10/19/10 13:10 Matrix: Sol Percent Solids: 65.3 Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods Analyte Num Dif Fa Analyte ND 2.50 mgkg 1002/110.09:15 1002/210.15:43 Dif Fa Cadmium 1.01 0.200 mgkg 1002/110.09:15 1002/210.15:43 Dif Fa Zinc 633 B1 25.0 mgkg 1002/110.09:15 1002/210.15:43 Dif Fa Analyte Result Qualifier RL MDL Unit <d< td=""> Prepared Analyzed Dif Fa Cadmium 1.01 0.200 mgkg 1002/110.09:15 1002/10.15:43 Dif Fa Zinc 633 B1 25.0 S0.0 Ugkg dry Prepared Analyzed Dif Fa Mercury 52.5 50.0 Ugkg dry Dif Pa Analyzed Dif Fa Client Sample ID: JM-CS-13 Lab Sample ID: STJ0111-12 Matrix: Sol Percent Solids: 67.4 Mot No15 1002/110.09:15 1002/10.16:35 Dif Fa</d<> | Client Sample ID: JM-CS-12 | | | | | | | Lab Sam | ole ID: STJ0 ⁻ | 111-12 |
| Date Received: 10/20/10 11:55 Percent Solids: 65.: Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods Analyte MDL Unit D Prepared 10/21/10/09:15 Analyzed 10/22/10/154.3 DII Fa Analyzed DI | Date Collected: 10/19/10 13:10 | | | | | | | | Mat | rix: Soil |
| Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed DilFa Arsenic ND 2.50 mg/kg 102/17/0.09.15 102/27/0.154.3 102/27/0.154.3 102/27/0.154.3 102/27/0.154.3 102/27/0.154.3 102/27/0.154.3 102/27/0.154.3 102/27/0.09.15 102/27/0.154.3 102/27/0.154.3 102/27/0.154.3 50.0 102/27/0.09.15 102/27/0.154.3 50.0 102/27/0.09.15 102/27/0.154.3 50.0 102/27/0.09.15 102/27/0.154.3 50.0 102/27/0.09.15 102/27/0.120.33 50.0 Method: EPA 4010/7.000.5 60.0 100/27/0.09.15 10/22/10.143.3 50.0 Method: EPA 4010/7.000.5 60.0 100/27/0.09.15 10/22/10.143.05 EVA 40.0 | Date Received: 10/20/10 11:55 | | | | | | | | Percent Soli | ds: 65.2 |
| Analyte Result Qualifier FL MDL Unit D Prepared Analyzed Dil Fa Arsenic ND 2.50 mg/kg 102/110.92.15 102/210.15.4.3 102/210.15.4.3 102/210.15.4.3 102/210.15.4.3 102/210.15.4.3 102/210.15.4.3 102/210.15.4.3 102/210.15.4.3 102/210.15.4.3 102/210.15.4.3 102/210.15.4.3 50 102/210.15.4.3 102/210.15.4.3 50 102/210.10.9.15 10/22/10.23.38 50 50.0 10/21/10.09.15 10/22/10.23.38 50 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa Mercury 52.5 50.0 MDL Unit D Prepared Analyzed Dil Fa Client Sample ID: JM-CS-13 Lab Sample ID: STJ0111-13 Matrix: Soi Date Collected: 10/19/10 13:25 Percent Solids: 67.1 Mottod: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods Analyte Mil Fa 10/22/10 15.48 10/22/10 15.48 10/22/10 15.48 10/22/10 15.48 E/A 20/2/10 1 | Method: EPA 6010C - Total Metals by | FPA 6010 | 0/7000 Series | Methods | | | | | | |
| Arsenic ND 2.50 mgkg 10/21/10.09:15 10/22/10.15:43 Cadmium 1.01 0.200 mgkg 10/21/10.09:15 10/22/10.15:43 Lead 5.77 1.50 mgkg 10/21/10.09:15 10/22/10.15:43 Zinc 633 B1 25.0 mgkg 10/21/10.09:15 10/22/10.15:43 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods mgkg 10/21/10.09:15 10/22/10.15:43 50 Mercury 52.5 50.0 Ugkg dry 0 Prepared Analyzed DIF Fa Date Collected: 10/21/10.09:15 10/22/10.15:43 Eab Sample ID: STJ0111-13 Matx: Soi Date Collected: 10/21/10.13:25 Matx: Soi Percent Solids: 67.3 Date Collected: 10/20/10.11:55 Percent Solids: 67.3 10/21/10.09:15 10/22/10.15:48 Cadmium 55.7 0.200 mgkg 10/21/10.09:15 10/22/10.15:48 Lead 108 1.50 mgkg 10/21/10.09:15 10/22/10.15:48 Lead | Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Cadmium 1.01 0.200 mgkg 10/21/10 09:15 10/22/10 15:43 Lead 8.77 1.50 mgkg 10/21/10 09:15 10/22/10 15:43 Zinc 633 B1 25.0 mgkg 10/21/10 09:15 10/22/10 23:38 5 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods mgkg 10/21/10 09:15 10/22/10 14:08 Analyte Result Qualifier RL MDL unit D Prepared Analyzed DII Fa Mercury 52.5 50.0 MDL Unit D Prepared Analyzed DII Fa Client Sample ID: JM-CS-13 Lab Sample ID: STJ0111-13 Matrix: Soi Percent Solids: 67.4 Date Collected: 10/19/10 13:25 Percent Solids: 67.4 MDL Unit D Prepared Analyzed DII Fa Analyze Result Qualifier RL MDL Unit D Prepared Analyzed DII Fa Cadmium 65.7 0.200 mgkg 10/21/10 09:15 10/22/10 15:48 Solids: 10/22/10 15:48 Zinc 11500 B1 | Arsenic | ND | | 2.50 | | mg/kg | — | 10/21/10 09:15 | 10/22/10 15:43 | 1 |
| Lead 8.77 1.50 mg/kg 10/21/10 09:15 10/22/10 15:43 Zinc 633 B1 250 mg/kg 10/21/10 09:15 10/22/10 15:43 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa Mercury 52.5 50.0 Ug/kg dry 0 10/21/10 09:15 Dil Z2/10 14:08 Client Sample ID: JM-CS-13 Lab Sample ID: STJ0111-12 Matrix: Soi Date Received: 10/20/10 11:55 Percent Solids: 67.4 Matrix: Soi Cadmium 55.7 0.200 mg/kg 10/21/10 09:15 10/22/10 15:48 Cadmium 55.7 0.200 mg/kg 10/21/10 09:15 10/22/10 15:48 Zinc 1150 mg/kg 10/21/10 09:15 10/22/10 15:48 Dil Fa Zinc 1160 B1 25.0 mg/kg 10/21/10 09:15 10/22/10 15:48 Zinc 10/21/10 09:15 10/22/10 15:48 Dil Fa Dil Fa Dil Zind 10:10 Zinc 10/ | Cadmium | 1.01 | | 0.200 | | ma/ka | | 10/21/10 09:15 | 10/22/10 15:43 | 1 |
| Zinc 633 B1 250 mg/kg 10/21/10/09:15 10/22/10/23:38 5 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Analyte MDL Unit D Prepared Analyzed Dil Fa Mercury 52.5 50.0 ug/kg dry Prepared Analyzed Dil Fa Client Sample ID: JM-CS-13 Date Collected: 10/19/10 13:25 Lab Sample ID: STJ0111-13 Matrix: Soi Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fa Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa Cadmium 55.7 0.200 mg/kg 10/21/10 09:15 10/22/10 15:48 Dil Z/10 09:15 10/22/10 15:48 Lead 108 1.50 mg/kg 10/21/10 09:15 10/22/10 15:48 Dil Z/10 09:15 10/22/10 15:48 Lead 108 25.0 mg/kg 10/21/10 09:15 10/22/10 15:48 Dil Z/10 09:15 10/22/10 16:48 | Lead | 8 77 | | 1.50 | | ma/ka | | 10/21/10 09:15 | 10/22/10 15:43 | 1 |
| Instruction Instruction <thinstruction< th=""> <thinstruction< th=""></thinstruction<></thinstruction<> | Zinc | 633 | B1 | 25.0 | | ma/ka | | 10/21/10 09:15 | 10/25/10 23:38 | 50 |
| Method: EPA 6010/7000 Series Methods Analyte MDL Unit ug/kg dry D Prepared 10/21/10 08:19 Analyze 10/221/10 14:08 DII Fa Client Sample ID: JM-CS-13 Date Collected: 10/19/10 13:25 Lab Sample ID: STJ0111-13 Matrix: Soi Date Collected: 10/20/10 13:25 Matrix: Soi Date Collected: 10/20/10 11:55 Perepared Analyte Analyzed DII Fa Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods Analyte MDL Unit Unit Div2/10 08:15 Prepared Analyzed DII Fa Analyzed DII Fa Cadmium 55.7 0.200 mg/kg 10/2/10 08:15 10/22/10 15:48 Cadmium 55.7 0.200 mg/kg 10/2/10 08:15 10/22/10 15:48 Zinc 11500 B1 25.0 mg/kg 10/2/10 08:15 10/22/10 15:48 Zinc 11500 B1 25.0 mg/kg 10/2/10 08:15 10/22/10 15:48 Zinc 11500 B1 25.0 mg/kg 10/2/10 08:15 10/22/10 15:48 Zinc 11500 B1 25.0 mg/kg 10/2/10 08:15 10/22/10 15:48 Zinc 10/2/10 08:15 | | | 2. | | | | | | | |
| Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dit rate Morcury 52.5 50.0 ug/kg dry 10/21/10 09:19 10/22/10 14:08 10/22/10 14:08 Client Sample ID: JM-CS-13 Lab Sample ID: STJ0111-13 Matrix: Soi Percent Solids: 67.4 Date Received: 10/20/10 11:55 Percent Solids: 67.4 Matrix: Soi Percent Solids: 67.4 Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa Analyte 85.7 0.200 mg/kg 10/21/10 09:15 10/221/10 15:48 10/221/10 15:48 10/221/10 09:15 10/221/10 15:48 10/221/10 09:15 10/221/10 15:48 10/221/10 23:42 50 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods mg/kg 10/21/10 09:19 10/221/10 14:10 10/221/10 14:10 10/221/10 14:10 10/221/10 14:10 10/221/10 14:10 10/221/10 14:10 10/221/10 14:10 10/221/10 14:10 10/221/10 14:10 10/221/10 14:10 10/221/10 14:10 10/221/10 14:10 10/221/10 14:10 | Method: EPA 7471 - Total Metals by E | PA 6010/ | 7000 Series I | Nethods | MDI | | _ | <u> </u> | | |
| Mercury 52.5 50.0 ugkg dry IO22/IO 08:19 IO22/IO 14:08 Client Sample ID: JM-CS-13 Date Collected: 10/19/10 13:25 Lab Sample ID: STJ0111-13 Matrix: Soi Matrix: Soi Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods Analyte Result Qualifier RL MDL Unit D Prepared Analyzed DI Fa Cadmium 55.7 0.200 mg/kg 10/21/10 09:15 10/22/10 15:48 DI Fa Lead 108 1.50 mg/kg 10/21/10 09:15 10/22/10 15:48 DI Fa Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Analyte Result Qualifier RL MDL Unit D Prepared Analyzed DI Fa Mercury 274 50.0 mg/kg 10/21/10 09:15 10/22/10 14:10 DI Fa Mercury 274 50.0 mg/kg 10/21/10 09:15 10/22/10 14:10 DI Fa Mercury 274 50.0 Unit D Prepared Analyzed DI Fa Analyte Result Qualifier RL M | | Result | Qualifier | RL | MDL | Unit | | Prepared | Analyzed | |
| Client Sample ID: JM-CS-13 Date Collected: 10/19/10 13:25 Lab Sample ID: STJ0111-13 Matrix: Soi Date Received: 10/20/10 11:55 Percent Solids: 67.4 Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods Analyte MDL Unit D Prepared Analyzed DII Fa Arsenic 2.75 2.50 mg/kg 10/21/10 09:15 10/22/10 15:48 DII Fa Lead 108 1.50 mg/kg 10/21/10 09:15 10/22/10 15:48 DII Fa Zinc 11500 B1 25.0 mg/kg 10/21/10 09:15 10/22/10 15:48 DII Fa Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods mg/kg 10/21/10 09:15 10/22/10 15:48 DII Fa Mercury 274 50.0 ug/kg dry © Prepared Analyzed DII Fa Client Sample ID: Dup-1 Lab Sample ID: STJ0111-14 Matrix: Soi Percent Solids: 81.4 Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed DII Fa Analyte Result Qualifier RL MDL Unit D Prepared </td <td>Mercury</td> <td>52.5</td> <td></td> <td>50.0</td> <td></td> <td>ug/kg ary</td> <td>*</td> <td>10/21/10 09:19</td> <td>10/22/10 14:08</td> <td>1</td> | Mercury | 52.5 | | 50.0 | | ug/kg ary | * | 10/21/10 09:19 | 10/22/10 14:08 | 1 |
| Date Collected: 10/19/10 13:25 Matrix: Soi Date Collected: 10/20/10 11:55 Matrix: Soi Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods Multition Difference Analyte Result Qualifier RL MDL Unit D Arsenic 2.75 2.50 mg/kg 10/21/10 09:15 10/22/10 15:48 Leed 106 1.50 mg/kg 10/21/10 09:15 10/22/10 15:48 Zinc 11500 B1 25.0 mg/kg 10/21/10 09:15 10/22/10 15:48 Leed 106 1.50 mg/kg 10/21/10 09:15 10/22/10 15:48 Zinc 11500 B1 25.0 mg/kg 10/21/10 09:15 10/22/10 15:48 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Analyte Matrix: Soi 10/22/10 15:48 Dif Fa Mercury 274 50.0 Ug/kg dry Dif Fa 20/21/10 19:10 Dif Fa Date Received: 10/20/10 11:55 Percent Solids: 81.1 Percent Solids: 81.1 Percent Solids: 81.1 Method: EP | Client Sample ID: JM-CS-13 | | | | | | | Lab Sam | ole ID: STJ0 [,] | 111-13 |
| Date Received: 10/20/10 11:55 Percent Solids: 67.4 Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods Analyte Prepared Analyzed Dil Fa Arsenic 2.75 2.50 mg/kg 10/21/10 09:15 10/22/10 15:48 Image: Concerns of the co | Date Collected: 10/19/10 13:25 | | | | | | | | Mat | rix: Soil |
| Date Received: Notice Tercent Cond. Or. Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fa Arsenic 2.75 2.50 mg/kg 10/21/10 09:15 10/22/10 15:48 Dil Fa Lead 108 1.50 mg/kg 10/21/10 09:15 10/22/10 15:48 Dil Fa Zinc 11500 B1 25.0 mg/kg 10/21/10 09:15 10/22/10 15:48 Dil Fa Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods mg/kg 10/21/10 09:15 10/22/10 15:48 Dil Fa Mercury 274 50.0 ug/kg dry Dil 72/10 09:19 10/22/10 14:10 Dil Fa Client Sample ID: Dup-1 Lab Sample ID: STJ0111-14 Matrix: Soi Dil Fa Matrix: Soi Date Received: 10/20/10 13:10 Lab Sample ID: STJ0111-14 Matrix: Soi Dil Fa Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa | Date Received: 10/20/10 11:55 | | | | | | | | Porcont Soli | de: 67 5 |
| Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fa Arsenic 2.75 2.50 mg/kg 10/21/10.09:15 10/22/10.15:48 Dil Fa Cadmium 55.7 0.200 mg/kg 10/21/10.09:15 10/22/10.15:48 Dil Fa Lead 108 1.50 mg/kg 10/21/10.09:15 10/22/10.15:48 Dil Fa Zinc 11500 B1 25.0 mg/kg 10/21/10.09:15 10/22/10.23:42 51 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Analyzed MDL Unit D Prepared Analyzed Dil Fa Mercury 274 50.0 ug/kg dry 0 10/21/10.09:19 10/22/10.14:10 Dil Fa Client Sample ID: Dup-1 Lab Sample ID: STJ01111-14 Matrix: Soi Date Received: 10/19/10.13:10 Matrix: Soi Date Received: 10/20/10 11:55 Percent Solids: 81.3 Dil Fa 10/22/10.18:10 Dil Fa Analyzed A.13 0.198 mg/kg 10/21 | | | | | | | | | | |
| Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa Arsenic 2.75 2.50 mg/kg 10/21/10 09:15 10/22/10 15:48 10/22/10 15:48 Lead 108 1.50 mg/kg 10/21/10 09:15 10/22/10 15:48 10/22/10 15:48 Zinc 11500 B1 25.0 mg/kg 10/21/10 09:15 10/22/10 23:42 55 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fa Mercury 274 50.0 ug/kg dry 0 10/21/10 09:19 10/22/10 14:10 Dil Fa Client Sample ID: Dup-1 Lab Sample ID: STJ01111-14 Matrix: So Date Received: 10/19/10 13:10 Matrix: So Percent Solids: 81:5 Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fa Arsenic 4.62 2.44 mg/kg 10/21/10 09:15 10/22/10 18:10 Id/22/10 18:10 Id/22/10 18:10 </td <td>Method: EPA 6010C - Total Metals by</td> <td>EPA 6010</td> <td>0/7000 Series</td> <td>Methods</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> | Method: EPA 6010C - Total Metals by | EPA 6010 | 0/7000 Series | Methods | | | | | | |
| Arsenic 2.75 2.50 mg/kg 10/21/10 09:15 10/22/10 15:48 Cadmium 55.7 0.200 mg/kg 10/21/10 09:15 10/22/10 15:48 Lead 108 1.50 mg/kg 10/21/10 09:15 10/22/10 15:48 Zinc 11500 B1 25.0 mg/kg 10/21/10 09:15 10/22/10 23:42 50 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fa Mercury 274 50.0 ug/kg dry 10/21/10 09:15 10/22/10 14:10 Dil Fa Client Sample ID: Dup-1 Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa Date Received: 10/20/10 11:55 Percent Solids: 81.9 Percent Solids: 81.9 Percent Solids: 81.9 Dil Fa Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa Cadmium 4.13 0.198 mg/kg 10/21/10 09:15 10/22/10 18:10 <td< td=""><td>Analyte</td><td>Result</td><td>Qualifier</td><td>RL</td><td>MDL</td><td>Unit</td><td>D</td><td>Prepared</td><td>Analyzed</td><td>Dil Fac</td></td<> | Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Cadmium 55.7 0.200 mg/kg 10/21/10 09:15 10/22/10 15:48 Lead 108 1.50 mg/kg 10/21/10 09:15 10/22/10 15:48 Zinc 11500 B1 25:0 mg/kg 10/21/10 09:15 10/22/10 15:48 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fa Mercury 274 50:0 ug/kg dry 0 10/21/10 09:19 Analyzed Dil Fa Client Sample ID: Dup-1 Lab Sample ID: STJ01111-14 Matrix: Soi Date Collected: 10/20/10 13:10 Hatrix: Soi Percent Solids: 81.9 Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fa Arsenic 4.62 2.48 mg/kg 10/21/10 09:15 10/22/10 18:10 ID/22/10 18:10 < | Arsenic | 2.75 | | 2.50 | | mg/kg | | 10/21/10 09:15 | 10/22/10 15:48 | 1 |
| Lead 108 1.50 mg/kg 10/21/10 09:15 10/22/10 15:48 Zinc 11500 B1 25.0 mg/kg 10/21/10 09:15 10/25/10 23:42 50 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fa Mercury 274 50.0 ug/kg dry 50 10/21/10 09:19 10/22/10 14:10 Dil Fa Client Sample ID: Dup-1 Lab Sample ID: STJ0111-14 Matrix: Soi Date Collected: 10/19/10 13:10 Matrix: Soi Date Received: 10/20/10 11:55 Percent Solids: 81.3 Percent Solids: 81.3 Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fa Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa Cadmium 4.13 0.198 mg/kg 10/21/10 09:15 10/22/10 18:10 10/22/10 18:10 10/22/10 18:10 10/22/10 18:10 10/22/10 18:10 10/22/10 18:10 10/22/10 18:10 10/22/10 18:10 | Cadmium | 55.7 | | 0.200 | | mg/kg | | 10/21/10 09:15 | 10/22/10 15:48 | 1 |
| Zinc 11500 B1 25.0 mg/kg 10/21/10 09:15 10/25/10 23:42 5 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa Metroury 274 50.0 ug/kg dry 2 10/21/10 09:19 10/22/10 14:10 Dil Fa Client Sample ID: Dup-1 Lab Sample ID: STJ0111-14 Matrix: Soi Percent Solids: 81.3 Date Received: 10/20/10 11:55 Percent Solids: 81.3 Percent Solids: 81.3 Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fa Arsenic 4.62 2.48 mg/kg 10/21/10 09:15 10/22/10 18:10 I0/22/10 18:10 I0/2 | Lead | 108 | | 1.50 | | mg/kg | | 10/21/10 09:15 | 10/22/10 15:48 | 1 |
| Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa Mercury 274 50.0 ug/kg dry 0 10/21/10 09:19 10/22/10 14:10 0/21/10 Client Sample ID: Dup-1 Lab Sample ID: STJ0111-14 Date Collected: 10/19/10 13:10 Matrix: Soi Date Collected: 10/20/10 11:55 Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fa Arsenic 4.62 2.48 mg/kg 10/21/10 09:15 10/22/10 18:10 10/22/1 | Zinc | 11500 | B1 | 25.0 | | mg/kg | | 10/21/10 09:15 | 10/25/10 23:42 | 50 |
| AnalyteResultQualifierRLMDLUnitDPreparedAnalyzedDil FaMercury27450.0ug/kg dry310/21/10 09:1910/22/10 14:10Dil FaClient Sample ID: Dup-1Lab Sample ID: STJ0111-14Date Collected: 10/19/10 13:10Matrix: SoiDate Received: 10/20/10 11:55Percent Solids: 81.5Method: EPA 6010C - Total Metals by EPA 6010/7000 Series MethodsAnalyteResultAnalyteResultAnalyteAnalyzedArsenic4.62Cadmium4.13Lead33.1Lead33.1Zinc1790 B1Method: EPA 7471 - Total Metals by EPA 6010/7000 Series MethodsAnalytemg/kg10/21/10 09:1510/22/10 18:10Lead33.1Lead33.1Lead33.1Zinc1790 B1Method: EPA 7471 - Total Metals by EPA 6010/7000 Series MethodsAnalyteResult QualifierMethod: EPA 7471 - Total Metals by EPA 6010/7000 Series MethodsAnalyteResult QualifierMethod: EPA 7471 - Total Metals by EPA 6010/7000 Series MethodsAnalyteResult QualifierMethod: EPA 7471 - Total Metals by EPA 6010/7000 Series MethodsAnalyteResult Qualifier | Method: EPA 7471 - Total Metals by F | PA 6010/ | 7000 Series I | Vethods | | | | | | |
| Mercury 274 50.0 ug/kg dry 10/21/10 09:19 10/22/10 14:10 Client Sample ID: Dup-1 Date Collected: 10/19/10 13:10 Date Received: 10/20/10 11:55 Lab Sample ID: STJ0111-14 Matrix: Soi Percent Solids: 81.9 Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods Analyte Result 4.62 Qualifier RL 9.48 MDL Unit 9.10/21/10 09:15 Prepared 10/22/10 18:10 Analyze 10/22/10 18:10 Dil Fai Lead 33.1 1.49 mg/kg 10/21/10 09:15 10/22/10 18:10 I0/22/10 18:10 Zinc 1790 B1 4.95 mg/kg 10/21/10 09:15 10/22/10 23:45 11 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fai | Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analvzed | Dil Fac |
| Client Sample ID: Dup-1 Lab Sample ID: STJ0111-14 Date Collected: 10/19/10 13:10 Matrix: Soi Date Received: 10/20/10 11:55 Percent Solids: 81.5 Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fa Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa Cadmium 4.13 0.198 mg/kg 10/21/10 09:15 10/22/10 18:10 Dil Ea Lead 33.1 1.49 mg/kg 10/21/10 09:15 10/22/10 18:10 Dil Ea Zinc 1790 B1 4.95 mg/kg 10/21/10 09:15 10/22/10 18:10 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Malvie Result Qualifier RL MDL Unit D Prepared Analvzed Dil Fa | Mercury | 274 | | 50.0 | | ug/kg dry | ₽ | 10/21/10 09:19 | 10/22/10 14:10 | 1 |
| Client Sample ID: Dup-1 Lab Sample ID: STJ0111-14 Matrix: Soi Date Collected: 10/19/10 13:10 Matrix: Soi Date Received: 10/20/10 11:55 Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa Cadmium 4.62 2.48 mg/kg 10/21/10 09:15 10/22/10 18:10 Dil Fa Lead 33.1 1.49 mg/kg 10/21/10 09:15 10/22/10 18:10 Zinc 1790 B1 4.95 mg/kg 10/21/10 09:15 10/25/10 23:45 10 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fa Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fa | | | | | | | | | | |
| Matrix: Soi Matrix: Soi Matrix: Soi Date Collected: 10/20/10 11:55 Matrix: Soi Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa Arsenic 4.62 2.48 mg/kg 10/21/10 09:15 10/22/10 18:10 | Client Sample ID: Dup-1 | | | | | | | Lab Sam | | 111-14 |
| Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Arsenic 4.62 2.48 mg/kg 10/21/10 09:15 10/22/10 18:10 Dil Fac Cadmium 4.13 0.198 mg/kg 10/21/10 09:15 10/22/10 18:10 Dil Fac Lead 33.1 1.49 mg/kg 10/21/10 09:15 10/22/10 18:10 Dil Fac Zinc 1790 B1 4.95 mg/kg 10/21/10 09:15 10/22/10 18:10 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fac | Date Collected: 10/19/10 13:10 Date Received: 10/20/10 11:55 | | | | | | | | Mat Percent Solid | rix: Soil ds: 81.9 |
| Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Far Arsenic 4.62 2.48 mg/kg 10/21/10 09:15 10/22/10 18:10 | Γ | | | | | | | | | |
| Analyte Result | Method: EPA 6010C - Total Metals by | EPA 6010 Result | 0/7000 Series | Methods | МОІ | Unit | п | Prenared | Analyzed | Dil Fac |
| Arsenic 4.02 2.40 Ing/kg 10/2 /10 00.10 10/2 /10 10.10 Cadmium 4.13 0.198 mg/kg 10/2 /10 09:15 10/2 /10 18:10 Lead 33.1 1.49 mg/kg 10/2 /10 09:15 10/2 /10 18:10 Zinc 1790 B1 4.95 mg/kg 10/2 /10 09:15 10/2 /10 23:45 10 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fai | Arconic | A 62 | | 2 48 | | ma/ka | _ | 10/21/10 09:15 | 10/22/10 18:10 | 1 |
| Cautinum 4,15 0,195 Ing/kg 10/21/10 09:15 10/22/10 16:10 Lead 33.1 1.49 mg/kg 10/21/10 09:15 10/22/10 18:10 Zinc 1790 B1 4.95 mg/kg 10/21/10 09:15 10/25/10 23:45 10/25/10 23:45 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods MDL Unit D Prepared Analyzed Dil Fai | Cadmium | 4.40 | | 0 108 | | ma/ka | | 10/21/10 00:15 | 10/22/10 18:10 | 1 |
| Lead 35.1 1.49 Ing/kg 10/21/10 09:13 10/22/10 16:10 Zinc 1790 B1 4.95 mg/kg 10/21/10 09:15 10/25/10 23:45 11 Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fai | Load | 4.13 | | 1 /0 | | mg/kg | | 10/21/10 00.15 | 10/22/10 10:10 | 1 |
| Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa | Zinc | 33.1 1790 | B1 | 4.95 | | mg/kg | | 10/21/10 09:15 | 10/25/10 23:45 | 10 |
| Method: EPA /4/1 - Lotal Metals by EPA 6010//000 Series Methods Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa | | | | | | | | | | |
| | Method: EPA 7471 - Total Metals by E Analyte | 2010/Result | Qualifier | viethods RL | MDL | Unit | D | Prepared | Analvzed | Dil Fac |
| Mercury 76.4 50.0 ua/kg dry 🌣 10/21/10 09:19 10/22/10 14:12 | Mercury | 76.4 | | 50.0 | | ug/kg drv | \\\ | 10/21/10 09:19 | 10/22/10 14:12 | 1 |

| Client Sample ID: Dup-2 | | | | | | | Lab Sam | ple ID: STJ0 [.] | 111-15 |
|--------------------------------|------------------|--------------|-----------|-----|-----------|----------------|----------------|---------------------------|-----------|
| Date Collected: 10/19/10 13:10 | | | | | | | | Mat | rix: Soil |
| Date Received: 10/20/10 11:55 | | | | | | | | Percent Soli | ds: 64.9 |
| Method: EPA 6010C - Total Me | tals by EPA 6010 |)/7000 Serie | s Methods | | | _ | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | _ | Prepared | Analyzed | DIIFac |
| Arsenic | ND | | 2.48 | | mg/kg | | 10/21/10 09:15 | 10/22/10 18:16 | 1 |
| Cadmium | 1.61 | | 0.198 | | mg/kg | | 10/21/10 09:15 | 10/22/10 18:16 | 1 |
| Lead | 8.59 | | 1.49 | | mg/kg | | 10/21/10 09:15 | 10/22/10 18:16 | 1 |
| Zinc | 675 | B1 | 4.95 | | mg/kg | | 10/21/10 09:15 | 10/25/10 23:50 | 10 |
| Method: EPA 7471 - Total Meta | ls by EPA 6010/ | 7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | 59.8 | | 50.0 | | ug/kg dry | \\\ | 10/21/10 09:19 | 10/22/10 14:15 | 1 |
| Client Sample ID: Trip Blan | ık | | | | | | Lab Sam | ple ID: STJ0 ⁻ | 111-16 |
| Date Collected: 10/19/10 00:00 | | | | | | | | Matrix | : Water |
| Date Received: 10/20/10 11:55 | | | | | | | | | |
| Method: EPA 6010C - Total Met | tals by EPA 6010 |)/7000 Serie | s Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Arsenic | ND | | 0.0200 | | mg/l | | 10/25/10 15:23 | 10/26/10 13:40 | 1 |
| Cadmium | ND | | 0.00200 | | mg/l | | 10/25/10 15:23 | 10/26/10 13:40 | 1 |
| Lead | ND | | 0.0300 | | mg/l | | 10/25/10 15:23 | 10/26/10 13:40 | 1 |
| Zinc | ND | | 0.0100 | | mg/l | | 10/25/10 15:23 | 10/26/10 13:40 | 1 |
| Method: EPA 7471 - Total Meta | ls by EPA 6010/ | 7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | | 0.200 | , | ug/l | _ | 10/25/10 15:28 | 10/26/10 11:19 | 1 |

Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods

| Lab Sample D: 100000000000000000000000000000000000 | L ab Sample ID: 10 10106-BI K1 | | | | | | | | | | c | liont Sar | nnlo ID: 1(| 0 10106 | |
|--|--------------------------------|-----------|-------|-----------|--------------|----------|------------|-------------|---------|---|-------|-----------|------------------------|-----------------|----------|
| Math. Outbol (y) Analysis Batch: 10J0106 Blank Blank Prop Batch: 10J0106 Prop Batch: 10J0106 Analysis Batch: 10J0106 ND 2.50 mgkg 1022110 00:15 1022110 00:15 1 Lad ND 0.200 mgkg 1022110 00:15 1022110 00:15 1 Lad ND 0.200 mgkg 1022110 00:15 102210 10:54 1 Lad Sample ID: 10J0106-BLK1 Matrix: Other (5) Prop Batch: 10J0106 Prop Batch: 10J0106-BLK1 Analysis Batch: 10J0106 Blank Blank ND 0.500 mgkg 1022110 00:15 0.0210 00:15 0.0210 00:16 Prop Batch: 10J0106-BLK1 Analysis Batch: 10J0106 Blank Blank ND 0.500 mgkg 102110 00:16 ND Prop Datch: 10J0106-BLK1 Analysis Batch: 10J0106 Sample ID: 10J0106-BS1 Clent Sample ID: 10J0106-BS1 Prop Datch: 10J0106-DP NRec NRec NRec NRec NRec NRec NRec NR | Matrix: Other (S) | | | | | | | | | | U U | lient Sai | Inple ID. IC | | |
| Analysis Biank Biank Biank Biank MDL Unit D Prepared Analyze Di Fac Analysis NO 2.50 mgkg 102/10/0015 1022/10/015 102/10/015 102/10/015 102/10/015 102/10/015 102/10/015 102/10/015 102/10/015 102/10/015 102/10/015 102/10/015 102/10/015 102/10/015 102/10/015 102/10/015 102/10/015 102/10/015 102/10/015 102/10/015 Analyze 102/10/015 | Analysis Retable 10 10106 | | | | | | | | | | | | Pie Dran Batak | h i î î î î | |
| Analyte Result Cualifier RL MOL Unit D Prepend Analyte Display | Analysis Batch. 1030100 | в | lank | Blank | | | | | | | | | тер васс | 1. 1030 | 100_P |
| Arasitic Notion Table Wate Out D Wate Out D Mode D <thd< th=""> D D <thd< td=""><td>Analyte</td><td>D/</td><td></td><td>Qualifier</td><td></td><td>PI</td><td>м</td><td>וח</td><td>Unit</td><td>п</td><td></td><td>Proparod</td><td>۸na</td><td>vzod</td><td>Dil Eac</td></thd<></thd<> | Analyte | D/ | | Qualifier | | PI | м | וח | Unit | п | | Proparod | ۸na | vzod | Dil Eac |
| Instance India Load Implay Control (00:10) Contro (00:10) | | - <u></u> | | Quaimer | | 2 50 | | <u> </u> | ma/ka | _ | 10/21 | /10.00.15 | 10/22/10 | 15.51 | |
| Land ND Sub ND Sub MD MD <th< td=""><td>Cadmium</td><td></td><td></td><td></td><td></td><td>0.200</td><td></td><td></td><td>mg/kg</td><td></td><td>10/21</td><td>/10 09.15</td><td>10/22/10</td><td>15.54</td><td>1</td></th<> | Cadmium | | | | | 0.200 | | | mg/kg | | 10/21 | /10 09.15 | 10/22/10 | 15.54 | 1 |
| Lab Sample ID: 10,0106-BLK1 Analysis Batch: 10,0106 Iso Imply Decinition (0.0100-BLK1 Prep Batch: 10,0106-BLK1 Prep Batch: 10,0106 Prep Batch: 10,0106-BLK1 Prep Batch: 10,0106 Analysis Znc Blank Blak Blank | Lood | | | | | 1.50 | | | mg/kg | | 10/21 | /10 09.15 | 10/22/10 | 15.54 | 1 |
| Lab Sample ID: 10,0106-BLK1 Matrix: Other (S) Client Sample ID: 10,0106-BLK1 Matrix: Other (S) Analysis Batch: 10,00106 Bank Blank Analysis Batch: 10,00106-BS1 Matrix: Other (S) Client Sample ID: 10,0106-BS1 Matrix: Other (S) Client Sample ID: 10,0106-BS1 Matrix: Other (S) Client Sample ID: 10,0106-BS1 Matrix: Other (S) Analysis Batch: 10,00106 Spile LCS LCS LCS Prop Typo: total Prop Batch: 10,0106-BS1 Matrix: Other (S) Analysis Batch: 10,00106-BS1 Matrix: Other (S) Client Sample ID: 10,0106-BS1 Matrix: Other (S) Analyse Added Result Qualifier Volt D % Nec: Lunts Client Sample ID: 10,0106-BS1 Matrix: Other (S) Client Sample ID: 10,0106-P Analyse Spile Matrix Spile Matrix Spile V Nec: Lab Sample ID: 10,0106-MS1 Analyse Sample Sample Sample Sample Sample Sample Matrix Spile Matrix Spile D % Nec: Linits Client Sample ID: 10,0106-MS1 Prop Type: total Analyse Sample Sample Sample Sample Sample Matrix Spile Dup Matrix Spile Dup Matrix Spile Dup Matrix Spile Dup Matrix Spi | | | ND | | | 1.50 | | | шу/ку | | 10/21 | /10 09.15 | 10/22/10 | 15.54 | 1 |
| Matrix: Othor (S) Analysis Batch: 10.00106 Biank Result Bank Result Bank Result ML MII D Prep Batch: 10.0106.PS Analyce 0.884 B1 0.50 mgkg 102110 0216.2 011 Fac Lab Sample ID: 10.0106-BS1 Matrix: Other (S) Analyses Batch: 10.00106 mgkg 102110 0216.2 Free Type: 1041 Analyses Batch: 10.00106 Spike LCS LCS K K Analyses Batch: 10.00106 Spike LCS Mgkg 102 F0 225 K Analyse Spike LCS LCS K K K Analyse 500 61.2 mgkg 102 K K Analyse 500 62.7 mgkg 105 80 -120 K Lab Sample ID: 10.0106-MS1 K K K K K Analyse Result Qualifier Added Result Qualifier N K K Cadmium 0.837 500 62.3 mgkg 101 | Lab Sample ID: 10J0106-BLK1 | | | | | | | | | | С | lient Sar | nple ID: 10 |)J0106 | -BLK1 |
| Analysis Batch: 10,0106 Prep Batch: 10,0106_P Analyte Result Qualitier RL MDL Unit D Prepared Analyzed Dil Fac Znc 0.884 0.500 mg/kg 002/110.0515 102/010.2245 1 Lab Sample ID: 10,0106-BS1 Matrix: Client Sample ID: 10,0106-BS1 Analyte Added Result Qualifier Prep Batch: 10,0106-BS1 Analyte Added Result Qualifier 0 % Rec Imits Cadmum 60.0 61.2 mg/kg 106 80-120 - Cadmum 60.0 62.2 mg/kg 106 80-120 - Cadmum 60.0 62.7 mg/kg 106 80-120 - Lab Sample ID: 10,0106-MS1 Prep Batch: 10,0106_P - - Matrix Cother (S) Sample Sample Sample No - - - - - -< | Matrix: Other (S) | | | | | | | | | | | | Pre | p Typ | e: total |
| Bank Bank Bank Bank Mol Unit D Prepare Analyzed Dil Fac Analyte D B68i B1 0.500 mg/kg 1027110 0515 for 20110 0515 | Analysis Batch: 10J0106 | | | | | | | | | | | | Prep Batch | n: 10J0 | 106 P |
| Analyte Result Qualifier PL MDL Unit D Propand Analyzed Differ Znc 0.884 B1 0.500 mg/kg 102/10.0105 102/10.0215 102/201.02245 1 Lab Sample ID: 10.00106-B51 Matrix: Chiert (S) Client Sample ID: 10.00106-B51 Prop. Batch: 10.00106_P Analyte Added Result Qualifier Unit D % Rec. Link Analyte 50.0 49.7 mg/kg 106 80 - 120 - Cadmium 50.0 52.8 mg/kg 106 80 - 120 - Cadmium 50.0 52.7 mg/kg 106 80 - 120 - Lab Sample ID: 10.01066-MS1 Matrix: Spike Matrix Spike Matrix Spike Matrix Spike Matrix Spike Matrix Spike Not 75 - 125 - Analyte Result Qualifier Added Result Qualifier Matrix Spike Matrix Spike Matrix Spike Matrix Spike Noit 75 - | | В | lank | Blank | | | | | | | | - | | | _ |
| Znc 0.884 0.500 mg/kg 10/21/10/09:15 10/25/10/22:45 1 Lab Sample ID: 10/0106-BS1 Matrix: COther (S) Analysis Batch: 10/0106 Client Sample ID: 10/0106-BS1 Prop Type: total Prop Batch: 10/0106_P Matrix Cher (S) Analysis Batch: 10/0106 Prop Type: total Prop Batch: 10/0106_P Matrix Cher (S) Analysis Batch: 10/0106_P Matrix Cher (S) | Analyte | Re | esult | Qualifier | | RL | м | DL | Unit | D | | Prepared | Ana | yzed | Dil Fac |
| Lab Sample ID: 10,0106-BS1 Analysis Batch: 10,0106 Client Sample ID: 10,00106-BS1 Prep Eatch: 10,0106_P Analysis Batch: 10,0106 Spike LCS LCS Frep Eatch: 10,0106_P Analysis Batch: 10,0106 Spike LCS LCS Wase Limits Analysis Batch: 10,0106 Spike Client Sample ID: 10,0106-MS1 Prep Eatch: 10,0106_P % Rec Limits Cadmium 60.0 52.8 mg/kg 106 80 - 120 Lab Sample ID: 10,0106-MS1 Soo0 52.7 mg/kg 105 80 - 120 Lab Sample ID: 10,0106-MS1 Matrix: Other (S) Prep Eatch: 10,0106_P % Rec Limits Analysis Batch: 10,0106 Sample Sample Sample Matrix Spike Matrix Spike Matrix Spike Matrix Spike Matrix Spike Matrix Spike Mec Limits Arsenic NO 50.0 51.7 mg/kg 104 75 - 125 Lads Sample ID: 10,0106-MSD1 Matrix Spike Matrix Spike Matrix Spike Dup Matrix Spike Dup Matrix Spike Dup Mec Rec Limits RPD< | Zinc | 0 | .684 | B1 | | 0.500 | | | mg/kg | | 10/21 | /10 09:15 | 10/25/10 2 | 22:45 | 1 |
| Client Sample ID: 10.00106-BS1 Matrix: Other (S) Analysis Batch: 10.00106 Prop Type: total Prop Type: total Analysis Batch: 10.00106 Spike LCS LCS Prop Type: total Analysis Batch: 10.00106 60.0 60.7 mg/kg 99.5 80-120 - Arsenic 50.0 61.2 mg/kg 102 80-120 - Cadmium 50.0 52.2 mg/kg 105 80-120 - Laed 50.0 52.7 mg/kg 105 80-120 - Lab Sample ID: 10.0106-MS1 50.0 52.7 mg/kg 105 80-120 - Lab Sample ID: 10.0106-MS1 Matrix Spike Matrix Spike Prop Type: total Prop Type: total Analysis Batch: 10.0106 Sample Sample Matrix Spike Matrix Spike Prop Type: total Analysis Batch: 10.0106-MS1 Gaminia Added Resuit Qualifier Mitrix Spike Mitrix Spike Prop Type: total Analysis Batch: 10.0106-MS1 Gaminia Added Resuit Q | | | | | | | | | | | | | | | |
| Matrix: Other (6) Analysis Batch: 10,01006 Prop: Type: total Prop Batch:: 10,0106_P Prop: total Prop Batch:: 10,0106_P Analyte Added Result Qualifier Unit 0 % Rec. Limits | Lab Sample ID: 10J0106-BS1 | | | | | | | | | | | Client Sa | ample ID: [•] | 10J010 |)6-BS1 |
| Analysis Batch: 10,0106 Spike Analyte CCS Unit Valuation Prep Batch: 10,0106,P Analyte 50,0 44.7 mg/kg 0 % Rec Limits | Matrix: Other (S) | | | | | | | | | | | | Pre | р Тур | e: total |
| Analyte Added Result Qualifier Unit D % Rec. Arsenic 50.0 49.7 mg/kg 102 80.120 - Cadmium 50.0 52.7 mg/kg 106 80.120 - Lead 50.0 52.7 mg/kg 106 80.120 - Zinc 50.0 52.7 mg/kg 105 80.120 - Lab Sample ID: 10,01066-MS1 Sample Sample Spike Matrix Spike Matrix Spike Prop Datch: 10,0106.P Analysis Batch: 10,0106 Sample Spike Matrix Spike Matrix Spike % Rec. Limits Cadmium 0.837 50.0 51.7 mg/kg 101 75.125 - Cadmium 0.837 50.0 44.0 M1 mg/kg 101 75.125 - Cadmium 0.837 50.0 44.0 M1 mg/kg 101 75.125 - Lead 163.5 50.0 | Analysis Batch: 10J0106 | | | | | | | | | | | F | Prep Batch | n: 10JC |)106_P |
| Analyte Added Result Qualifier Unit D % Rec Iunits Arsenic 50.0 49.7 mg/kg 102 80-120 - Cadmium 50.0 52.8 mg/kg 105 80-120 - - Lead 50.0 52.7 mg/kg 105 80-120 - </td <td></td> <td></td> <td></td> <td></td> <td>Spike</td> <td></td> <td>LCS</td> <td>LCS</td> <td></td> <td></td> <td></td> <td></td> <td>% Rec.</td> <td></td> <td></td> | | | | | Spike | | LCS | LCS | | | | | % Rec. | | |
| Arsenic 50.0 49.7 mg/kg 99.5 80.120 Cadmium 50.0 51.2 mg/kg 102 80.120 Led 50.0 52.7 mg/kg 105 80.120 Lab Sample ID: 10.J0106-MS1 50.0 52.7 mg/kg 105 80.120 Lab Sample ID: 10.J0106-MS1 Matrix: Other (S) Analysis Batch: 10.J0106 Prep Batch: 10.J0106,P % Rec. Analyte Result Qualifier Added Result Qualifier Unit D % Rec Cadmium 0.837 50.0 52.8 mg/kg 104 75.125 Led 18.5 50.0 94.0 M1 mg/kg 384 75.125 Lab Sample ID: 10.J0106-MSD1 Matrix Spike Dup Matrix Spike Dup % Rec RPD Imrep Type: total Arasinic ND 49.0 48.0 mg/kg 94.9 75.125 749 20 Lab Sample ID: 10.J0106-MSD1 Matrix Spike Dup Matrix Spike Dup % Rec RPD <td< td=""><td>Analyte</td><td></td><td></td><td></td><td>Added</td><td></td><td>Result</td><td>Qualifier</td><td>Unit</td><td></td><td>D</td><td>% Rec</td><td>Limits</td><td></td><td></td></td<> | Analyte | | | | Added | | Result | Qualifier | Unit | | D | % Rec | Limits | | |
| Cadmium 50.0 51.2 mg/kg 102 80-120 Lead 50.0 52.8 mg/kg 106 80-120 Zinc 50.0 52.7 mg/kg 106 80-120 Lab Sample ID: 10J0106-MS1 Matrix: Other (S) Frep Type: total Prep Batch: 10J0106_P Analyte Result Qualifier Added Result Qualifier Matrix: Spike Matrix Spike Matrix Spike Matrix Spike Matrix: Spike </td <td>Arsenic</td> <td></td> <td></td> <td></td> <td>50.0</td> <td></td> <td>49.7</td> <td></td> <td>mg/kg</td> <td></td> <td></td> <td>99.5</td> <td>80 - 120</td> <td></td> <td></td> | Arsenic | | | | 50.0 | | 49.7 | | mg/kg | | | 99.5 | 80 - 120 | | |
| Lead 50.0 52.8 mg/kg 106 80-120 Zinc 50.0 52.7 mg/kg 105 80-120 Lab Sample ID: 10.0106-MS1 Matrix: Other (S) Sample Sample Spike Matrix Spike Matrix Spike Client Sample ID: 10.0106-MS1 Analysis Batch: 10.0106 Sample Sample Spike Matrix Spike Matrix Spike Vert Prep Batch: 10.0106-P Analysis Batch: 10.0106 ND 50.0 52.7 mg/kg 101 75-125 Cadmium 0.837 50.0 52.8 mg/kg 104 75-125 Lead 18.5 50.0 94.0 M1 mg/kg 151 75-125 Lab Sample ID: 10.0106-MSD1 Sample Sample Spike Matrix Spike Dup Matrix Spike Dup Prep Batch:: 10.0106-SU Analysis Batch: 10.0106 Sample Sample Spike Matrix Spike Dup Matrix Spike Dup % Rec RPD Analyse Result Qualifier Added Result Qualifier Un | Cadmium | | | | 50.0 | | 51.2 | | mg/kg | | | 102 | 80 - 120 | | |
| Zinc 50.0 52.7 mg/kg 105 80 - 120 Lab Sample ID: 10J0106-MS1 Matrix: Other (S) Sample Sample Sample Sample Sample Sample Sample Sample Sample Matrix Spike Matrix Spike Spite | Lead | | | | 50.0 | | 52.8 | | mg/kg | | | 106 | 80 - 120 | | |
| Client Sample ID: 10.00106-MS1 Matrix: Other (S) Client Sample ID: JM-CS-01 Prep Type: total Analysis Batch: 10.00106 Sample Sample Sample Sample Sample Matrix Spike Matrix Spike Prep Batch: 10.0106_P Prep Batch: 10.0106_P Analyte Result Qualifier Added Result Qualifier Matrix Spike Matrix Spike D % Rec /% Rec Analyte ND 50.0 51.7 mg/kg 101 75 - 125 - Cadmium 0.837 50.0 52.8 mg/kg 104 75 - 125 - Lab Sample ID: 10.0106-MSD1 Sample Sample Sample Sample Matrix Spike Dup Matrix Spike Dup Prep Type: total Analysis Batch: 10.0106 Sample Sample Sample Matrix Spike Matrix Spike Dup Matrix Spike Dup % Rec Rep Durint Analysis Batch: 10.0106 ND 49.0 48.0 mg/kg 94.9 75 - 125 7.49 20 Cadmium 0.837 49.0 48.0 | Zinc | | | | 50.0 | | 52.7 | | mg/kg | | | 105 | 80 - 120 | | |
| Lab Sample ID: 10J0106-MS1 Client Sample ID: 1J0106 JM-CS-01 Matrix: Other (S) Prep Type: total Prep Type: total Analysis Batch: 10J0106 Sample Spike Matrix Spike Unit D % Rec. Analyte Result Qualifier Added Result Qualifier Unit D % Rec. Limits Arsenic ND 50.0 51.7 mg/kg 101 75 - 125 Cadmiun 0.837 50.0 52.8 mg/kg 104 75 - 125 Lab Sample ID: 10J0106-MSD1 Matrix: Other (S) Analyte Result Qualifier Matrix Spike Dup Matrix Spike Dup Prep Type: total Analyte Result Qualifier Added Result Qualifier Unit D % Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit D % Rec. Threp Type: total Lab Sample ID: 10J0106-MSD1 Matrix: Other (S) Analyte Result Qualifier | | | | | | | | | | | | | | | |
| Matrix: Other (s) Prep Ispe: total Analysis Batch: 10.J0106 Sample Sample Spike Matrix Spike Matrix Spike Prep Batch: 10.J0106_P Analyte Result Qualifier Added Result Qualifier Matrix Spike Matrix Spike Matrix Spike Watrix Spike Unit D % Rec Limits Cadmium 0.837 50.0 51.7 mg/kg 101 75 - 125 | Lab Sample ID: 10J0106-MS1 | | | | | | | | | | | Clien | t Sample I | D: JM | -CS-01 |
| Analysis Batch: 10J0106 Prep Batch: 10J0106 Prep Batch: 10J0106_P Analyte Result Qualifier Added Matrix Spike Matrix Spike Dup Matrix Spike Dup <td>Matrix: Other (S)</td> <td></td> <td>Pre</td> <td>р Тур</td> <td>e: total</td> | Matrix: Other (S) | | | | | | | | | | | | Pre | р Тур | e: total |
| Sample Sample Sample Spike Matrix Spike Unit D % Rec. Ansyric ND 50.0 51.7 mg/kg 101 75 - 125 Cadmium 0.837 50.0 52.8 mg/kg 104 75 - 125 Lead 18.5 50.0 94.0 M1 mg/kg 151 75 - 125 Zinc 290 B1 50.0 482 M1 mg/kg 384 75 - 125 Lab Sample ID: 10J0106-MSD1 Client Sample ID: JM-CS-01 Matrix: Other (S) Analyte Result Qualifier Matrix Spike Dup Analyte Result Qualifier Added Result Qualifier Unit D % Rec. RPD Arsenic ND 49.0 48.0 mg/kg 94.5 75 - 125 7.49 20 Lead 18.5 49.0 72.8 R2 mg/kg 94.5 75 - 125 25.4 20 Zinc <td>Analysis Batch: 10J0106</td> <td><u> </u></td> <td>•</td> <td></td> <td>• •</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Prep Batch</td> <td>n: 10JC</td> <td>0106_P</td> | Analysis Batch: 10J0106 | <u> </u> | • | | • • | | | | | | | | Prep Batch | n: 10JC | 0106_P |
| Analyte Result Qualitier Added Kesult Qualitier Unit D % Rec Limits Arsenic ND 50.0 52.8 mg/kg 101 75 - 125 Lead 18.5 50.0 94.0 M1 mg/kg 151 75 - 125 Lead 18.5 50.0 94.0 M1 mg/kg 384 75 - 125 Lab Sample ID: 10J0106-MSD1 Sample Sample Sample Matrix Spike Dup Matrix Spike Dup Matrix Spike Dup Prep Batch: 10J0106_P Analyte Result Qualifier Added Result Qualifier Unit P % Rec RPD Analyte Result Qualifier Added Result Qualifier Unit P % Rec RPD Immits | | Sample | Sam | pie | Бріке | Ma | trix Spike | | e | | _ | ~ - | % Rec. | | |
| Arsenic NU 50.0 51.7 mg/kg 101 7.5 - 12.5 Cadmium 0.837 50.0 52.8 mg/kg 104 7.5 - 12.5 Lead 18.5 50.0 94.0 M1 mg/kg 181 7.5 - 12.5 Zinc 290 B1 50.0 482 M1 mg/kg 384 7.5 - 12.5 Lab Sample ID: 10J0106-MSD1 Sample Sample Spike Matrix Spike Dup Matrix Spike Dup Yeep Batch: 10J0106. Analysis Batch: 10J0106 Sample Sample Spike Matrix Spike Dup Matrix Spike Dup % Rec. RPD Analyte Result Qualifier Mdded Result Qualifier Unit D % Rec. RPD Lead 18.5 49.0 48.0 mg/kg 98.5 75 - 12.5 7.17 20 Lead 18.5 49.0 72.8 R2 mg/kg 111 75 - 12.5 7.17 20 Lead 18.5 49.0 78.8 Mg/kg 149 75 - 12.5 28.4 20 Zinc | Analyte | Result | Qua | lifier | Added | | Result | Qualifier | Unit | | D | % Rec | Limits | | |
| Cadimum 0.837 50.0 52.8 mg/kg 104 7.5 - 12.5 Lead 18.5 50.0 94.0 M1 mg/kg 151 75 - 12.5 Lead 18.5 50.0 94.0 M1 mg/kg 384 75 - 12.5 Lab Sample ID: 10,0106-MSD1 Client Sample ID: 30.0 Client Sample ID: JM-CS-01 Matrix: Other (S) Sample Sample Sample Spike Matrix Spike Dup Matrix Spike Dup % Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit D % Rec. RPD Limit Arsenic ND 49.0 49.0 mg/kg 94.9 75 - 12.5 7.49 20 Cadmium 0.837 49.0 49.0 mg/kg 94.9 75 - 12.5 7.49 20 Lead 18.5 49.0 72.8 R2 mg/kg 111 75 - 12.5 25.4 20 Lead 18.5 49.0 | Arsenic | ND | | | 50.0 | | 51.7 | | mg/кg | | | 101 | 75 - 125 | | |
| Lead 18.5 50.0 94.0 M1 mg/kg 151 7.5 - 125 Zinc 290 B1 50.0 482 M1 mg/kg 384 75 - 125 Lab Sample ID: 10J0106-MSD1 Client Sample ID: 10J0106-MSD1 Matrix: Other (S) Sample Sample Spike Matrix Spike Dup % Rec. RPD Limit Analyte Result Qualifier Added Result Qualifier Unit D % Rec. RPD Limit Arsenic ND 49.0 49.0 75.125 7.49 20 Cadmium 0.837 49.0 49.0 mg/kg 98.5 75 - 125 7.17 20 Lead 18.5 49.0 72.8 R2 mg/kg 111 75 - 125 28.1 20 Zinc 290 B1 49.0 363 M1 mg/kg 149 75 - 125 28.1 20 | | 0.837 | | | 50.0 | | 52.8 | | mg/kg | | | 104 | 75 - 125 | | |
| Zinc 290 B1 50.0 482 M1 mg/kg 384 75-125 Lab Sample ID: 10J0106-MSD1 Matrix: Other (S) Analysis Batch: 10J0106 Sample Sample Spike Matrix Spike Dup Matrix Spike Dup Client Sample ID: JM-CS-01 Prep Batch: 10J0106_P Analyte Result Qualifier Added Result Qualifier Unit D % Rec. RPD Limit Arsenic ND 49.0 48.0 Result Qualifier Unit D % Rec. RPD Limit Lead 18.5 49.0 72.8 R2 mg/kg 98.5 75-125 7.17 20 Lead 18.5 49.0 75.8 M1 mg/kg 98.5 75-125 28.1 20 Lab Sample ID: 10J0106-DUP1 Matrix: Other (S) Analyte Sample Sample Duplicate Duplicate Duplicate Prep Type: total Analyte Result Qualifier M2 MRD T1.76 mg/kg 15.6 20 Lead | | 18.5 | | | 50.0 | | 94.0 | M1 | mg/kg | | | 151 | /5 - 125 | | |
| Lab Sample ID: 10J0106-MSD1 Matrix: Other (S) Client Sample ID: JM-CS-01 Prep Type: total Analysis Batch: 10J0106 Sample Sample Spike Matrix Spike Dup Matrix Spike Dup % Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit D % Rec. RPD Limit Arsenic ND 49.0 48.0 mg/kg 94.9 75 · 125 7.49 20 Cadmium 0.837 49.0 49.1 mg/kg 98.5 75 · 125 7.17 20 Lead 18.5 49.0 72.8 R2 mg/kg 111 75 · 125 2.64 20 Zinc 290 B1 49.0 363 M1 mg/kg 149 75 · 125 2.84 20 Analysis Batch: 10J0106-DUP1 Matrix: Other (S) Matrix: Other (S) Prep Batch: 10J0106-DUP1 Prep Batch: 10J0106-P Prep Type: total Analysis Batch: 10J0106 Sample Sample Duplicate Duplicate Prep Batch: 10J0106-P | Zinc | 290 | B1 | | 50.0 | | 482 | M1 | mg/kg | | | 384 | 75 - 125 | | |
| Matrix: Other (S) Analysis Batch: 10J0106 Sample Sample Spike Matrix Spike Dup Matrix Spike Dup Prep Batch: 10J0106_P Analyte Result Qualifier Added Result Qualifier Matrix Spike Dup Matrix Spike Dup % Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit D % Rec. RPD Limit Arsenic ND 49.0 49.0 49.0 mg/kg 98.5 75-125 7.49 20 Cadmium 0.837 49.0 49.0 363 M1 mg/kg 98.5 75-125 7.17 20 Lead 18.5 49.0 72.8 R2 mg/kg 111 75-125 28.1 20 Zinc 290 B1 49.0 363 M1 mg/kg 149 75-125 28.1 20 Analysis Batch: 10J0106-DUP1 Kec Kec RPD Matrix Spike Duplicate RPD T//////////////////////////////////// | Lab Sample ID: 10.10106-MSD1 | | | | | | | | | | | Clien | t Sample I | D. IM | -CS-01 |
| Analysis Batch: 10J0106 Sample Sample Spike Matrix Spike Dup Matrix Spike Dup Matrix Spike Dup % Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit D % Rec. RPD Arsenic ND 49.0 48.0 mg/kg 94.9 75 - 125 7.49 20 Cadmium 0.837 49.0 49.1 mg/kg 98.5 75 - 125 7.17 20 Lead 18.5 49.0 72.8 R2 mg/kg 111 75 - 125 7.17 20 Zinc 290 B1 49.0 363 M1 mg/kg 149 75 - 125 28.1 20 Lab Sample ID: 10J0106-DUP1 Matrix: Other (S) RPD Limit RPD KPD Analyte Result Qualifier | Matrix: Other (S) | | | | | | | | | | | Chief | Pro | n Type | a: total |
| Analyte Result Qualifier Added Result Qualifier Unit D % Rec. RPD Limits Arsenic ND 49.0 48.0 mg/kg 94.9 75 - 125 7.49 20 Cadmium 0.837 49.0 49.1 mg/kg 98.5 75 - 125 7.17 20 Lead 18.5 49.0 72.8 R2 mg/kg 111 75 - 125 7.17 20 Zinc 290 B1 49.0 363 M1 mg/kg 149 75 - 125 28.1 20 Lab Sample ID: 10J0106-DUP1 Matrix: Other (S) Matrix Matrix Matrix <td>Analysis Batch: 10 10106</td> <td></td> <td>Pron Batch</td> <td>יאַעיי 10 ור</td> <td>106 D</td> | Analysis Batch: 10 10106 | | | | | | | | | | | | Pron Batch | יאַעיי 10 ור | 106 D |
| Analyte Result Qualifier Added Result Qualifier Unit D % Rec Limits RPD Limit Arsenic ND 49.0 48.0 48.0 mg/kg 94.9 75 - 125 7.49 20 Cadmium 0.837 49.0 49.0 49.1 mg/kg 98.5 75 - 125 7.17 20 Lead 18.5 49.0 72.8 R2 mg/kg 111 75 - 125 26.4 20 Zinc 290 B1 49.0 363 M1 mg/kg 149 75 - 125 28.1 20 Lab Sample ID: 10J0106-DUP1 Lab Sample ID: 10J0106-DUP1 V | Analysis Batch. 1000100 | Sample | Sam | nle | Snike | Matrix S | Snike Dun | Matrix Snik | e Dun | | | | % Rec | 1. 1030 | RPD |
| Arsenic ND 49.0 48.0 mg/kg 94.9 75-125 7.49 20 Cadmium 0.837 49.0 49.1 mg/kg 98.5 75-125 7.17 20 Lead 18.5 49.0 72.8 R2 mg/kg 98.5 75-125 7.17 20 Lead 18.5 49.0 72.8 R2 mg/kg 111 75-125 25.4 20 Zinc 290 B1 49.0 363 M1 mg/kg 149 75-125 28.1 20 Lab Sample ID: 10J0106-DUP1 Katrix: Other (S) KPD Limit Z0 Z | Analyte | Result | Qual | lifier | Added | matrix e | Result | Qualifier | Unit | | D | % Rec | Limits | RPD | Limit |
| Cadmium 0.837 49.0 49.1 mg/kg 98.5 75 - 125 7.17 20 Lead 18.5 49.0 72.8 R2 mg/kg 111 75 - 125 7.17 20 Zinc 290 B1 49.0 72.8 R2 mg/kg 149 75 - 125 25.4 20 Zinc 290 B1 49.0 363 M1 mg/kg 149 75 - 125 25.4 20 Lab Sample ID: 10J0106-DUP1 Katrix: Other (S) Client Sample ID: JM-CS-01 Prep Type: total Analysis Batch: 10J0106 Sample Sample Duplicate Duplicate Prep Batch: 10J0106_P KPD Sample Sample Ouglicate Duplicate Unit D RPD Limit Analyte Result Qualifier 0.979 mg/kg 15.6 20 Lead 18.5 26.7 R2 mg/kg 36.6 20 Lead 18.5 310 mg/kg 6.67 20 | Arsenic | | duu | | 49.0 | | 48.0 | | ma/ka | | | 94.9 | 75 - 125 | 7 49 | 20 |
| Lead 18.5 49.0 72.8 R2 mg/kg 111 75-125 25.4 20 Zinc 290 B1 49.0 363 M1 mg/kg 149 75-125 28.1 20 Lab Sample ID: 10J0106-DUP1 Matrix: Other (S) Analysis Batch: 10J0106 Sample Duplicate Duplicate Prep Type: total Analyte Result Qualifier Matrix Matrix: 0.979 mg/kg 17.7 20 Cadmium 0.837 0.979 mg/kg 15.6 20 20 20 20 Lead 18.5 26.7 R2 mg/kg 15.6 20 Lind 18.5 26.7 R2 mg/kg 15.6 20 Lead 18.5 26.7 R2 mg/kg 36.6 20 Zinc 290 B1 310 mg/kg 6.67 20 | Cadmium | 0.837 | | | 49.0 | | 49.1 | | ma/ka | | | 98.5 | 75 - 125 | 7 17 | 20 |
| Zinc 290 B1 49.0 363 M1 mg/kg 111 120 20.4 120 Lab Sample ID: 10J0106-DUP1 Matrix: Other (S) Analysis Batch: 10J0106 Client Sample ID: JM-CS-01 Prep Type: total Analysis Batch: 10J0106 Sample Duplicate Duplicate Prep Batch: 10J0106_P Analyte Result Qualifier Result Qualifier Unit D RPD Limit Arsenic ND 1.76 7.77 20 Cadmium 0.837 0.979 mg/kg 15.6 20 Lead 18.5 26.7 R2 mg/kg 36.6 20 Zinc 290 B1 310 mg/kg 6.67 20 | Lead | 18 5 | | | 40.0 | | 72.8 | R2 | ma/ka | | | 111 | 75 - 125 | 25.4 | 20 |
| Lab Sample ID: 10J0106-DUP1Client Sample ID: JM-CS-01Matrix: Other (S)Prep Type: totalAnalysis Batch: 10J0106SampleDuplicateDuplicateAnalyteResultQualifierResultQualifierUnitDArsenicND1.761.76mg/kg71.7720Cadmium0.8370.979mg/kg15.620Lead18.526.7R2mg/kg36.620Zinc290B1310mg/kg6.6720 | Zinc | 290 | B1 | | 49.0 | | 363 | M1 | ma/ka | | | 149 | 75 - 125 | 28.1 | 20 |
| Client Sample ID: 10J0106-DUP1 Client Sample ID: JM-CS-01 Matrix: Other (S) Prep Type: total Analysis Batch: 10J0106 Prep Batch: 10J0106_P Prep Batch: 10J0106_P Sample Duplicate Duplicate Duplicate D RPD Limit Analysis Batch: 10J0106 Result Qualifier Result Qualifier Unit D RPD Limit Analyte Result Qualifier Result Qualifier Unit D RPD Limit Arsenic ND 0.837 0.979 mg/kg 15.6 20 Lead 18.5 26.7 R2 mg/kg 36.6 20 Zinc 290 B1 310 mg/kg 6.67 20 | | 200 | 51 | | 40.0 | | 000 | 1011 | iiig/kg | | | 145 | 70 120 | 20.1 | 20 |
| Matrix: Other (S) Prep Type: total Analysis Batch: 10J0106 Prep Batch: 10J0106_P Sample Duplicate Duplicate Duplicate Duplicate Duplicate RPD RPD Analyte Result Qualifier Result Qualifier Unit D RPD Limit Arsenic ND 1.76 mg/kg 17.7 20 Cadmium 0.837 0.979 mg/kg 15.6 20 Lead 18.5 26.7 R2 mg/kg 36.6 20 Zinc 290 B1 310 mg/kg 6.67 20 | Lab Sample ID: 10J0106-DUP1 | | | | | | | | | | | Clien | t Sample I | D: JM | -CS-01 |
| Analysis Batch: 10J0106Prep Batch: 10J0106_PSampleDuplicateDuplicateDuplicateAnalyteResultQualifierResultQualifierUnitDRPDArsenicND1.761.76mg/kg17.720Cadmium0.8370.979mg/kg15.620Lead18.526.7R2mg/kg36.620Zinc290B1310mg/kg6.6720 | Matrix: Other (S) | | | | | | | | | | | | Pre | р Тур | e: total |
| SampleSampleDuplicateDuplicateDuplicateRPDRPDAnalyteResultQualifierResultQualifierUnitDRPDLimitArsenicND1.76mg/kg17.720Cadmium0.8370.979mg/kg15.620Lead18.526.7R2mg/kg36.620Zinc290B1310mg/kg6.6720 | Analysis Batch: 10J0106 | | | | | | | | | | | . I | Prep Batch | n: 10JC |)106_P |
| Analyte Result Qualifier Ruifier Unit D RPD Limit Arsenic ND 1.76 mg/kg 17.7 20 Cadmium 0.837 0.979 mg/kg 15.6 20 Lead 18.5 26.7 R2 mg/kg 36.6 20 Zinc 290 B1 310 mg/kg 6.67 20 | - | Sample | Sam | ple | | | Duplicate | Duplicate | | | | | - | | RPD |
| Arsenic ND 1.76 mg/kg 17.7 20 Cadmium 0.837 0.979 mg/kg 15.6 20 Lead 18.5 26.7 R2 mg/kg 36.6 20 Zinc 290 B1 310 mg/kg 6.67 20 | Analyte | Result | Qua | lifier | | | Result | Qualifier | Unit | | D | | | RPD | Limit |
| Cadmium 0.837 0.979 mg/kg 15.6 20 Lead 18.5 26.7 R2 mg/kg 36.6 20 Zinc 290 B1 310 mg/kg 6.67 20 | Arsenic | ND | | | | | 1.76 | | mg/kg | | | | | 17.7 | 20 |
| Lead 18.5 26.7 R2 mg/kg 36.6 20 Zinc 290 B1 310 mg/kg 6.67 20 | Cadmium | 0.837 | | | | | 0.979 | | mg/kg | | | | | 15.6 | 20 |
| Zinc 290 B1 310 mg/kg 6.67 20 | Lead | 18.5 | | | | | 26.7 | R2 | mg/kg | | | | | 36.6 | 20 |
| | Zinc | 290 | B1 | | | | 310 | | mg/kg | | | | | 6.67 | 20 |

Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods (Continued)

| Lab Sample ID: 10J0128-BLK1 | | | | | | | | | | С | lient Sa | mple ID: 1 | 0J0128 | -BLK1 |
|-----------------------------|--------|-------|-----------|-------|-----------------|----|--------------|------|---|-------|------------|------------|---------|----------|
| Matrix: Water | | | | | | | | | | | | Pre | әр Туре | e: total |
| Analysis Batch: 10J0128 | | | | | | | | | | | | Prep Batc | h: 10J0 | 128_P |
| | В | lank | Blank | | | | | | | | | | | |
| Analyte | Re | esult | Qualifier | | RL | MC | DL | Unit | D | | Prepared | Ana | lyzed | Dil Fac |
| Arsenic | | ND | | | 0.0200 | | | mg/l | | 10/25 | 5/10 15:23 | 10/26/10 | 13:35 | 1 |
| Cadmium | | ND | | 0 | .00200 | | | mg/l | | 10/25 | 5/10 15:23 | 10/26/10 | 13:35 | 1 |
| Lead | | ND | | | 0.0300 | | | mg/l | | 10/25 | 5/10 15:23 | 10/26/10 | 13:35 | 1 |
| Zinc | | ND | | | 0.0100 | | | mg/l | | 10/25 | 5/10 15:23 | 10/26/10 | 13:35 | 1 |
| Lab Sample ID: 10J0128-BS1 | | | | | | | | | | | Client S | ample ID: | 10J012 | 8-BS1 |
| Matrix: Water | | | | | | | | | | | | Pre | әр Туре | e: total |
| Analysis Batch: 10J0128 | | | | | | | | | | | | Prep Batc | h: 10J0 | 128_P |
| | | | | Spike | LC | S | LCS | | | | | % Rec. | | |
| Analyte | | | # | Added | Resu | lt | Qualifier | Unit | | D | % Rec | Limits | | |
| Arsenic | | | | 1.00 | 1.1 | 0 | | mg/l | | | 110 | 80 - 120 | | |
| Cadmium | | | | 1.00 | 1.1 | 1 | | mg/l | | | 111 | 80 - 120 | | |
| Lead | | | | 1.00 | 1.1 | 3 | | mg/l | | | 113 | 80 - 120 | | |
| Zinc | | | | 1.00 | 1.1 | 4 | | mg/l | | | 114 | 80 - 120 | | |
| Lab Sample ID: 10J0128-MS1 | | | | | | | | | | | Clien | t Sample I | D: Trip | Blank |
| Matrix: Water | | | | | | | | | | | | Pre | эр Туре | e: total |
| Analysis Batch: 10J0128 | | | | | | | | | | | | Prep Batc | h: 10J0 | 128_P |
| | Sample | Samp | ble | Spike | Matrix Spik | e | Matrix Spike | | | | | % Rec. | | |
| Analyte | Result | Quali | fier A | Added | Resu | lt | Qualifier | Unit | | D | % Rec | Limits | | |
| Arsenic | ND | | | 1.00 | 1.0 | 9 | | mg/l | | | 109 | 75 - 125 | | |
| Cadmium | ND | | | 1.00 | 1.1 | 0 | | mg/l | | | 110 | 75 - 125 | | |
| Lead | ND | | | 1.00 | 1.1 | 3 | | mg/l | | | 113 | 75 - 125 | | |
| Zinc | ND | | | 1.00 | 1.1 | 4 | | mg/l | | | 114 | 75 - 125 | | |
| Lab Sample ID: 10J0128-MSD1 | | | | | | | | | | | Clien | t Sample I | D: Trip | Blank |
| Matrix: Water | | | | | | | | | | | | Pre | эр Туре | : total |
| Analysis Batch: 10J0128 | | | | | | | | | | | | Prep Batc | h: 10J0 | 128_P |
| - | Sample | Samp | ble | Spike | Matrix Spike Du | р | Matrix Spike | Dup | | | | % Rec. | | RPD |
| Analyte | Result | Quali | fier A | dded | Resu | lt | Qualifier | Unit | | D | % Rec | Limits | RPD | Limit |
| Arsenic | ND | | | 1.00 | 1.0 | 8 | | mg/l | | | 108 | 75 - 125 | 0.71 | 20 |

| Arsenic | ND | 1.00 | 1.08 | mg/l | 108 | 75 - 125 | 0.71 | 20 |
|---------|----|------|------|------|-----|----------|------|----|
| | | | | | | | 3 | |
| Cadmium | ND | 1.00 | 1.09 | mg/l | 109 | 75 - 125 | 0.45 | 20 |
| | | | | | | | 5 | |
| Lead | ND | 1.00 | 1.12 | mg/l | 112 | 75 - 125 | 1.36 | 20 |
| Zinc | ND | 1.00 | 1.13 | mg/l | 113 | 75 - 125 | 1.11 | 20 |

Lab Sample ID: 10J0128-DUP1 Matrix: Water Analysis Batch: 10J0128

Client Sample ID: Trip Blank

Prep Type: total

| | | .,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | |
|------|---------------|---|--|
| Prep | Batch: | 10J0128_F | |

| | Sample | Sample | Duplicate | Duplicate | | | | RPD |
|---------|--------|-----------|-----------|-----------|------|---|-----|-------|
| Analyte | Result | Qualifier | Result | Qualifier | Unit | D | RPD | Limit |
| Arsenic | ND | · | ND | | mg/l | | | 20 |
| Cadmium | ND | | ND | | mg/l | | | 20 |
| Lead | ND | | ND | | mg/l | | | 20 |
| Zinc | ND | | ND | | mg/l | | | 20 |

Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods

| Lab Sample ID: 10J0107-BLK1 | | | | | | | c | lient Sa | mple ID: 10J01 | 07-BLK1 |
|---|--------|-----------------|-------|-----------------|-------------|-----------|----------------|------------|-----------------|----------------|
| Matrix: Soil | | | | | | | | | Prep Ty | pe: total |
| Analysis Batch: 10J0107 | | | | | | | | | Prep Batch: 10 | J0107_P |
| | В | Blank Blank | | | | | | _ | | |
| Analyte | R | esult Qualifier | | RL | MDL | | 40/0 | Prepared | Analyzed | Dil Fac |
| Mercury | | ND | | 50.0 | l | ug/kg wet | 10/2 | 1/10 09:19 | 10/22/10 13:35 | 1 |
| Lab Sample ID: 10J0107-BS1 | | | | | | | | Client S | ample ID: 10J0 | 107-BS1 |
| Matrix: Soil | | | | | | | | | Prep Ty | pe: total |
| Analysis Batch: 10J0107 | | | | | | | | | Prep Batch: 10 | J0107_P |
| | | | Spike | LC | S LCS | | | | % Rec. | _ |
| Analyte | | | Added | Resu | t Qualifier | Unit | D | % Rec | Limits | |
| Mercury | | | 100 | 10 |) | ug/kg wet | | 100 | 80 - 120 | |
| Lab Sample ID: 40 10407 MS4 | | | | | | | | | Client Comple I | D. D |
| Lab Sample ID. 1030107-WS1 Matrix: Soil | | | | | | | | | | D: Dup-2 |
| Analysis Batch: 10.10107 | | | | | | | | | Pren Batch: 10 | .10107 P |
| | Sample | Sample | Spike | Matrix Spik | e Matrix Sp | ike | | | % Rec. | |
| Analyte | Result | Qualifier | Added | Resu | t Qualifier | Unit | D | % Rec | Limits | |
| Mercury | 59.8 | | 154 | 22 | 3 | ug/kg dry | ₿ ¢ | 106 | 80 - 120 | |
| | | | | | | | | | | |
| Lab Sample ID: 10J0107-MSD1 | | | | | | | | C | Client Sample I | D: Dup-2 |
| Matrix: Soil | | | | | | | | | Prep Ty | pe: total |
| Analysis Batch. 1030107 | Sample | Sample | Spike | Matrix Spike Du | o Matrix Sn | ike Dup | | | % Rec. | BDIO7_P |
| Analyte | Result | Qualifier | Added | Resu | t Qualifier | Unit | D | % Rec | Limits RP | D Limit |
| Mercury | 59.8 | | 154 | 24 | 5 | ug/kg dry | — | 120 | 80 - 120 9.2 | 21 20 |
| | | | | | | | | | | |
| Lab Sample ID: 10J0107-DUP1 | | | | | | | | C | Client Sample I | D: Dup-2 |
| Matrix: Soil | | | | | | | | | Prep Ty | pe: total |
| Analysis Batch: 10J0107 | 0 | 0 | | Denslines | Duuliaata | | | | Prep Batch: 10 | J0107_P |
| Analyta | Sample | Sample | | Duplicat | e Duplicate | llnit | п | | DD | RPD D Limit |
| | 59.8 | | | N | | | — - | | NF | <u>- 40</u> |
| | 00.0 | | | | | ug/ng ury | | | | 10 |
| Lab Sample ID: 10J0129-BLK1 | | | | | | | c | lient Sa | mple ID: 10J01 | 29-BLK1 |
| Matrix: Water | | | | | | | | | Prep Ty | pe: total |
| Analysis Batch: 10J0129 | | | | | | | | | Prep Batch: 10 | J0129_P |
| | В | Blank Blank | | | | | | _ | | |
| Analyte | R | esult Qualifier | | RL | | Unit D | 40/0 | Prepared | Analyzed | Dil Fac |
| Mercury | | ND | | 0.200 | | ug/i | 10/2 | 5/10 15:28 | 10/26/10 11:17 | 1 |
| Lab Sample ID: 10J0129-BS1 | | | | | | | | Client S | ample ID: 10.10 | 129-BS1 |
| Matrix: Water | | | | | | | | | Prep Ty | pe: total |
| Analysis Batch: 10J0129 | | | | | | | | | Prep Batch: 10 | J0129_P |
| | | | Spike | LC | S LCS | | | | % Rec. | _ |
| Analyte | | | Added | Resu | t Qualifier | Unit | D | % Rec | Limits | |
| Mercury | | | 1.00 | 1.0 | 7 | ug/l | | 107 | 80 - 120 | |
| | | | | | | | | Clien | t Sampla ID: Ti | in Blank |
| Lau Sample ID. 1030129-MS1 Matrix: Water | | | | | | | | Clien | Dron Tu | |
| Analysis Batch: 10J0129 | | | | | | | | | Prep Batch: 10 | J0129 P |
| | Sample | Sample | Spike | Matrix Spik | e Matrix Sp | ike | | | % Rec. | ····· |
| Analyte | Result | Qualifier | Added | Resu | t Qualifier | Unit | D | % Rec | Limits | |
| Mercury | ND | | 1.00 | 1.0 | 1 | ug/l | | 104 | 80 - 120 | |

Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods (Continued)

| Lab Sample ID: 10J0129-MSD1 Matrix: Water Analysis Batch: 10J0129 | Sample | Sample | Spike | Matrix Spike Dup | Matrix Spil | ke Dup | | Clien | t Sample II Pre Prep Batch % Rec. | D: Trip p Type n: 10J0 | Blank : total 129_P RPD |
|---|--------|-----------|-------|------------------|-------------|--------|---|-------|--|------------------------------|----------------------------------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | % Rec | Limits | RPD | Limit |
| Mercury | ND | | 1.00 | 1.04 | | ug/l | | 104 | 80 - 120 | 0.00 | 20 |
| Lab Sample ID: 10J0129-DUP1 Matrix: Water Analysis Batch: 10J0129 | | | | | | | | Clien | t Sample II Pre Prep Batch | D: Trip p Type n: 10J0 | Blank : total 129_P |
| | Sample | Sample | | Duplicate | Duplicate | | | | | | RPD |
| Analyte | Result | Qualifier | | Result | Qualifier | Unit | D | | | RPD | Limit |
| Mercury | ND | | | ND | | ug/l | | | | | 20 |

Certification Summary

Client: ARCADIS U.S., Inc. - Liberty Lake Project/Site: SK030179.0002 Task 002

| Laboratory | Authority | Program | EPA Region | Certification ID | Expiration Date |
|---------------------|------------|---------------|------------|------------------|-----------------|
| TestAmerica Spokane | Alaska | Alaska UST | 10 | UST-071 | 10/31/10 |
| TestAmerica Spokane | Washington | State Program | 10 | C569 | 01/06/11 |

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

| TestAr Sampl | merica : le Recei | Spokan | e n | |
|---|----------------------|------------------|-------------------------|-------------------------------|
| Work Order #: STJOL () Client: Arcadi | 2 | <u>pt1_0111</u> | • | Project: U o esphing mill Wal |
| Date/Time Received: 10 - 20-10 11:25 | By: | | | |
| Samples Delivered By: Shipping Service Courier | Other: | | • | |
| List Air Bill Number(s) or Attach a photocopy of the Air Bill: | | | * | |
| Receipt Phase | Yes | No | NA | Comments |
| Were samples received in a cooler: | \sim | | | |
| Custody Seals are present and intact: | | | \sim | |
| Are CoC documents present: | X | | | |
| Necessary signatures: | φ | | | |
| Thermal Preservation Type: Blue Ice Gel Ice Real Ice |]Dry Ice | None [|]Other: | |
| Temperature by IR Gun: 9, / °C Thermometer Serial #8150 | 00 (accept | tance criter | ia 0-6 °C) | |
| Temperature out of range: Not enough ice lice melted //////////////////////////////////// | n 4hrs of c | ollection [| | her: |
| Log-in Phase Date/Time: <u>10-20-16 12:42</u> By: <u> </u> | Yes | No | NA | Comments |
| Are sample labels affixed and completed for each container | حز | | | |
| Samples containers were received intact: | \succ | | | |
| Do sample IDs match the CoC | X | | | |
| Appropriate sample containers were received for tests requested | \mathbf{X} | | | |
| Are sample volumes adequate for tests requested | \times | | | |
| Appropriate preservatives were used for the tests requested | | | $\left \right. \times$ | |
| pH of inorganic samples checked and is within method specification | | | X | |
| Are VOC samples free of bubbles >6mm (1/4" diameter) | | | λ | |
| Are dissolved parameters field filtered | | | Х | |
| Do any samples need to be filtered or preserved by the lab | | \boldsymbol{X} | | |
| Does this project require quick turnaround analysis | | \boldsymbol{X} | | |
| Are there any short hold time tests (see chart below) | | λ | | |
| Are any samples within 2 days of or past expiration | | λ | | |
| Vas the CoC scanned | _X | | | |
| Vere there Non-conformance issues at login | | X | | |
| yes, was a CAR generated # | | | X | |

| 24 hours or less | 48 hours | 7 days |
|-------------------|------------------|----------------------|
| Coliform Bacteria | BOD, Color, MBAS | TDS, TSS, VDS, FDS |
| Chromium +6 | Nitrate/Nitrite | Sulfide |
| | Orthophosphate | Aqueous Organic Prep |

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Spokane

Page 16 of 17

10/26/2010

1.1

11922 E. 1st Ave.

Chain of Custody Record

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

| Spokane, | WA | 99206 | ; |
|----------|-------|-------|-----|
| phone 50 | 9.924 | 9200 | fax |

| Client Contact | Duciont M. | P | | | | [| | | : | | | | | | - | | _ | TestAmeric | a Laboratories, Inc. |
|--|-------------|------------------|------------|------------|-----------|---------------|---------------------------------|----------|--------------|---------|---------|--------------------|--------|--------|----------|-------|---|----------------|--|
| ARCADIS | Tol/Forman | nager: Pau | ia A. Lyon | | | Site | Site Contact:Paula A. Lyon Date | | | | | e:10/2 | 0/2010 |) | | | COC No: | | |
| 2310 N. Molter Road, Suite 101 | rei/rax:20 | 4 nolvois T | | T! | | Lab | Conta | ct: | | | · · · · | Car | rier: | | | | | 1 o | f2 COCs |
| Liberty Lake. WA 99019 | Colendar | Analysis I | urnaround | Time | | | | | | | | | | | | | | Job No. | |
| (509)535-7225 Phone | Calcilda | T if different i | iram Balaw |) | . <u></u> | C Star | | | | | | | | | | | | 217 | 0117 |
| (509) 535-7361 FAX | | n in anterent i | weeks | | | 4 601 | | | | | | | 1 | | | | | SDO No | · · · · |
| Project Name: Josephine Mill No 1 Removal Action | | 1 | week | | | etho. | | | | | | | | | | | | SDG NO. | |
| Site:Josephine Mill NO.1 | | | 7 davs | | | A M | 747 | | | | | | | | | | | | |
| P O # SK030179.0002 Task 002 | | 1 | day | | | n F P | Pot | | | | | | | | | | | | |
| | | | [| | Γ | l Sar Ph Z | Ň | | | | | | | | | | | | |
| | Sample | Sample | Sample | | # of | Cd | EP | | | | | | | | | | | | |
| Sample Identification | Date | Time | Туре | Matrix | Cont. | Fil | Hg | | | | | | | | | | | Sam | ple Specific Notes: |
| JM-CS-01 | 10/19/2010 | 10:15 | 8 oz | s | 1 | | | | | | | | | | | | | | |
| JM-CS-02 | 10/19/2010 | 10:45 | 807 | c - | 1 | | | | | | | | | | | 1 | \vdash | | |
| IM-CS-03 | 10/10/2010 | 11:00 | 0 | 6 | | | | | | | | $\left - \right $ | | +- | | | | | |
| | 10/19/2010 | 11.15 | 8 0Z | 8 | 1 | | + | _ | + | - | | | | + | | _ | | <u> </u> | |
| JM-C5-04 | 10/19/2010 | 11.15 | 8 oz | S | 1 | | | | + + | | | | | | | | | | ······································ |
| JM-CS-05 | 10/19/2010 | 11:20 | 8 oz | S . | 1 | | | | | | | | | | | | | | |
| JM-CS-06 | 10/19/2010 | 11:30 | 8 oz | s | 1 | | | | | | | | | | | | | | ···· |
| JM-CS-07 | 10/19/2010 | 11:40 | 8 oz | s | 1 | | | | | | | | | | | | | | · |
| JM-CS-08 | 10/19/2010 | 12:05 | 8 oz | s | 1 | | | | | - | | ++ | | | | | | | |
| JM-CS-09 | 10/19/2010 | 12:15 | 8.07 | 9 | | | | | | | | ++ | | ┥┦ | | - | | | |
| IM-CS-10 | 10/10/2010 | 12:35 | 9 | <u> </u> | 1 | | ┾╌┼ | | + | | | ┼╌┼ | | | _ - | | | | |
| | 10/19/2010 | 12:45 | 8 0Z | 5 | 1 | | ┽┼ | | ++ | | | ┼─┼ | | | | + | \rightarrow | | |
| JM-CS-11 | 10/19/2010 | 12.45 | 8 oz . | S | 1 | | ┥┥ | | | | | | | | | | | | |
| JM-CS-12 | 10/19/2010 | 13:10 | 8 oz | S | 1 | | | | | | | | | | | | | | |
| Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=N | aOH; 6= Otl | 1er | | | | | | | | | | | | | | | | | |
| | | — 1 | | r1 | | Sa | mple | Dispo | osal (7 | A fee r | nay be | asse | ssed | if san | nples | are r | etaine | ed longer than | 1 month) |
| Special Instructions/OC Requirements & Commente: | Poiso | | Unknown | , <u> </u> | | | | eturn | To Clie | nt | | Dispo | osal B | ly Lab | | | Archiv | /e For | Months |
| promi and actions, go requirements & comments: | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | - | | | |
| | | | | | | | | | | | | | | | | 9 | .1°(| C C | |
| Relinquished by: | Company: | | | Date/Tin | ne: | Re | ceived | by: | 1/1 | | 7-7 | , | ICo | mpany | <i>.</i> | | | Date/Time: | |
| Tallella men | ARC | <u>ADIS</u> | US | 10/20/ | 10 113 | 0 | | Ĭ | Ŋ | $ _{z}$ | K | | | Ă | Cca | Ar | 5-00 | | 2/20/10 |
| terinquished by: | Company: | | 5-115 | Date/Tin | ne: //:5 | 'S Re | ceived | by: | P+ | ~ | | | Co | mpany | /: / | a. | <u>, , , , , , , , , , , , , , , , , , , </u> | Date/Time: | 720/10 |
| Relinquished by: | Company: | NN+_ | <u>-us</u> | 10/20 | <u> </u> | | ai | <u> </u> | <u>Maple</u> | ten | | | 17 | 1051 | Am | urice | 1 | 10-20- | 10 11:55 |
| | Company. | | | Date/ 11 | nc. | Ke | cerved | oy: | • | | | | Co | mpany | /: | | | Date/Time: | |
| • | 1 | | | | | | | | | | | | | | | | | 1 | |

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| Spokane |
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11922 E. 1st Ave.

Chain of Custody Record

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

| Spokane, WA | 99206 |
|---------------|------------|
| phone 509.924 | 4.9200 fax |

| Client Contact | Project Manager: Paula A. Lyon | | | | Site | Site Contact: Paula & Lyon | | | | | | Dete:10/20/2010 | | | | | TestAmerica Laboratories, In | 1C. | |
|---|--------------------------------|---------------------|--------------|----------|--------------|----------------------------|--------------|----------|----------|----------|----------|-------------------|--------------------|----------------|------------|--------------|------------------------------|------------------------|----|
| ARCADIS | Tel/Fax:20 | el/Fax:208.819.1266 | | | | Lah | Lab Contact: | | | | | | Jate:10/20/2010 | | | | | COC No: | |
| 2310 N. Molter Road, Suite 101 | | Analysis T | urnaround | Time | . <u> </u> | | | | | | | | rrier: | | | | | 2 of 2 COCs | |
| Liberty Lake, WA 99019 | Calendar | (C) or W | ork Days (W |) | | 171) 1711 | | | | | | | | | | | | | |
| (509)535-7225 Phone | TA | T if different | from Below | | | | ⊒ | | | | | | | | | | | 3130[1] | |
| (509) 535-7361 FAX | | 2 | 2 weeks | | | | | | | | | | | | | | | SDG No | |
| Project Name: Josephine Mill No 1 Removal Action | | 1 | week | | | | | | | | | | | | | | | 3DG NO. | |
| Site:Josephine Mill NO.1 | | | 2 davs | | | | 747 | | | | | | | | | | | | |
| P O # SK030179.0002 Task 002 | | | l day | | | nple | thod | | | | | | | | | | | | |
| | | | | | | l Sar | A Me | | | | | | | | | | | | |
| | Sample | Sample | Sample | | # of | tere | EP | | | | | | | | | | | | |
| Sample Identification | Date | | Туре | Matrix | Cont. | | Hg | | | | | | | | | | | Sample Specific Notes: | |
| JM-CS-13 | 10/19/2010 | 13:25 | 8 oz | s | 1 | | | | | | | | | | | | | | |
| Dup-1 | 10/19/2010 | 13:10 | 8oz | s | 1 | | | | | | | | \uparrow | | | 1 1 | | | |
| Dup-2 | 10/19/2010 | 13:10 | 8.07 | s | 1 | | 1 | | ┼╌┼ | | ╞╌┼╴ | | | | | | | | |
| | | | | | 1 | ╞┼╴ | ┼─ | | + | | ┼╌┼ | | $\left - \right $ | | | ++ | | | |
| | | | | | | $\left \cdot \right $ | | | ++ | | ┥┥ | | ├ ─┤ | + | - | | | | |
| | + | | | | <u> </u> | ┨-┨- | | | - | | \vdash | _ _ | | | | | | | |
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| | | | | | | | | | ╉╶┠ | | + | | | ┥┥ | | ╋╋ | | | |
| | | | | | | | + | | ╉╼╋ | | - | | | + | | ┢ | | | |
| | <u> </u> | | | | | | +- | | ++ | | | | | | | | _ | | |
| Preservation Used: 1-100 2-11Ch 2-112504 4 UNICO 27 | | | | S | | Ц | | | | | | | | | _ | | | | |
| Possible Hazard Identification | aOH; 6= Oth | er | | | | _ | Ц | | | | | | | | | | | | |
| Non-Hazard Flammable Skin Irritant | Doing | " | T T 1 | | | S. | ample | Dispo | osal (. | A fee | may t | e ass | essed | if san | nples | are re | taineo | l longer than 1 month) | |
| Special Instructions/QC Requirements & Comments: | FOISO | 1.0 | Unknown | | | | | eturn | To Clie | ent | | [_] Disp | osal B | y Lab | | | rchive | For Months | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| Relinquished by: | Company: | 1000 | | Date/Tim | ie: | Re | ceived | by: | 1 | 77 | 11 | } | Co | mpany | <i>.</i> | | | Date/Time: | |
| Relinguished by: | ARCI | ADIS- | US | 10/20/1 | 10 1131 | 0 | | <u> </u> | 2/ | T | K' | | | 1RC | ad | <u>, s</u> - | -US | 10/20/10 | 30 |
| Mkblach. | ADCANIS-US Date/Time: (F.S. | | | IS Re | Received by | | | | | Company: | | | | | Date/Time: | _ | | | |
| Relinquished by: | Company: $Date/Time$ | | | Re | Received by: | | | | AMUICA | | | MII' | ca | 10-20-10 11:55 | | | | | |
| \mathcal{O} | | | | | | | | . бу. | | | | | 0 | inpany | : | | | Date/Time: | |
| | | | | | | | | | | | | | | | | _ | | | |

10/26/2010

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Spokane 11922 East 1st. Avenue Spokane, WA 99206 Tel: (509)924-9200

TestAmerica Job ID: STJ0169

TestAmerica Sample Delivery Group: STJ0169 Client Project/Site: SK030179.0002.001 Client Project Description: Josephine Mill

For:

ARCADIS U.S., Inc. - Liberty Lake 2310 N. Molter Rd. Suite 101 Liberty Lake, WA 99019

Attn: Paula Lyon

Authorized for release by: 11/16/2010 1:56 PM

Randee Decker Project Manager Randee.Decker@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.



Table of Contents

| Cover Page | 1 |
|-----------------------|----|
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Notes

Receipt

All samples were received in good condition within temperature requirements.

Metals, Method 7471

The mercury data in analytical batch 10J0158 was not dry-weight corrected in the initial report issued on 11/01/10. The data has now been corrected and is reflected in the amended report. This final report replaces the final report generated on 11/01/10.

No other analytical or quality issues noted.

Sample Summary

Client: ARCADIS U.S., Inc. - Liberty Lake Project/Site: SK030179.0002.001

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---------------|-------------------|--------|----------------|----------------|
| STJ0169-01 | Road -CS-West | Soil | 10/26/10 13:30 | 10/28/10 09:00 |
| STJ0169-02 | Road -CS-East | Soil | 10/26/10 13:45 | 10/28/10 09:00 |
| STJ0169-03 | Road -CS-Center | Soil | 10/27/10 10:00 | 10/28/10 09:00 |
| STJ0169-04 | Road -CS-Rockface | Soil | 10/27/10 10:30 | 10/28/10 09:00 |
| STJ0169-05 | JM-CS-03A | Soil | 10/27/10 10:45 | 10/28/10 09:00 |
| STJ0169-06 | JM-CS-06A | Soil | 10/27/10 11:45 | 10/28/10 09:00 |
| STJ0169-07 | Trip Blank 3 | Water | 10/27/10 00:00 | 10/28/10 09:00 |
| STJ0169-08 | Trip Blank 4 | Water | 10/27/10 00:00 | 10/28/10 09:00 |

Client: ARCADIS U.S., Inc. - Liberty Lake Project/Site: SK030179.0002.001

Glossary

| Glossary | Glossary Description | |
|----------|----------------------|--|
| Glossary | Glossaly Description | |

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Listed under the "D" column to designate that the result is reported on a dry weight basis.
| Client Sample ID: Road -C | S-West | | | | | Lab Sam | ple ID: STJ0 ⁻ | 169-01 |
|--------------------------------|-----------------------------|-------------|-----|------------|-------------------|----------------|---------------------------|-------------------|
| Date Collected: 10/26/10 13:30 | | | | | | | Mat | rix: Soil |
| Date Received: 10/28/10 09:00 | | | | | | | Percent Soli | ds: 89.7 |
| | | | | | | | | |
| Method: EPA 6010C - Total M | etais by EPA 6010/7000 Seri | ies Methods | MDI | Unit | | Bronorod | Analyzad | |
| Analyte | | | MDL | | - - | Prepared | Analyzed | |
| Arsenic | ND | 2.79 | | mg/kg ary | * | 10/28/10 09:30 | 10/29/10 17:23 | 1 |
| Cadmium | ND | 0.223 | | mg/kg dry | 12 12 | 10/28/10 09:30 | 10/29/10 17:23 | 1 |
| Lead | 8.23 | 1.67 | | mg/kg dry | £ | 10/28/10 09:30 | 10/29/10 17:23 | 1 |
| Zinc | 58.9 | 1.11 | | mg/kg dry | ₽ | 10/28/10 09:30 | 11/01/10 11:45 | 1 |
| Method: EPA 7471 - Total Met | tals by EPA 6010/7000 Serie | s Methods | | | | | | |
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | 50.0 | | ug/kg dry | \\\\\ | 10/28/10 10:27 | 10/28/10 14:47 | 1 |
| | | | | | | | | |
| Client Sample ID: Road -C | ;S-East | | | | | Lab Sam | ple ID: STJ0 | 169-02 |
| Date Collected: 10/26/10 13:45 | | | | | | | Mat | rix: 5011 |
| Date Received: 10/28/10 09:00 | | | | | | | Percent Soll | as: 67.8 |
| Mothod: EPA 6010C - Total M | otals by EPA 6010/7000 Sor | iae Mathade | | | | | | |
| Analyte | Result Qualifier | RI | мы | Unit | п | Prenared | Analyzod | Dil Fac |
| Arsenic | | 3.69 | MDE | ma/ka dry | - x | 10/28/10 09:30 | 10/20/10 17:28 | 1 |
| Codmium | 1 12 | 0.205 | | ma/ka day | ŭ. | 10/28/10 00:30 | 10/20/10 17:28 | 1 |
| Cadmium | 1.13 | 0.295 | | mg/kg dry | ň | 10/28/10 09:30 | 10/29/10 17.20 | 1 |
| | 12.0 | 2.21 | | mg/kg ary | · · · · | 10/28/10 09.30 | 10/29/10 17.20 | · |
| | 135 | 1.47 | | mg/kg ary | 74 | 10/28/10 09:30 | 11/01/10 11:48 | 1 |
| Method: EPA 7471 - Total Met | tals by FPA 6010/7000 Serie | s Methods | | | | | | |
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analvzed | Dil Fac |
| Mercury | 126 | | | ua/ka drv | | 10/28/10 10:27 | 10/28/10 14:49 | 1 |
| | | | | -99 | | | | |
| Client Sample ID: Road -C | S-Center | | | | | Lab Sam | ple ID: STJ0 | 169-03 |
| Date Collected: 10/27/10 10:00 | | | | | | | Mat | rix: Soil |
| Date Received: 10/28/10 09:00 | | | | | | | Percent Soli | ds: 89.7 |
| Method: EPA 6010C - Total M | etals by FPA 6010/7000 Ser | ies Methods | | | | | | |
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analvzed | Dil Fac |
| Arsenic | <u></u> | 2.79 | | ma/ka drv | | 10/28/10 09:30 | 10/29/10 17:43 | 1 |
| Cadmium | 0.450 | 0 223 | | ma/ka drv | ₽ | 10/28/10 09:30 | 10/29/10 17:43 | 1 |
| Lead | 9.41 | 1.67 | | ma/ka dry | ₽ | 10/28/10 09:30 | 10/29/10 17:43 | . 1 |
| Zinc | 45.0 | 1 11 | | ma/ka dry | ÷÷÷÷ | 10/28/10 09:30 | 11/01/10 12:02 | · · · · · · · · 1 |
| | 45.0 | 1.11 | | mg/ng ury | | 10/20/10 00:00 | 11/01/10 12:02 | I |
| Method: EPA 7471 - Total Me | tals by EPA 6010/7000 Serie | s Methods | | | | | | |
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | 50.0 | | ug/kg dry | - \\\\ | 10/28/10 10:27 | 10/28/10 14:51 | 1 |
| _ | | | | | | | | |
| Client Sample ID: Road -C | S-Rockface | | | | | Lab Sam | ple ID: STJ0 [·] | 169-04 |
| Date Collected: 10/27/10 10:30 | | | | | | | Mat | rix: Soil |
| Date Received: 10/28/10 09:00 | | | | | | | Percent Soli | ds: 65.3 |
| Method: EPA 6010C - Total M | etals by EPA 6010/7000 Ser | ies Methods | | | | | | |
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analvzed | Dil Fac |
| Arsenic | <u></u> | 3.83 | | ma/ka drv | — — | 10/28/10 09:30 | 10/29/10 17:47 | 1 |
| Cadmium | 8 55 | 0.306 | | ma/ka drv | ¢ | 10/28/10 09:30 | 10/29/10 17.47 | 1 |
| Lead | 7.81 | 2 30 | | ma/ka drv | ₽ | 10/28/10 09:30 | 10/29/10 17:47 | 1 |
| Zinc | 1420 | 15 3 | | ma/ka dry | | 10/28/10 09:30 | 11/01/10 12:05 | 10 |
| 200 | 1430 | 10.0 | | inging ury | | 10/20/10 03.00 | 1101/10 12.00 | 10 |

TestAmerica Job ID: STJ0169 SDG: STJ0169

| Client Sample ID: Road -CS | -Rockface | | | | | | Lab Sam | ple ID: STJ0 [.] | 169-04 |
|---|-----------------|---------------|-----------|-----|-----------|----------------------------------|----------------|---------------------------|-----------------------|
| Date Collected: 10/27/10 10:30 | | | | | | | | Mat | rix: Soil |
| Date Received: 10/28/10 09:00 | | | | | | | | Percent Solie | ds: 65.3 |
| Method: EPA 7471 - Total Metal | s by EPA 6010/ | 7000 Series | Methods | | | _ | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | | Prepared | Analyzed | Dil Fac |
| Mercury | 97.7 | | 50.0 | | ug/kg dry | * | 10/28/10 10:27 | 10/28/10 14:54 | 1 |
| Client Sample ID: JM-CS-03 | Α | | | | | | Lab Sam | ple ID: STJ0 ⁻ | 169-05 |
| Date Collected: 10/27/10 10:45 | | | | | | | | Mat | rix: Soil |
| Date Received: 10/28/10 09:00 | | | | | | | | Percent Soli | ds: 36.8 |
| Method: EPA 6010C - Total Meta | als by EPA 6010 |)/7000 Serie: | s Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Arsenic | ND | | 6.79 | | mg/kg dry | ₽ | 10/28/10 09:30 | 10/29/10 17:52 | 1 |
| Cadmium | 9.54 | | 0.543 | | ma/ka drv | ¢ | 10/28/10 09:30 | 10/29/10 17:52 | 1 |
| Lead | 20.9 | | 4 08 | | ma/ka dry | ₽ | 10/28/10 09:30 | 10/29/10 17:52 | 1 |
| Zinc | 451 | | 2.72 | | ma/ka drv | ¢. | 10/28/10 09:30 | 11/01/10 12:07 | 1 |
| | | | | | | | | | |
| Method: EPA 7471 - Total Metals | s by EPA 6010/ | 7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | 177 | | 50.0 | | ug/kg dry | ÷. | 10/28/10 10:27 | 10/28/10 14:56 | 1 |
| Date Collected: 10/27/10 11:45 Date Received: 10/28/10 09:00 | | | | | | | | Mat Percent Solie | rix: Soil ds: 77.2 |
| Method: EPA 6010C - Total Meta | als by EPA 6010 |)/7000 Series | s Methods | | | _ | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | $-\frac{\mathbf{D}}{\mathbf{x}}$ | Prepared | Analyzed | Dil Fac |
| Arsenic | ND | | 3.24 | | mg/kg ary | * | 10/28/10 09:30 | 10/29/10 17:56 | 1 |
| Cadmium | 4.38 | | 0.259 | | mg/kg ary | * | 10/28/10 09:30 | 10/29/10 17:56 | 1 |
| Lead | 20.4 | | 1.94 | | mg/kg ary | ···· | 10/28/10 09:30 | 10/29/10 17:56 | 10 |
| | 1560 | | 13.0 | | mg/kg ary | ** | 10/28/10 09:30 | 11/01/10 12:10 | 10 |
| Method: EPA 7471 - Total Metal | s by EPA 6010/ | 7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | | Prepared | Analyzed | Dil Fac |
| Mercury | 473 | | 50.0 | | ug/kg dry | ¢ | 10/28/10 10:27 | 10/28/10 15:03 | 1 |
| Client Sample ID: Trip Blan | (3 | | | | | | Lab Sam | ple ID: STJ0 [,] | 169-07 |
| Date Collected: 10/27/10 00:00 Date Received: 10/28/10 09:00 | | | | | | | | Matrix | : Water |
| Method: EPA 6010C - Total Meta | als by EPA 6010 |)/7000 Serie: | s Methods | | | _ | | | 5115 |
| | - Result | Qualifier | | MDL | | D | Prepared | Analyzed | DII Fac |
| | ND | | 0.0200 | | ing/i | | 10/29/10 11:26 | 10/29/10 18:51 | 1 |
| | ND | | 0.00200 | | ing/i | | 10/29/10 11:26 | 10/29/10 18:51 | 1 |
| | ND | | 0.0300 | | mg/i | | 10/29/10 11:26 | 10/29/10 18:51 | 1 |
| | ND | | 0.0100 | | mg/I | | 10/29/10 11:26 | 11/01/10 12:17 | 1 |
| Method: EPA 7471 - Total Metal | s by EPA 6010/ | 7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | | 0.200 | | ug/l | | 10/28/10 10:29 | 10/28/10 18:12 | 1 |

Client Sample ID: Trip Blank 4 Date Collected: 10/27/10 00:00 Date Received: 10/28/10 09:00

Lab Sample ID: STJ0169-08 Matrix: Water

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-------------------------|-------------|---------|-----|------|---|----------------|----------------|---------|
| Arsenic | ND | | 0.0200 | | mg/l | | 10/29/10 11:26 | 10/29/10 18:55 | 1 |
| Cadmium | ND | | 0.00200 | | mg/l | | 10/29/10 11:26 | 10/29/10 18:55 | 1 |
| Lead | ND | | 0.0300 | | mg/l | | 10/29/10 11:26 | 10/29/10 18:55 | 1 |
| Zinc | ND | | 0.0100 | | mg/l | | 10/29/10 11:26 | 11/01/10 12:21 | 1 |
| - Method: EPA 7471 - Tota | al Metals by EPA 6010/7 | 7000 Series | Methods | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | | 0.200 | | ug/l | | 10/28/10 10:29 | 10/28/10 18:19 | 1 |

Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods

| Lab Sample ID: 10J0157-BLK1 | | | | | | | | | | c | Client Sa | mple ID: 1 | 0J0157 | -BLK1 |
|-----------------------------|--------|-------|-----------|-------|----------|------------|-----|------------|-----------|------|-------------|------------------|-----------|----------|
| Matrix: Soil | | | | | | | | | | | | Pr | avT de | e: total |
| Analysis Batch: 10J0157 | | | | | | | | | | | | Prep Batc | h: 10J0 |)157 P |
| | E | Blank | Blank | | | | | | | | | | | |
| Analyte | R | esult | Qualifier | | RL | м | IDL | Unit | D | | Prepared | l Ana | alyzed | Dil Fac |
| Arsenic | _ | ND | | | 2.50 | | | mg/kg we | et – | 10/2 | 8/10 08:57 | 10/29/10 | 16:55 | 1 |
| Cadmium | | ND | | | 0.200 | | | mg/kg we | et | 10/2 | 28/10 08:57 | 10/29/10 | 16:55 | 1 |
| Lead | | ND | | | 1.50 | | | mg/kg we | et | 10/2 | 28/10 08:57 | 10/29/10 | 16:55 | 1 |
| Lab Sample ID: 10J0157-BLK1 | | | | | | | | | | c | Client Sa | mple ID: 1 | 0J0157 | '-BLK1 |
| Matrix: Soil | | | | | | | | | | | | Pro | ер Тур | e: total |
| Analysis Batch: 10J0157 | | | | | | | | | | | | Prep Batc | h: 10J(|)157_P |
| | E | Blank | Blank | | | | | | | | | | | |
| Analyte | R | esult | Qualifier | | RL | Μ | IDL | Unit | D | | Prepared | l Ana | alyzed | Dil Fac |
| Zinc | | ND | | | 1.00 | | | mg/kg we | et | 10/2 | 28/10 08:57 | 11/01/10 | 11:22 | 1 |
| Lab Sample ID: 10J0157-BS1 | | | | | | | | | | | Client S | ample ID: | 10J01 | 57-BS1 |
| Matrix: Soil | | | | | | | | | | | | Pro | ер Тур | e: total |
| Analysis Batch: 10J0157 | | | | | | | | | | | | Prep Batc | h: 10J(|)157_P |
| | | | | Spike | | LCS | LC | S | | | | % Rec. | | |
| Analyte | | | | Added | | Result | Qu | alifier | Unit | D | % Rec | Limits | | |
| Arsenic | | | | 50.0 | | 51.5 | | | mg/kg wet | | 103 | 80 - 120 | | |
| Cadmium | | | | 50.0 | | 53.4 | | | mg/kg wet | | 107 | 80 - 120 | | |
| Lead | | | | 50.0 | | 54.6 | | | mg/kg wet | | 109 | 80 - 120 | | |
| Lab Sample ID: 10J0157-BS1 | | | | | | | | | | | Client S | ample ID: | 10J01 | 57-BS1 |
| Matrix: Soil | | | | | | | | | | | | Pro | ер Тур | e: total |
| Analysis Batch: 10J0157 | | | | | | | | | | | | Prep Batc | h: 10J(|)157_P |
| | | | | Spike | | LCS | LC | s | | | | % Rec. | | |
| Analyte | | | | Added | | Result | Qu | alifier | Unit | D | % Rec | Limits | | |
| Zinc | | | | 50.0 | | 57.0 | | | mg/kg wet | | 114 | 80 - 120 | | |
| Lab Sample ID: 10J0157-MS1 | | | | | | | | | | | Client | Sample ID | : STJ0 | 151-02 |
| Matrix: Soil | | | | | | | | | | | | Pro | ер Тур | e: total |
| Analysis Batch: 10J0157 | | | | | | | | | | | | Prep Batc | h: 10J(|)157_P |
| | Sample | Sam | ple | Spike | Mat | trix Spike | Ma | trix Spike | • | | | % Rec. | | |
| Analyte | Result | Qua | lifier | Added | | Result | Qu | alifier | Unit | D | % Rec | Limits | | |
| Arsenic | ND | | | 50.0 | | 49.9 | | | mg/kg wet | | 99.9 | 75 - 125 | | |
| Cadmium | 0.0197 | | | 50.0 | | 53.7 | | | mg/kg wet | | 107 | 75 - 125 | | |
| Lead | ND | | | 50.0 | | 54.2 | | | mg/kg wet | | 108 | 75 - 125 | | |
| Lab Sample ID: 10J0157-MS1 | | | | | | | | | | | Client | Sample ID | : STJ0 | 151-02 |
| Matrix: Soil | | | | | | | | | | | | Pro | ер Тур | e: total |
| Analysis Batch: 10J0157 | | | | | | | | | | | | Prep Batc | h: 10J(|)157_P |
| | Sample | Sam | ple | Spike | Mat | trix Spike | Ma | trix Spike | • | | | % Rec. | | |
| Analyte | Result | Qua | lifier | Added | | Result | Qu | alifier | Unit | D | % Rec | Limits | | |
| Zinc | 5.25 | | | 50.0 | | 56.5 | | | mg/kg wet | | 102 | 75 - 125 | | |
| Lab Sample ID: 10J0157-MSD1 | | | | | | | | | | | Client | Sample ID | : STJ0 | 151-02 |
| Matrix: Soil | | | | | | | | | | | | Pro | ер Тур | e: total |
| Analysis Batch: 10J0157 | | | | | | | | | | | | Prep Batc | h: 10J(|)157_P |
| | Sample | Sam | ple | Spike | Matrix S | pike Dup | Ma | trix Spike | Dup | | | % Rec. | | RPD |
| Analyte | Result | Qua | lifier | Added | | Result | Qu | alifier | Unit | D | % Rec | Limits | RPD | Limit |
| Arsenic | ND | | | 49.5 | | 49.6 | | | mg/kg wet | | 100 | 75 - 125 | 0.71 8 | 20 |
| Cadmium | 0.0197 | | | 49.5 | | 52.9 | | | mg/kg wet | | 107 | 75 - 125 | 1.48 | 20 |

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Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods (Continued)

| Lab Sample ID: 10J0157-MSD1 | | | | | | | | | | Client | Sample ID | : STJC | 0151-02 |
|--|--------|-------|-----------|-------|----------|-----------|------------|---------|-----|--------------|--------------------|---------------------------------|---------------------|
| Matrix: Soli Analysis Bataby 10 10157 | | | | | | | | | | | Prop Pote | эр тур Б. 40 г | |
| Analysis Batch: 1030157 | Sample | Sam | nle | Snike | Matrix 9 | Snike Dun | Matrix Spi | ke Dun | | | Prep Баtc % Rec | n: 10J | |
| Analyte | Result | Qual | ifier | Added | matrix | Result | Qualifier | Unit | | D % Rec | Limits | RPD | Limit |
| Lead | ND | | | 49.5 | | 53.4 | | mg/kg v | wet | 108 | 75 - 125 | 1.43 | 20 |
| | | | | | | | | 0 0 | | | | | |
| Lab Sample ID: 10J0157-MSD1 | | | | | | | | | | Client | Sample ID | : STJC | 151-02 |
| Matrix: Soil | | | | | | | | | | | Pro | эр Тур | e: total |
| Analysis Batch: 10J0157 | | | | | | | | | | | Prep Batc | h: 10J | 0157_P |
| | Sample | Sam | ple | Spike | Matrix | Spike Dup | Matrix Spi | ke Dup | | | % Rec. | | RPD |
| Analyte | Result | Qual | ifier | Added | | Result | Qualifier | Unit | | D % Rec | Limits | RPD | Limit |
| Zinc | 5.25 | | | 49.5 | | 61.2 | | mg/kg v | wet | 113 | 75 - 125 | 8.10 | 20 |
| Lab Sample ID: 10J0157-DUP1 Matrix: Soil | | | | | | | | | | Client | Sample ID Pre | : STJ(ep Typ |)151-02 e: total |
| Analysis Batch: 10J0157 | | | | | | | | | | | Prep Batc | h: 10J | 0157 P |
| | Sample | Sam | ple | | | Duplicate | Duplicate | | | | | | RPD |
| Analyte | Result | Qual | ifier | | | Result | Qualifier | Unit | | D | | RPD | Limit |
| Arsenic | ND | | | | | ND | | mg/kg v | wet | | | | 20 |
| Cadmium | 0.0197 | | | | | ND | | mg/kg v | wet | | | | 20 |
| Lead | ND | | | | | ND | | mg/kg v | wet | | | | 20 |
| | | | | | | | | | | Olivera | 0 | | 454.00 |
| Lab Sample ID: 10J0157-D0P1 | | | | | | | | | | Client | | : 51JU | 0151-02 |
| Matrix: Soli Analysis Ratch: 10 10157 | | | | | | | | | | | Prop Rate | эр тур Б: 10 ц | |
| Analysis Batch. 1030157 | Sample | Sam | ole | | | Duplicate | Duplicate | | | | гтер Бац | 11. 103 | RPD |
| Analyte | Result | Qual | ifier | | | Result | Qualifier | Unit | | D | | RPD | Limit |
| Zinc | 5.25 | | | | | 4.58 | | mg/kg v | wet | | | 13.7 | 20 |
| | | | | | | | | | | | | | |
| Lab Sample ID: 10J0172-BLK1 Matrix: Water | | | | | | | | | | Client Sa | ample ID: 1 Pro | 0 <mark>J017</mark> : эр Тур | 2-BLK1 e: total |
| Analysis Batch: 10J0172 | | | | | | | | | | | Prep Batc | h: 10J | 0172_P |
| | E | Blank | Blank | | | | | | | | | | |
| Analyte | R | esult | Qualifier | | RL | М | DL Unit | | D | Prepare | d Ana | alyzed | Dil Fac |
| Arsenic | | ND | | | 0.0200 | | mg/l | | 10 | /29/10 11:20 | 6 10/29/10 | 18:04 | 1 |
| Cadmium | | ND | | C | 0.00200 | | mg/l | | 10 | /29/10 11:20 | 6 10/29/10 | 18:04 | 1 |
| Lead | | ND | | | 0.0300 | | mg/l | | 10 | /29/10 11:20 | 6 10/29/10 | 18:04 | 1 |
| Lab Sample ID: 10J0172-BLK1 | | | | | | | | | | Client Sa | ample ID: 1 | 0.J017 | 2-BLK1 |
| Matrix: Water | | | | | | | | | | | Pro | ανΤα | e: total |
| Analysis Batch: 10J0172 | | | | | | | | | | | Prep Batc | h: 10J | 0172 P |
| | E | Blank | Blank | | | | | | | | | | _ |
| Analyte | R | esult | Qualifier | | RL | М | DL Unit | | D | Prepare | d Ana | alyzed | Dil Fac |
| Zinc | | ND | | | 0.0100 | | mg/l | | 10 | /29/10 11:20 | 6 11/01/10 | 12:11 | 1 |
| Γ | | | | | | | | | | | | | |
| Lab Sample ID: 10J0172-BS1 | | | | | | | | | | Client S | Sample ID: | 10J01 | 72-BS1 |
| Matrix: Water | | | | | | | | | | | Pro | эр Тур | e: total |
| Analysis Batch: 10J01/2 | | | | Sniko | | 1.06 | 105 | | | | Prep Batc | n: 10J | 0172_P |
| Analyte | | | | | | Result | Qualifier | Unit | | D % Rec | Limits | | |
| Arsenic | | | | 1.00 | | 1.05 | | ma/l | | 105 | 80 - 120 | | |
| Cadmium | | | | 1.00 | | 1.09 | | ma/l | | 109 | 80 - 120 | | |
| Lead | | | | 1.00 | | 1.10 | | ma/l | | 110 | 80 - 120 | | |
| | | | | | | - | | 5 | | | - | | |

Method: EPA 6010C - Total Metals by EPA 6010/7000 Series Methods (Continued)

| Lab Sample ID: 10.10172-BS1 | | | | | | | | Client 9 | Sample ID [.] | 10.1017 | 2-BS1 |
|------------------------------|---------|-----------|-------|------------------|-------------|--------|---|----------|------------------------|----------|---------|
| Matrix: Water | | | | | | | | onent | Pre | n Tyne | total |
| Analysis Batch: 10.10172 | | | | | | | | | Pren Batcl | n: 10.10 | 172 P |
| | | | Spike | LCS | LCS | | | | % Rec. | | |
| Analyte | | | Added | Result | Qualifier | Unit | D | % Rec | Limits | | |
| Zinc | | | 1.00 | 1.12 | | mg/l | | 112 | 80 - 120 | | |
| Lab Sample ID: 10 10172 MS1 | | | | | | | | Client | Sample ID: | Trip P | lonk 4 |
| Matrix: Water | | | | | | | | Chem | Sample ID. | n Type | total |
| Analysis Patch: 10 10172 | | | | | | | | | Drop Rotel | • 10 IO | 472 D |
| Analysis Batch. 1030172 | Sample | Sample | Spike | Matrix Spike | Matrix Spil | (e | | | % Rec. | 1. 1030 | 1/2_P |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | % Rec | Limits | | |
| Arsenic | 0.00395 | | 1.00 | 1.08 | | mg/l | | 108 | 75 - 125 | | |
| Cadmium | ND | | 1.00 | 1.12 | | mg/l | | 112 | 75 - 125 | | |
| Lead | ND | | 1.00 | 1.14 | | ma/l | | 114 | 75 - 125 | | |
| | | | | | | 5 | | | | | |
| Lab Sample ID: 10J0172-MS1 | | | | | | | | Client | Sample ID: | Trip B | lank 4 |
| Matrix: Water | | | | | | | | | Pre | р Туре | : total |
| Analysis Batch: 10J0172 | | | | | | | | | Prep Batcl | n: 10J0 | 172_P |
| | Sample | Sample | Spike | Matrix Spike | Matrix Spil | ke | | | % Rec. | | _ |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | % Rec | Limits | | |
| Zinc | ND | | 1.00 | 1.09 | | mg/l | | 109 | 75 - 125 | | |
| Lab Sample ID: 40 10172 MSD1 | | | | | | | | Client | Sample ID: | Trip D | lonk 4 |
| Matrix: Water | | | | | | | | Chem | Sample ID. | n Type | total |
| Analysis Patch: 10 10172 | | | | | | | | | Drop Potel | •p 1ype | 472 D |
| Analysis Batch. 1030172 | Sample | Sample | Spike | Matrix Spike Dup | Matrix Spil | ke Dup | | | % Rec. | 1. 1030 | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | % Rec | Limits | RPD | Limit |
| Arsenic | 0.00395 | | 1.00 | 1.05 | | mg/l | | 105 | 75 - 125 | 2.64 | 20 |
| Cadmium | ND | | 1.00 | 1.10 | | ma/l | | 110 | 75 - 125 | 2.64 | 20 |
| Lead | ND | | 1.00 | 1.12 | | mg/l | | 112 | 75 - 125 | 2.27 | 20 |
| | | | | | | 0 | | | | | |
| Lab Sample ID: 10J0172-MSD1 | | | | | | | | Client | Sample ID: | Trip B | lank 4 |
| Matrix: Water | | | | | | | | | Pre | р Туре | : total |
| Analysis Batch: 10J0172 | | | | | | | | | Prep Batcl | n: 10J0 | 172_P |
| | Sample | Sample | Spike | Matrix Spike Dup | Matrix Spil | ke Dup | | | % Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | % Rec | Limits | RPD | Limit |
| Zinc | ND | | 1.00 | 1.11 | | mg/l | | 111 | 75 - 125 | 1.28 | 20 |
| Lab Sample ID: 10.10172-DUP1 | | | | | | | | Client | Sample ID: | Trin B | lank 4 |
| Matrix: Water | | | | | | | | onem | Pro | n Type | total |
| Analysis Batch: 10.10172 | | | | | | | | | Pren Batcl | n 10.10 | 172 P |
| Analysis Batch. 1000112 | Sample | Sample | | Duplicate | Duplicate | | | | Thep Bater | | RPD |
| Analyte | Result | Qualifier | | Result | Qualifier | Unit | D | | | RPD | Limit |
| Arsenic | 0.00395 | | | ND | | mg/l | | | | | 20 |
| Cadmium | ND | | | ND | | mg/l | | | | | 20 |
| Lead | ND | | | ND | | mg/l | | | | | 20 |
| | | | | | | | | | | | |
| Lab Sample ID: 10J0172-DUP1 | | | | | | | | Client | Sample ID: | Trip B | lank 4 |
| Matrix: Water | | | | | | | | | Pre | р Туре | : total |
| Analysis Batch: 10J0172 | 0 cmm | Commis | | D | Dunktort | | | | Prep Batcl | n: 10J0 | 172_P |
| Analyta | Sample | Sample | | Duplicate | Ouclifere | 1114 | _ | | | 000 | KPU |
| | Result | Qualifier | | | Quaimer | | U | | | KPU | 20 |
| 200 | ND | | | ND | | iiig/i | | | | | 20 |

11/16/2010

Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods

| Lab Sample ID: 10J0158-BLK1 | | | | | | | c | lient Sa | mple ID: 10. | J0158 | B-BLK1 |
|-----------------------------|----------|-----------------|-------|-----------------|-------------|-----------|------|------------|----------------|--------|----------|
| Matrix: Other (S) | | | | | | | | | Prep | Туре | e: total |
| Analysis Batch: 10J0158 | - | lank Blank | | | | | | | Prep Batch: | 10J0 | 0158_P |
| Analyte | R | esult Qualifier | | RI | MDI Unit | п | | Prenareo | ι Δnalv | boz | Dil Fac |
| Mercury | | | | 50.0 | | wet | 10/2 | 8/10 10.27 | | | 1 |
| | | | | 00.0 | | | | 0,10,10121 | 10.20.101 | | · |
| Lab Sample ID: 10J0158-BS1 | | | | | | | | Client S | Sample ID: 1 | 0J015 | 58-BS1 |
| Matrix: Other (S) | | | | | | | | | Prep | Туре | e: total |
| Analysis Batch: 10J0158 | | | | | | | | | Prep Batch: | 10J0 | 0158_P |
| | | | Spike | LCS | S LCS | | | | % Rec. | | |
| Analyte | | | Added | Resul | t Qualifier | Unit | D | % Rec | Limits | | |
| Mercury | | | 100 | 99.2 | 2 | ug/kg wet | | 99.2 | 80 - 120 | | |
| Lab Sample ID: 10J0158-MS1 | | | | | | | | Client | Sample ID: | STJO | 151-01 |
| Matrix: Other (S) | | | | | | | | | Prep | | e: total |
| Analysis Batch: 10J0158 | | | | | | | | | Prep Batch: | 10J0 |)158_P |
| | Sample | Sample | Spike | Matrix Spike | Matrix Sp | ike | | | % Rec. | | _ |
| Analyte | Result | Qualifier | Added | Resul | t Qualifier | Unit | D | % Rec | Limits | | |
| Mercury | ND | | 100 | 89.4 | + | ug/kg wet | | 89.4 | 80 - 120 | | |
| | | | | | | | | Olland | O annual a UDa | от I0 | 454.04 |
| Lab Sample ID: 10J0158-MSD1 | | | | | | | | Client | Sample ID: | 5130 | 151-01 |
| Analysis Patch: 10 10159 | | | | | | | | | Bron Batch: | 1010 | 9. LOLAI |
| Analysis Batch. 1030150 | Sample | Sample | Spike | Matrix Spike Du | Matrix Sp | ike Dup | | | % Rec. | 1030 | RPD |
| Analyte | Result | Qualifier | Added | Resul | t Qualifier | Unit | D | % Rec | Limits | RPD | Limit |
| Mercury | ND | | 100 | 85. | 7 | ug/kg wet | | 85.7 | 80 - 120 | 4.23 | 20 |
| | | | | | | | | | | | |
| Lab Sample ID: 10J0158-DUP1 | | | | | | | | Client | Sample ID: | STJ0 | 151-01 |
| Matrix: Other (S) | | | | | | | | | Prep | Туре | e: total |
| Analysis Batch: 10J0158 | <u> </u> | . | | | | | | | Prep Batch: | 10J0 |)158_P |
| Analyta | Sample | Sample | | Duplicate | Duplicate | Unit | | | | | RPD |
| | ND | | | | | | | | | RPD | |
| | ND | | | | , | ug/kg wet | | | | | 40 |
| Lab Sample ID: 10J0159-BLK1 | | | | | | | c | lient Sa | mple ID: 10. | J0159 | -BLK1 |
| Matrix: Water | | | | | | | | | Prep | Туре | e: total |
| Analysis Batch: 10J0159 | | | | | | | | | Prep Batch: | 10J0 |)159_P |
| | E | Blank Blank | | | | | | | | | |
| Analyte | R | esult Qualifier | | RL | MDL Unit | D | | Prepared | d Analy | zed _ | Dil Fac |
| Mercury | | ND | | 0.200 | ug/l | | 10/2 | 8/10 10:29 | 9 10/28/10 17 | ':54 | 1 |
| Lab Sample ID: 10.10159-BS1 | | | | | | | | Client S | Sample ID: 1 | 0.1015 | 9-BS1 |
| Matrix: Water | | | | | | | | onent e | Pren | Type | e: total |
| Analysis Batch: 10J0159 | | | | | | | | | Prep Batch: | 10,0 | 159 P |
| | | | Spike | LCS | LCS | | | | % Rec. | | _ |
| Analyte | | | Added | Resul | t Qualifier | Unit | D | % Rec | Limits | | |
| Mercury | | | 1.00 | 0.93 | l | ug/l | | 93.1 | 80 - 120 | | |
| | | | | | | | | | | | |
| Lab Sample ID: 10J0159-MS1 | | | | | | | | Client | Sample ID: | 5110 | 145-06 |
| Matrix: Water | | | | | | | | | Prep Potebo | | |
| Analysis Datch: 1030159 | Sample | Sample | Snike | Matrix Spike | Matrix Sn | ike | | | % Rec | 1030 | 109_P |
| Analyte | Result | Qualifier | Added | Resul | t Qualifier | Unit | D | % Rec | Limits | | |
| Mercury | ND | | 1.00 | 0.962 | | ug/l | | 96.2 | 80 - 120 | | |

Quality Control Data

Method: EPA 7471 - Total Metals by EPA 6010/7000 Series Methods (Continued)

| Lab Sample ID: 10J0159-MSD1 Matrix: Water Analysis Batch: 10J0159 | Sample | Sample | Spike | Matrix Spike Dup | Matrix Spil | ke Dup | | Client | Sample ID: Pre Prep Batch % Rec. | : STJ01 p Type n: 10J0 ⁻ | 45-06 : total 159_P _{RPD} |
|---|--------|-----------|-------|------------------|-------------|--------|---|--------|---|---|---|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | % Rec | Limits | RPD | Limit |
| Mercury | ND | | 1.00 | 0.964 | | ug/l | | 96.4 | 80 - 120 | 0.20 | 20 |
| Lab Sample ID: 10J0159-DUP1 | | | | | | | | Client | Sample ID: | STJ01 | 45-06 |
| Matrix: Water | | | | | | | | | Pre | р Туре | : total |
| Analysis Batch: 10J0159 | | | | | | | | | Prep Batch | n: 10J0 [.] | 159_P |
| | Sample | Sample | | Duplicate | Duplicate | | | | | | RPD |
| Analyte | Result | Qualifier | | Result | Qualifier | Unit | D | | | RPD | Limit |
| Mercury | ND | | | ND | | ug/l | | | | | 20 |

Certification Summary

Client: ARCADIS U.S., Inc. - Liberty Lake Project/Site: SK030179.0002.001

| Laboratory | Authority | Program | EPA Region | Certification ID | Expiration Date |
|---------------------|------------|---------------|------------|------------------|-----------------|
| TestAmerica Spokane | Alaska | Alaska UST | 10 | UST-071 | 10/31/10 |
| TestAmerica Spokane | Washington | State Program | 10 | C569 | 01/06/11 |

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

| TestAr Sampl | nerica S e Receip | pokane ot Form | | |
|--|------------------------|-------------------|------------|---------------------------------------|
| Work Order #: STJD-11,9 Client: Arcaelis | | | | Project: JosephineMill No. 1 |
| Date/Time Received: 10/28/10 91.00 | By: Ca | ب | | |
| Samples Delivered By: Shipping Service Courier | Other:_ | | | |
| List Air Bill Number(s) or Attach a photocopy of the Air Bill: | | | | |
| Receipt Phase | Yes | No | NA | Comments |
| Were samples received in a cooler: | X | | | · · · · · · · · · · · · · · · · · · · |
| Custody Seals are present and intact: | | | X | |
| Are CoC documents present: | X | | | 1 |
| Necessary signatures: | X | | | |
| Thermal Preservation Type: Blue Ice Gel Ice Real Ice | Dry Ice | None 🗌 |]Other: | |
| Temperature by IR Gun: 6.9 °C Thermometer Serial #8150 | 0 (acceptar | nce criteria (| 0-6 ℃) | |
| Temperature out of range: 🕅 Not enough ice 🔲 Ice melted 🔤 w | /in 4hrs of co | ollection |]NA _Ot | her: |
| Log-in Phase Date/Time: 10-20-10 11.00By: () | Yes | No | NA | Comments |
| Are sample labels affixed and completed for each container | 4 | | | |
| Samples containers were received intact: | 2 | | | |
| Do sample IDs match the CoC | <u>}</u> | | | |
| Appropriate sample containers were received for tests requested | \searrow | | | |
| Are sample volumes adequate for tests requested | $\left \right\rangle$ | | | |
| Appropriate preservatives were used for the tests requested | <u>X</u> | | | |
| pH of inorganic samples checked and is within method specification | | | | |
| Are VOC samples free of bubbles >6mm (1/4" diameter) | | | ⟨∕⟩ | |
| Are dissolved parameters field filtered | | | × | |
| Do any samples need to be filtered or preserved by the lab | | | 1 | ····· |
| Does this project require quick turnaround analysis | $ \rangle$ | | | 2 day |
| Are there any short hold time tests (see chart below) | <u> </u> | | | , |
| Are any samples within 2 days of or past expiration | <u> </u> | \searrow | | · · |
| Was the CoC scanned | × 1 | | | · · · · · · · · · · · · · · · · · · · |
| Were there Non-conformance issues at login | | α | | |
| f yes, was a CAR generated # | | | \searrow | |

| 24 hours or less | 48 hours | 7 days |
|-------------------|------------------|----------------------|
| Coliform Bacteria | BOD, Color, MBAS | TDS, TSS, VDS, FDS |
| Chromium +6 | Nitrate/Nitrite | Sulfide |
| | Orthophosphate | Aqueous Organic Prep |

11/16/2010

9

Spokane

Spokane, WA 99206 phone 509.924.9200 fax

6

| Spokane | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|-------------------|------------|------------|-------------------|-------|-------|----------------------|------------------|------------|----------------|--------------------|----------|--------|----------------------|----------|----------|--------------------|--------|-----------------|----------------|-----------|--------------|
| 11922 E. 1st Ave. | | | | | | | | | | | | | | | | | | | | AtesT | mer | icc | 91 |
| | | | | C | hair | 1 0 | f (| ไมร | tod | v R | leco | ord | | | | | | | | | | | Š |
| Spokane, WA 99206 | | | | - | | | ~ ~ | - | u | j 1 | | Ju | • | | | | | | | THE LEADER IN | ENVIRONMENTA | AL TESTIN | ۹ (<u>)</u> |
| phone 509.924.9200 fax | | | | | | | | | | | | | | | | | | | | TestAmerica | Laboratories | . Inc | 1 |
| Client Contact | Project Mar | nager: Paul | a A. Lyon | | | Site | e Coi | ntact | Paula | A. L | yon | | j | Date:1 | 0/20/ | 2010 | | | | COC No: | Baboratorics | , III | ר |
| 2310 N. Moltor Pood. Suite 404 | Tel/Fax:208 | .819.1266 | | | | Lat | b Co | ntact | : | | | | | Carrie | er: | | | | | 2 of 2 | COCs | | 1 |
| Liberty Lake MA coords | | Analysis T | urnaround | Time | | | | | | | | | | | | | | | | SK030179.000 | 2.001 | | - |
| | Calendar | (C) or Wo | rk Days (W |) | | | | | | | | | | | | | | | | | • | | |
| (509)535-7225 Phone | TA | T if different fi | rom Below | | | 1. Jo | 2 | | | | | | | | | | | | | STT | 5169 | | |
| (509) 535-7361 FAX | | 2 | weeks | | | | 09 Q(| | | | | | | | | | | | | SDG No | | | - |
| Site: locophine Mill NO. 4 | | 1 | week | | | | leth | = | | | | | | | | | | | | 020110. | | | |
| P Q # SK030170 0002 Took 001 | 2 days | | | | | | A A | 174 | | | | | | | | | | | | | | | |
| | | 1 | day | | | Ĩa | 8 | tho | | | | | | | | | | | - · | ·] | | | |
| | | | | | | I Sai | 292 | W | | | | | | | | | | | | | | | - |
| Sample Identification | Sample | Sample | Sample | İ İ | # of | tere | Ξ | EP | | | | | | | | | | · | | | | | |
| | Date | Time | Туре | Matrix | Cont. | E | As | Hg | | | | | | | | | | | | Sample | Specific Note: | s: | |
| Road -CS-West | 10/26/2010 | 13:30 | 8 oz | s | 1 | | x İ, | x | | | | | | | | | | | | | | | 1 |
| Road-CS-East | 10/26/2010 | 13:45 | 8oz | s | 1 | F, | x y | x | | | | | _ | | | | + | | | | <u> </u> | | - |
| Road-CS-Center | 10/27/2010 | 10:00 | 8 oz | s | 1 |], | x > | x | | | | | - | | | | ╈ | | | | | | - 0 |
| Road-CS-Rockface | 10/27/2010 | 10:30 | 8 oz | S | 1 | , | x > | $\overline{\langle}$ | | | | | | | | | | ┼╶┤ | | | | | -1 - |
| JM-CS-03A | 10/27/2010 | 10:45 | 8 oz | s | 1 | , | x x | ~ - | | | | \uparrow | | | | | | ┨─┨ | -+- | | | | - 16 |
| JM-CS-06A | 10/27/2010 | 11:45 | 8 oz | s | | -, | x x | - c | | | | | | +- | + | | + | | - | | | | - ge |
| | | | | | | Ť | - | | | | + | | | +- | ┼┼ | | | ┼┼ | | | | | ٦٣ |
| | | | | <u>├</u> | _ | | | | ┽┤ | | | $\left - \right $ | | + | ┼╴┼ | - | + | $\left - \right $ | | | <u></u> | | 4 |
| | | | | ┼╼╶┽ | | ╶╂╴ | | | + | | | $\left - \right $ | | | $\left\{ - \right\}$ | | - | $\left - \right $ | | | | | 4 |
| | | _ | | | | | | | | | + | ┝┤ | _ | | + | _ - | | | _ | | | | |
| | | | ······ | | | | | _ | ┥┥ | | + | | | _ | $\left \right $ | | | | _ | | | | |
| | | | | | | + | | | | _ | | $\left \right $ | _ | | $\left \right $ | | · · · | \square | | | | | - |
| Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3: 5=N | | | | S | | - | | | | _ | | | | _ | | _ | 4 | | | | | | |
| Possible Hazard Identification | lion, o our | | | | | | Sami | | | | | | <u> </u> | | | | <u> </u> | | | | | | |
| Non-Hazard Flammable Skin Irritant | Poison | $_B$ | Unknown | | | Ĭ | | | | | . <i>1ee i</i> | may [| | sess | ea Ir | samµ | oles a | are re | taine | d longer than 1 | nonth) | | |
| Special Instructions/QC Requirements & Comments: | | • | | | | L_ | | 1.61 | |) Cile | n . | | D | sposa | al By | Lab | | | Archiv | re For | _ Months | | |
| | | | | | | | | | | | | | | | | | | , | ^ | 01 | | | |
| | | | | | | | | , | | / | | | | | | | | 6 | . 7 | \cup | | | |
| Relinguished by: | <u> </u> | | | | | 1 | ŀ | M | 1.1 | / | | | | _ | | | | | | | | | |
| - Paulerth Amer | ARCAI | $\lambda s - L$ | 15 | Date/Tim | 10: 900 | R | lecel | ved | MH, | | | | | | Com | pany: | | | | Date/Time: | 9100 | · | |
| Relinquished by: | Company: | | · · · | Date/Tim | <u>110</u> ie: | R | eceiv | ved by | <u>ne/</u> y: | | | | | | Com | pany: | ica_ | | | | | | |
| Relinquished by: | Company | | | Date/Ti | | + | | | | | | | | | | | | | | | | | |
| | - ompany. | | | Date/ 1 11 | 10: | R | eceiv | ved by | y: | | | | | | Com | pany: | | | | Date/Time: | | | |
| | <u> </u> | _ | | | | | | | | | | | | | | | | | | | | | |

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ARCADIS

Appendix C

Compaction Testing Results



DAILY FIELD REPORT

| Project Name: Project Address: Permit Number: | Josephine Mill No. 1 Old Pend Oreille Mines Rd, Metaline Falls, WA | Date: Client N Project I |
|---|---|--------------------------------|
| Activity Code | Description | |

September 17, 2010 ARCADI 0.:

| Permit Number: | | | Project I | io.: | S10103A | | | | | | |
|--|---|--|---|----------------------------------|-------------------------------|-------------------------------------|---------------------------------|------------------------|--|--|--|
| Activity Code | | Description | | Ī | From | То | Hours | Miles | | | |
| SFD | | Field Density | | | 6:30 | 2:30 | 8 | 195 | | | |
| | | | | | | | | | | | |
| Equipment | Densometer Coring Equipment | Mobile Laborator | y F Torc F Skie | ue Wrench Imore | | Floor Flatness NDT Equipment | ∏ Cor ∏ Cor | e Barrel e Diameter | | | |
| Samples | Concrete Aggregate | Cubes Soil | Mortar CMU | Grout | M | Prisms Other: | Aspha | alt | | | |
| Distribution: | Mr. Tom Mullen – Arc Ms. Paula Lyon – Arc Mr. Andrew Roberts - | Mr. Tom Mullen – Arcadis Ms. Paula Lyon – Arcadis Mr. Andrew Roberts - Arcadis | | | | | | | | | |
| Reference Documents: | | · · · · · · · · · · · · · · · · · · · | · · · · · · · · · · · · · · · · · · · | | | | | | | | |
| Reported To: | Andrew Roberts Name | Supe | Supervisor Position | | | Arcadis Company | | | | | |
| | Name | ······· | Position | | | Company | | | | | |
| Narrative: | | | | ······ | | | | | | | |
| STRATA arrived on-s STRATA remained o rescheduled STRATA | site at the request of To n-site from approximat A's services for Monda | om Mullen with Arc ely 9:00am to 11:4 y (9-20-10) and the | adis to conduct 5am. Arcadis wa remainder of th | compact as not re at week. | ion testing o ady for comp | n the tailings a paction testing | at the mill sit at that time | e. . They | | | |

| SAMP | LE SUMMÀ | RY | | | | | | | | | |
|------------|-------------|----------|------------|--------------|-------------------|-------------------|-------------------|--------------------|----------------------|----------|-----------------------------|
| Set No. | Mix No. | Supplier | Ticket No. | Truck No. | Slump (inches) | Air Temp. (°F) | Mix Temp. (°F) | Air Content (%) | Unit Weight (PCF) | Material | Total (Yd ³) |
| ļ | | | | [| | | | | | | |
| <u> </u> | | | | | | | | ļ | | | |
| <u> </u> | | | | | L | | | | | | |
| Sampl | e Locations | | | | | | | | | | |
| Weath | er: | Sunn | У | Cloud | iy | | Rainy | | Windy | | |
| | | | | | | | | | | | |

| Project Representative: | Signature | Strata Representative: | JP C | Signature |
|----------------------------|----------------------|---------------------------|--------|----------------|
| | Name/Company (print) | | | Name (print) |
| | | Review | wed: _ | Angelalimmuman |



_

-

Total (Yd³)

| roject Name: Josephine roject Address: Old Pend C ermit Number: | Mill No. 1 Preille Mines Rd, Me | taline Falls, WA | Date: Client No. Project No | : | Septembe ARCADI S10103A | r 21, 2010 | | |
|---|---|--|---|--|--|--|---|---|
| Activity Code | Det | cription | | | From | То | Hours | Miles |
| SFD | Fiel | d Density | | | 6:30 | 6:00 | 11.5 | 195 |
| Equipment Coring | neter Г М Equipment Г Re | bbile Laboratory bar Locator | Torqu Skidn | e Wrench nore | | Floor Flatness NDT Equipment | Г Cor Г Cor | e Barrel e Diameter |
| Samples Concre | te Cubes ate Soil | Mori | tar | Grout SAFRI | м | Prisms Other: | Aspha | alt |
| Mr. Tom M Distribution: Ms. Paula Mr. Andrew | Iullen – Arcadis Lyon – Arcadis w Roberts - Arcadis | | | | | | | |
| eference Documents: | | | | | | | | |
| eported To: Andrew Rob | erts Name | Superviso | r Position | | | Arcadis | Company | |
| ····· | Nama | | Position | | | | Company | |
| onsisted of gravel with sand and naximum density. Results were | l organics and silt reported to Andy c | / sand. All test re n-site. See attac | esults from to | oday m e densit | et project s y tests she | pecifications of et for locations | 90 percent and results. | |
| | | | | | | | | |
| MPLE SUMMARY et Mix No. Supplier Tick o. | et No. Truck S No. (i | ilump Air Temp nches) (°F) |). Mix Temp (°F) | . Air | Content (%) | Jnit Weight (PCF) | Material | Tota (Yd³) |
| MPLE SUMMARY et Mix No. Supplier Tic o. | k | ket No. Truck S No. (ii | ket No. Truck Slump Air Temp No. (inches) (°F) | ket No. Truck Slump Air Temp. Mix Temp No. (inches) (°F) (°F) | ket No. Truck Slump Air Temp. Mix Temp. Air No. (inches) (°F) (°F) | ket No. Truck Stump (inches) Air Temp. Mix Temp. Air Content (°F) (°F) | ket No. Truck No. Stump (inches) Air Temp. (°F) Mix Temp. (°F) Air Content (°F) Unit Weight (%) | ket No. Truck Stump (inches) Air Temp. Mix Temp. Air Content (°F) Unit Weight (%) Material No. (inches) (°F) (%) (PCF) |

| Project Representative: | Signature | Strata Representative: | JP Cardin | Signature |
|----------------------------|----------------------|---------------------------|------------------|--------------|
| | Name/Company (print) | | | Name (print) |
| | | Review | ved: <u>Ange</u> | lalemmeman |



| | | | | | | | Re | port No.: | 2198 | 34 | |
|-------------|--------------------------------------|---------------|---------------|------------------|------------------|----------------|----------------------|----------------|----------------------|---------|---|
| Client: | | | Arcadis | | | | | Date: | 09/21 | /10 | |
| | | | | | | | С | lient No.: | ARCADI | | _ |
| Project: | | Jos | sphine Mill N | lo. 1 | | | Pro | ject No.: | S1010 | 03A | _ |
| Test Metho | d: | (N) Nuclea | ar Densometer | х | ASTM D292 | D2922/D3017 AA | | | ASHTO T238/T239 | | |
| | | (S) Sand Cone | | | ASTM D155 | 6/D2216 | | AASHTO T191 | | | _ |
| | | Gauge | Make/Model: | Troxler 3430 | | | Serial No.: M | No.: M37037496 | | | |
| | Std Count - Density N ₁ : | | | De | Density N₄ | | Moist N ₁ | | Noist N ₄ | • •• •• | _ |
| Test Locati | on Selected | By: | Strata Rep.: | JP Cardin | | Your | Personnel: | | | | |
| | | · | Contractor: | | | | Other: | | | | |
| Project Spe | cifications: | | Minimum Per | cent Compaction: | 90% | , D | | | | | |
| Max. | Density, pcf: | Opt. Moist. | | Visual De | scription of Soi | il | | | | | |
| 1) | 133.5 | 9.5 | RC-Gravel | with Sand and | Organics (T | P-5) #3 | | | ASTM D698 | х | |
| 2) | 106.0 | 16.0 | Silty Sand | (TP-7) #4 | | | - | A | STM D1557 | | _ |
| 3) | | | | | | | | A | АЅНТО Т99 | | |
| 4) | | | | | | | | AA | SHTO T180 | | |

Test Results which do not meet the minimum requirements are underlined. "RP" after underlined tests results indicates that additional compactive effort has been applied and has been retested with results meeting the minimum requirements.

TEST RESULTS

| | Location | | Field Wet | | Fld. Dry | MD | % of Max. |
|-------------|----------------------------------|-----------|----------------|-----------------|-----------------|-----------|-----------|
| Field No. | | | Density, pcf | Field | Density, | No. | Density |
| Lab No. | | Elevation | Moist, pcf | Moist, % | pcf | | Obtained |
| | | | 136.8 | | | | |
| 1 | Lift 1 - NW quandrant of pad | SG | 15.8 | 13.1 | 120.9 | 1 | 91 |
| | | | 136.9 | | | | |
| 2 | Lift 1 - SW quandrant of pad | SG | 12.6 | 10.1 | 124.4 | 1 | 93 |
| | | | 137.3 | | | | |
| 3 | Lift 1 - SE quandrant of pad | SG | 14.2 | 17.1 | 120.2 | 1 | 90 |
| | | | 142.7 | | | | |
| 4 | Lift 1 - NE quandrant of pad | SG | 14.0 | 10.6 | 131.7 | 1 | 99 |
| | | | 136.1 | | | | |
| 5 | Lift 2 - NE quadrant of pad | SG | 15.1 | 12.5 | 121.0 | 1 | 91 |
| | | | 138.0 | | | | |
| 6 | Lift 2 - NW quadrant of pad | SG | 16.8 | 13.9 | 121.2 | 1 | 91 |
| | | | 116.6 | | | | |
| 7 | Lift 2 - SW quadrant of pad | SG | 9.6 | 8.9 | 107.0 | 2 | 100+ |
| | | | 115.4 | | | | |
| 8 | Lift 2 - SE quadrant of pad | SG | 17.1 | 17.4 | 98.3 | 2 | 93 |
| | | | 127.3 | | | | |
| 9 | Lift 1 - Far SE corner | SG | 18.5 | 17.1 | 108.7 | 2 | 100+ |
| | | | 126.4 | | | | |
| 10 | Lfit 1 - Far S central section | SG | 19.7 | 18.5 | 106.6 | 2 | 100+ |
| Elevations: | FB = Finished Base SB = Subbase | e | SG = Subgrad | e | FTG = Footing | g Grade | |
| | EG = Existing Grade AC = Asphalt | Concrete | B preceding el | levation design | nates below (i. | e. 4'BSG) | |



| Client: | Arcadis | Report No.: | 21984 |
|----------|----------------------|--------------|-----------|
| | | Date: | 9/21/2010 |
| Project: | Josephine Mill No. 1 | Client No.: | ARCADI |
| | | Project No.: | S10103A |

TEST RESULTS

| Field No. | | | Field Wet | Field | Field Dry | MD | % of Max |
|-------------|---|------------------------------------|---------------------------------------|----------------------------------|-----------------------|-----|----------|
| Lab No. | Location: | Elevation | Density, pcf | Moist., % | Density, pcf | No. | Density |
| 11 | Lift 1 - Far SW corner | SG | 125.9 18.5 | 17.2 | 107.4 | 2 | 100+ |
| 12 | Lift 3 - NE section of pad | SG | <u>117.1</u> 9.8 | 9.5 | 107.3 | 2 | 100+ |
| | | | 136.1 | | , | | |
| 13 | Lift 3 - NW section of pad | SG | 14.1 | 11.6 | 121.9 | 1 | 91 |
| 14 | Lift 3 - S central sectin of pad | SG | 140.7 | 9.0 | 129.1 | .1 | 97 |
| | | | | | | | |
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| <u> </u> | · · · · · · · · · · · · · · · · · · · | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Elevations: | I FB = Finished Base SB = Subbase EG = Existing Grade AC = Asphalt Concrete | I SG = Subgrad B preceding e | l de de levation desigr | FTG = Footing nates below (i. | g Grade e. 4' BSG) | | 1 |



DAILY FIELD REPORT

| Project Name: | Josephine Mill No. 1 | Date: |
|------------------------------------|---|------------------|
| Project Address: Permit Number: | Old Pend Oreille Mines Rd, Metaline Falls, WA | Client Projec |

Septem No.: ARCAE t No.: S10103

September 22, 2010 ARCADI S10103A

| Ac | ctivity Code | | | | Description | 1 I | | | From | To | Hours | Miles |
|---------------------------------|---|-------------------|---|-----------------------------------|--------------------------|-------------------|-------------------|---------------------------|--------------|---------------------------------------|---------------------------------------|-----------------------------|
| | SFD | | | | Field Densit | у | | | 6:30 | 6:00 | 11.5 | 195 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| E | iqulpment | ק רו | Densometer Coring Equipme | nt Г | Mobile Lab Rebar Loca | oratory stor | ☐ Torque ☐ Skidm | e Wrench Iore | Г Г | Floor Flatness NDT Equipment | Г Cor Г Cor | e Barrel e Diameter |
| | Samples | | Concrete | Ci Sc | ubes pil | Mortar CMU | | Grout SAFRM | | Prisms Other: | Asph | alt |
| C | Distribution: | Mr. Ms. Mr. | Tom Mullen – Paula Lyon – Andrew Robe | Arcadis Arcadis Ints - Arca | dis | · · · · | | | | | | |
| Refere | nce Docum | ent s : | ···· | | | | <u> </u> | | | | | |
| Report | Reported To: <u>Andrew Roberts</u> Superv | | | | | Supervisor | Position | | | Arcadis | Company | |
| | | | Name | | | | Position | | <u> </u> | | Company | |
| Narrat | ive: | | | | | | | · · · · | | · · · · · | | |
| STRA densi mater maxir | <u>Arrative:</u> STRATA arrived on-site at the request of Tom Mullen with Arcadis to conduct compaction testing. STRATA performed several nuclear density tests on each lift of the fill area. Arcadis placed each lift in approximate 12-inch loose (10-inch compacted) thickness. The fill material consisted of gravel with sand and organics and silty sand. All test results from today met project specifications of 90 percent maximum density. Results were reported to Andy on-site. See attached in-place density tests sheet for results and locations. | | | | | | | | | | | |
| SAMPL | E SUMMAR | Y | | | | | | 0 <u>-1-</u> 3 | | · · · · · · · · · · · · · · · · · · · | · · · · · · · · · · · · · · · · · · · | |
| Set No. | Mix No. | Supplier | Ticket No. | Truck No. | Slump (inches) | Air Temp. (°F) | Mix Temp. (°F) | Air Co (% | (ntent) | Jnit Welght (PCF) | Material | Total (Yd ³) |
| | · · · · | | | <u></u> | | | · . | | | | | |
| Sample | Locations: | | | | | | | | | | | |
| Weathe | er: | Sunn | у | Cloud | ly | | Rainy | | Win | ldy | | |
| Rep | Project resentative | | Na | Signature me/Company (p | srint) | | Stra Represe | ata intative: Revie | | Sardin Na Angela l | gnature na (prini) UMMUM | ian |



| | | | | | | | Re | port No.: | 221 ⁻ | 18 | |
|--------------|---------------|-------------|------------------------------|-----------------|-----------------------|------------|----------------------|------------|----------------------|-----|----------|
| Client: | | | Arcadis | | | | | Date: | 09/22 | /10 | |
| • | | | | | | | С | lient No.: | ARC | ADI | |
| Project: | | Jos | sphine Mill N | <u>lo. 1</u> | | | Pro | oject No.: | S1010 | 03A | _ |
| Test Metho | d: | (N) Nuclea | ar Densometer | x | ASTM D | 2922/D3017 | | AASHT | O T238/T239 | | |
| | | | (S) Sand Cone | <u> </u> | ASTM D | 1556/D2216 | | A | ASHTO T191 | | |
| | | Gauge | Make/Model: | CPN | | - | Serial No.: M | 37037496 | 3 – | | |
| | | Std Coun | t - Density N ₁ : | C | ensity N ₄ | | Molst N ₁ | · | Molst N ₄ | | <u> </u> |
| Test Locatio | on Selected | i By: | Strata Rep.: | JP Cardin | | You | r Personnel: | | | | |
| | | • | Contractor: | | · · ···- | | Other: | ····· | | | |
| Project Spe | cifications: | | Minimum Per | cent Compactior | n: 9 | 0% | | | | | |
| Max. I | Density, pcf: | Opt. Moist. | | Visual E | Description of | Soll | | | | | |
| 1) | 133.5 | 9.5 | RC -Gravel | with Sand ar | nd Organics | (TP-5) #3 | | | ASTM D698 | х | |
| 2) | 106.0 | 16.0 | Silty Sand | (TP-7) #4 | | | | | ASTM D1557 | | |
| 3) | | | | | | | | A | ASHTO T99 | | |
| 4) | | | | | | | | A | ASHTO T180 | | |

Test Results which do not meet the minimum requirements are underlined. "RP" after underlined tests results indicates that additional compactive effort has been applied and has been retested with results meeting the minimum requirements.

TEST RESULTS

| | Location | | Field Wet | | Fld. Dry | MD | % of Max. |
|-------------|-----------------------------------|-----------|---------------|----------|---------------|-------|-----------|
| Field No. | | | Density, pcf | Field | Density, | No. | Density |
| Lab No. | | Elevation | Moist, pcf | Moist, % | pcf | | Obtained |
| 1 | Lift 4 NE cootion of rod | 80 | 140.9 | 0.0 | 120.0 | 4 | 07 |
| | | 30 | 122 5 | 0.3 | 130.0 | I | 97 |
| 2 | Lift 4 - NW section of pad | SG | 10.9 | 8.9 | 122.6 | 1 | 92 |
| 3 | Lift 4 - SW section of pad | SG | 134.4 13.0 | 10.7 | 121.4 | 1 | 91 |
| 4 | Lift 4 - SE section of pad | SG | 114.8 18.2 | 18.8 | 96.6 | 2 | 91 |
| 5 | Lift 5 - NE corner of pad | SG | | 15.2 | 106.0 | 2 | 100 |
| 6 | Lift 5 - N central section of pad | SG | 126.3 21.6 | 20.6 | 104.7 | 2 | 99 |
| | Lift 5 - NW corner of pad | SG | 126.9 17.8 | 18.5 | 107.0 | 2 | 100+ |
| 8 | Lift 5 - SE corner of pad | SG | 121.5 22.4 | 22.6 | 99.1 | 2 | 94 |
| | | | | | | | |
| Elevations: | FB = Finished Base SB = Subbas | ;e | SG = Subgrad | e | FTG = Footing | Grade | |

AC = Asphalt Concrete

B preceding elevation designates below (i.e. 4'BSG)



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DAILY FIELD REPORT

| Proj Pern | ect Name: ect Address nit Number | Jose s: Old F : N/A | phine Mill N Pend Oreille N | o. 1 lines Rd, | Metaline F | alls, WA | Date: Client No.: Project No.: | T A S | hursday RCADI 10103A | / September 2 | 23, 2010 | |
|--|--|--|---|------------------------|---------------------------|-------------------|---|--------------|----------------------------|-------------------------------|--|-----------------------------|
| A | ctivity Code | <u> </u> | · · · · · | | Description | 1 | <u>, , , , , , , , , , , , , , , , , , , </u> | <u> </u> | From | То | Hours | Miles |
| | SFD | | | | Field Densit | У | . <u>.</u> | | | | 11.5 | 195 |
| | | | | | | | R. <u>1. 1. 1. 1</u> . 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. | | | | | |
| | | | | | | و | | | | | | |
| | Equipment |) 되 기 | Densometer Coring Equipme | nt Г | Mobile Lab Rebar Loca | oratory tor | Torque Skidmo | Nrench re | | Floor Flatness | s ΓCo ent ΓCo | re Barrel re Diameter |
| | | | Concrete | C | lbes | Mortar | • | Grout | | Prisms | Asph | alt |
| | Samples | | Aggregate | So | - li | CMU | | SAFRM | · | Other: | · | |
| | | Mr | Tom Mullen | Arcedie | | | | | | | | |
| | Distribution | Me | Paula I von - | Arcadia | | | | | | | | |
| | | Mr. | Andrew Robe | rte - Arca | die | | | | | | | |
| 19-7- | | NI/A | | 10 - 7100 | | | | <u> </u> | | | ··· · · · · · · · · · · · · · · · · · | |
| Keter | ence Docume | ents: <u>19/7</u> | \ | | | | | | | | | |
| Repo | ted To: | Andre | w Roberts | | | Supervisor | | | | Arcadis | | |
| | | laha | Name | | | Queendeer | Position | | | Araadia | Company | |
| | | Jonn | Name | | | Supervisor | Position | | | Arcauls | Company | |
| Narra | tivo | ···· | name | | | | rosidon | | | · ··· ·· · · · · · | Company | |
| orga the a | nics and silt ittached der | ty sand. All nsity sheet | test results i for test resul | me proje Its and Ic | ect specific ocations. | ations of 90 |)% maximun | n densi | ty. Resi | ilts were repo | rted to John or | n-site. See |
| orga the a | nics and silt | ty sand. All | test results i for test resul | me proje ts and lo | ocations. | ations of 90 | 0% maximun | n densi | ty. Resi | ilts were repo | rted to John or | a-site. See |
| orga the a | LE SUMMAR | ty sand. All hsity sheet | test results i for test resul | ts and lo | act specific | ations of 90 | 0% maximun | | ty. Resi | lts were repo | rted to John or | a-site. See |
| orga the a SAMP Set | LE SUMMAR | ty sand. All hsity sheet Y Supplier | test results i for test resul | Truck | stump | Air Temp. | Mix Temp. | Air C | ty. Resi | Unit Weight | rted to John or | Total |
| orga the a SAMP Set No. | LE SUMMAR | ty sand. All hsity sheet Y Supplier | test results i for test resul Ticket No. | Truck No. | Slump (inches) | Air Temp. (°F) | Mix Temp. (°F) | Air C | ontent % | Unit Weight (PCF) | rted to John or Material | Total (Yd ³) |
| orga the a SAMP Set No. | LE SUMMAR | ty sand. All hsity sheet Y Supplier | test results i for test resul Ticket No. | Truck | Slump (inches) | Air Temp. (°F) | Mix Temp. (°F) | Air C | ontent | Unit Weight (PCF) | nted to John or Material | Total (Yd ³) |
| orga the a SAMP Set No. | LE SUMMAR | ty sand. All hsity sheet Y Supplier | test results i for test resul Ticket No. | Truck No. | Slump (inches) | Air Temp. (°F) | Mix Temp. (°F) | Air C | ontent % | Unit Weight (PCF) | Material | Total (Yd ³) |
| orga the a SAMP Set No. | LE SUMMAR | ty sand. All hsity sheet Y Supplier | test results i for test resul Ticket No. | Truck | Slump (inches) | Air Temp. (°F) | Mix Temp. (°F) | Air C | ontent %) | Unit Weight (PCF) | Material | Total (Yd ³) |
| orga the a SAMP Set No. Sampl Weath | LE SUMMAR Mix No. | ty sand. All hsity sheet Y Supplier | test results i for test result Ticket No. | Truck No. | Slump (inches) | Air Temp. (°F) | Mix Temp. (°F) | Air C | ontent % | Unit Weight (PCF) | Material | Total (Yd ³) |
| orga the a SAMP Set No. Sampl Weath Rej | LE SUMMAR | ty sand. All hsity sheet Y Supplier | test results i for test resul Ticket No. | Truck No. | Slump (inches) | Air Temp. (°F) | Mix Temp. (°F) Rainy Strat Represen | Air C (' | ontent % | Unit Weight (PCF) /indy | Material Signature Name (print) So for and which and | Total (Yd ³) |



| | | | | | | | ਜ | eport No.: | 2215 | 57 |
|--------------|---------------|-------------|------------------------------|--------------|------------------|------------|----------------------|-------------|----------------------|-----|
| Client: | | | Arcadis | | | | | Date: | 09/23 | /10 |
| - | | | | | , | | | Client No.: | ARCA | ADI |
| Project: | | Jos | ephine Mill I | No. 1 | | | Р | roject No.: | S1010 | 03A |
| Test Metho | d: | (N) Nuclea | ar Densometer | х | ASTM D | 2922/D3017 | | AASHT | O T238/T239 | |
| | (S) Sand Cone | | | | ASTM D | 556/D2216 | | A | ASHTO T191 | |
| | | Gauge | Make/Model: | CPN | - | - | Serial No.: | M37037496 | ; – | |
| | | Std Count | t - Density N ₁ : | | Density N₄ | | Moist N ₁ | | Moist N ₄ | |
| Test Locatio | on Selected | d By: | Strata Rep.: | Jon-Paul (| Cardin | You | r Personnel: | | | |
| | | | Contractor: | | | | Other: | | | |
| Project Spe | cifications: | | Minimum Per | cent Compact | ion: 9 | 0% | | | | |
| Max. I | Density, pcf: | Opt. Molst. | | Visua | I Description of | Soil | | | | |
| 1) | 133.5 | 9.5 | GRAVEL v | ith Sand a | nd Organics (| TP-5 #3) | | | ASTM D698 | х |
| 2) | 106.0 | 16.0 | Silty SAND |) (TP-7 #4) | | | | / | ASTM D1557 | |
| 3) | 103.5 | 18.5 | Sandy SIL | T with Trac | e Organics (T | P-9 SL0816 | 610-1) | A | ASHTO T99 | |
| 4) | | | | | | | | AA | ASHTO T180 | |

Test Results which do not meet the minimum requirements are underlined. "RP" after underlined tests results indicates that additional compactive effort has been applied and has been retested with results meeting the minimum requirements.

TEST RESULTS

| | Location | | Field Wet | | Fld. Dry | MD | % of Max. |
|-------------|---------------------------------------|-----------|---------------------------|------------------|---------------|---------|---------------------|
| Field No. | | Elevation | Density, pcf Moist_pcf | Field Moist % | Density, | No. | Density Obtained |
| | · · · · · · · · · · · · · · · · · · · | | | | | | |
| 1 | Lift 6 - NW section of pad | SG | | 14.4 | 120.4 | 1 | 90 |
| 2 | Lift 5 - SW section of pad | SG | | 23.1 | 105.7 | 2 | 100 |
| 3 | Lift 5 - Center of pad | SG | | 11.0 | 121.9 | 1 | 91 |
| 4 | Lift 6 - N. central section of pad | SG | | 15.7 | 104.8 | 2 | 99 |
| 5 | Lift 6 - NE section of pad | SG | | 25.0 | 100.2 | 2 | 95 |
| 6 | Lift 6 - SE section of pad | SG | | 17.7 | 97.0 | 2 | 92 |
| 7 | Lift 6 - S. central section of pad | SG | | 17.5 | 101.7 | 2 | 96 |
| 8 | Lift 6 - SE section of pad | \$G | | 15.5 | 104.7 | 2 | 99 |
| | | | | | | | |
| Elevations: | FB = Finished Base SB = Subbas | e | SG = Suborad | | FTG = Footing | n Grade | |



DFR Number: 22155 Page 1 of 2

DAILY FIELD REPORT

| Project Name: | Josephine Mill No. 1 |
|------------------|---|
| Project Address: | Old Pend Oreille Mines Rd, Metaline Falls, WA |
| Permit Number: | N/A |

Date: Client No.: Project No.: Friday September 24, 2010 ARCADI S10103A

| Activity Code | | Description | From | То | Hours | Miles | |
|--|---|---|---|---------------|-----------------|---------------|--------------------|
| SFD | | Field Density | | | | 12.5 | 195 |
| | | | | | | | |
| | | | | | | | |
| Equipment | Densometer | Mobile Laboratory | Torque Wrench | Г | Floor Flatness | Г Cor | e Barrel |
| -4 | Coring Equipment | Rebar Locator | Skidmore | NDT Equipment | | Core Diameter | |
| Samplas | Concrete Cubes Mortar | | | | Prisms | Asph | alt |
| | Aggregate | SAFR | ۸ | Other: | | | |
| | Mr. Tom Mullen – Arca | adis | | | | | |
| Distribution: | Ms. Paula Lyon - Arca | adis | | · | | | |
| | Mr. Andrew Roberts - | Arcadis | | | | | |
| Reference Documents: | _N/A | | | | | | |
| Reported To: | Andrew Roberts | Supervisor | | | Arcadis | | |
| •••••• | Name | • | Position | | | Company | |
| - | John | Supervisor | Desition | <u> </u> | Arcadis | 0 | |
| Narrative: | | | POSILIOIT | | | Company | |
| STRATA arrived on performed several de | -site as requested by ensity tests on each lif | Tom Mullen with Arcac t of the fill area. Due to | lis to conduct in-p heavy rain, the ce | blace densit | ty testing of f | ill material. | STRATA pumping. |

performed several density tests on each lift of the fill area. Due to heavy rain, the central area of the fill pad experienced pumping. Arcadis removed the problem area and replaced with dryer material. The fill material consisted of gravel with sand and organics and silty sand. At the end of the day, Arcadis was removing pumping areas to replace with dryer material. Arcadis requested STRATA's services for tomorrow Saturday September 25th, 2010 to continue to test the fill.

| SAMP | LE SUMMAF | RY | | | | | · · · · · · · · · · · · · · · · · · · | | | | |
|------------|-------------|----------|------------|--------------|-------------------|-------------------|---------------------------------------|--------------------|----------------------|----------|-----------------------------|
| Set No. | Mix No. | Supplier | Ticket No. | Truck No. | Slump (inches) | Air Temp. (°F) | Mix Temp. (°F) | Air Content (%) | Unit Weight (PCF) | Material | Total (Yd ³) |
| | | | | | | | | | | | |
| Sampl | e Locations | | | [| | | | | | | |
| Weath | er: | Sunn | у | Cloud | y | | Rainy | | Windy | | |

| Project | | Otrata | |
|-----------------|----------------------|--------------------------|-----------------------------|
| Representative: | Signature | Strata Representative | Signature |
| | Name/Company (print) | hoprocontairo. | Name (orint) |
| | | Review | wed: <u>Angelalimmerman</u> |



| | | | | | | | R | eport No.: | 2215 | 5 |
|--------------|---------------|-------------|------------------------------|----------------|---------------|-------------|----------------------|-------------------|----------------------|-----|
| Client: | | | Arcadis | | | | | Date: | 09/24/ | '10 |
| - | | | | | | | I | Client No.: | ARCA | DI |
| Project: | | Jos | ephine Mill I | No. 1 | | | Р | roject No.: | S1010 | 3A |
| Test Method | d: | (N) Nuclea | ar Densometer | х | ASTM | D2922/D3017 | | AASHT | O T238/T239 | |
| | | (| (S) Sand Cone | | ASTM | D1556/D2216 | | A | ASHTO T191 | |
| | | Gauge | Make/Model: | CPN | | - | Serial No.: | W 37037496 | ; | |
| | | Std Count | t - Density N ₁ : | l | Density N₄ | | Moist N ₁ | | Moist N ₄ | |
| Test Locatio | on Selected | d By: | Strata Rep.: | Jon-Paul Ca | ardin | You | r Personnel: | | | |
| | | · | Contractor: | | | | Other: | | | |
| Project Spe | cifications: | | Minimum Per | cent Compactio | n: | 90% | | | | |
| Max. D | Density, pcf: | Opt. Moist. | | Visual | Description (| of Soil | | | | |
| 1) | 133.5 | 9.5 | GRAVEL v | vith Sand and | d Organics | (TP-5 #3) | | | ASTM D698 | Х |
| 2) | 106.0 | 16.0 | Silty SAND |) (TP-7 #4) | | | | / | ASTM D1557 | |
| 3) | 103.5 | 18.5 | Sandy SIL | T with Trace | Organics (| TP-9 SL081 | 610-1) | A | ASHTO T99 | |
| 4) | | | | | | | | AA | ASHTO T180 | |

Test Results which do not meet the minimum requirements are underlined. "RP" after underlined tests results indicates that additional compactive effort has been applied and has been retested with results meeting the minimum requirements.

TEST RESULTS

| Field No. | Location | | Field Wet Density, pcf | Field | Fld. Dry Density, | MD No. | % of Max. Density |
|-------------|------------------------------------|-----------|---------------------------|----------|----------------------|-----------|----------------------|
| Lab No. | | Elevation | Moist, pcf | Moist, % | pcf | | Obtained |
| 1 | Lift 7 - N. central section of pad | SG | | 12.5 | 121.2 | 1 | 91 |
| 2 | Lift 7 - SE section of pad | SG | | 13.8 | 121.2 | 1 | 91 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Elevations: | FB = Finished Base SB = Subbase | B | SG = Subgrad | le | FTG = Footin | g Grade | • |

EG = Existing Grade AC = Asphalt Concrete

B preceding elevation designates below (i.e. 4'BSG)

-



2

DAILY FIELD REPORT

| Project Name: | Josephine Mill No. 1 |
|------------------|---|
| Project Address: | Old Pend Oreille Mines Rd, Metaline Falls, WA |
| Permit Number: | N/A |

Date:SatClient No.:ARProject No.:S10

Saturday September 25, 2010 ARCADI S10103A

Reviewed: <u>Angelalummuman</u>

| ļ | ctivity Code | e | | | Descriptio | <u>.</u> ภ | | Ī | From | То | Hours | Miles |
|------------|---------------------|-------------------|------------------------------|-------------------------|-------------------|---------------|--------------|----------------|------------------|----------------|--------------|-------------|
| | SFD | | | | Field Densi | tv | | | | | 7 | 195 |
| | | | | | | | | | | | <u>′</u> | |
| | | | | | | | | | | | | |
| | Fauinment | N | Densometer | Ē | Mobile Lat | oratory | Torque | Wrench | Г | Floor Flatness | L Co | re Barrel |
| | | Г | Coring Equipm | ent 🔽 | Rebar Loca | ator | 🖵 Skidme | ore | Г | NDT Equipmer | t 🗖 Co | re Diameter |
| | Samples | | Concrete | C | ubes | Morta | r | Grout | <u></u> | Prisms | Asph | alt |
| | Sampies | | Aggregate | S | oil _ | CMU | | SAFR | A | Other: | | |
| | | Mr. | Tom Mullen - | - Arcadis | | | | | | | | |
| | Distribution | : Ms. | Ms. Paula Lyon – Arcadis | | | | | | | | | |
| | | Mr. | Mr. Andrew Roberts - Arcadis | | | | | | | | | |
| Refer | ence Docum | ients: <u>N/A</u> | ١ | | | | | | | | | |
| Repo | ted To: | Andre | w Roberts | · · · · · · · · · · · · | | Supervisor | | | | Arcadis | | |
| | | John | Name | | | Supervisor | Position | | | Arcadis | Company | |
| | | | Name | | | | Position | | | | Company | |
| Narra | tive: | | | | | | | | | | | |
| STR | ATA arrive | ed on-site a | nd the contr | actor wa | as not rea | dv. The cor | ntractor can | celled | the comp | action testing | for next wee | k as well |
| STR | ATA return | ned to the of | fice. | | | • | | | • | Ŭ | | |
| | | | | | | | | | | | | |
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| | | | | | · · · | | | | | | | |
| SAMP | LE SUMMAR | <u> </u> | | | | | | | | | | |
| Set No. | MIX NO. | Supplier | Ticket No. | Truck | Slump (inches) | Air Temp. | Mix Temp. | Air C | Content | Unit Weight | Material | Total |
| | | | | | | | <u>··</u> / | | | | | |
| | | | | | | | | | | | | |
| Comul | | | | | | Ĺ | | | | | | |
| Weath | e Locations: er: | Sunn | | Clour | dv | | Poinu | | | a ab u | | |
| 710411 | *** | | <u> </u> | | <u>.</u> | | | | | ioy | | |
| | | | | | | | | | | | | |
| | Drojant | | | | | | ~ | •- | _ | | | |
| Rer | resentativo | .• | | Signature | | | Stra | (a) Nativo: | <u> </u> | | Signature | |
| 1.04 | - 00011ali 40 | | Na | me/Company (o | ວກ່ວຍ) | | rehiesei | nauve: | Shawn Swearingen | | | |



DFR Number: 22162 Page 1 of 1

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DAILY FIELD REPORT

Tuesday September 28, 2010 ARCADI o.: \$10103A

| A | ctivity Code |) | | | Description | 1 | | | From | То | Hours Mil | | | |
|--|--|--|--------------------------------|--------------------------------------|---|--|---|----------------------------------|--|---|---------------------------|---------------|--|--|
| | SOS | | | (| Obtain Samp | le | | | | | 4.5 | 195 | | |
| | | | | | | | | | | | | | | |
| | | | | | | • • • | | | | | | | | |
| E | Equipment | F | Densometer | _ | Mobile Lab | oratory | Torque V | Vrench | [| Floor Flatnes | S [| Core Barrel | | |
| | · · · | J. | Coring Equipme | nt l | Rebar Loca | itor | Skidmor | e | | NDT Equipm | ent I | Core Diameter | | |
| | Samples | | Concrete | Ci | ubes | Mortar | | Grout | | Prisms | As | phalt | | |
| | oumpioo | | Aggregate | <u>X</u> So | pil _ | CMU | | SAFRM | | _ Other: | | | | |
| | | Mr. | Tom Mullen - | Arcadis | | | | | | | | | | |
| C | Distribution | : Ms. | Ms. Paula Lyon – Arcadis | | | | | | | | | | | |
| | | Mr. | Andrew Robe | rts - Arca | dis | | | | | | | | | |
| Refere | ence Docum | nents: | | | | | | | | | | | | |
| Penert | tod Toj | Andre | w Roberts | | | Supervisor | <u></u> | | | Arcadis | | <u> </u> | | |
| кероп | teu 10: | | Name | | | | Position | | | | Company | | | |
| | | | Alamo | | | | Desition | | | Compony | | | | |
| NI | 41 | | Ivailie | | | | FOSILION | | | Company | | | | |
| Narrat STRA STRA | ATA arrive ATA collec | ed on-site as | s requested l sentative san | by Andre | ew Robert transporte | s with Arca ed it to the la | dis to obtain aboratory for | a sam testing | aple of t g. | he fill materia | al being used | at the site | | |
| STRA STRA | ATA arrive | ed on-site as | s requested l sentative san | by Andre | ew Robert | s with Arca ed it to the la | dis to obtain aboratory for | a sam | ple of t | he fill materia | al being used | at the site. | | |
| STRA STRA STRA | ATA arrive ATA collec | ed on-site as sted a repres | s requested l sentative san | by Andre nple and | ew Robert | s with Arcaded it to the la | dis to obtain aboratory for | a sam | ple of t | he fill materia | al being used | at the site. | | |
| STRA STRA STRA SAMPL Set No. | ATA arrive ATA collec ATA collec LE SUMMAF Mix No. | ed on-site as sted a repres representation represen | s requested l sentative san | by Andre nple and Truck | ew Robert transporte <u>slump</u> (inches) | s with Arca ed it to the la dit to the la | dis to obtain aboratory for Mix Temp. (°F) | a sam testing Air Cc | ple of t g. ontent | he fill materia | al being used | at the site. | | |
| STRA STRA STRA STRA STRA STRA STRA STRA | ATA arrive ATA collec ATA collec LE SUMMAR Mix No. | ed on-site as sted a repres ted a repres ted a repres supplier | s requested l sentative san | by Andre nple and Truck No. | ew Robert transporte <u>slump</u> (inches) | s with Arcaded it to the la | dis to obtain aboratory for Mix Temp. (°F) | a sam testing Air Cc (% | ple of t j. <u>j.</u> <u>ontent</u> | he fill materia | al being used | at the site. | | |
| STRA STRA STRA STRA STRA STRA STRA | ATA arrive ATA collec ATA collec LE SUMMAR Mix No. | ed on-site as sted a repres representation represen | s requested l sentative san | by Andre ple and Truck No. | ew Robert transporte Slump (inches) | s with Arcad ed it to the la Air Temp. (°F) | dis to obtain aboratory for Mix Temp. (°F) | a sam testing Air Cc (% | nple of t g. ontent | he fill materia Unit Weight (PCF) | al being used Material | at the site. | | |
| SAMPL Set No. | ATA arrive ATA collec ATA collec LE SUMMAR Mix No. | ed on-site as sted a repres | s requested I sentative san | by Andre nple and Truck No. | ew Robert transporte <u>Slump</u> (inches) | s with Arcaded it to the la | dis to obtain aboratory for Mix Temp. (°F) | Air Cc | ple of t | he fill materia | al being used Material | at the site. | | |
| SAMPL Sample | LE SUMMAF Mix No. | ed on-site as sted a repres | s requested l sentative san | by Andre nple and Truck No. | ew Robert transporte Slump (inches) | s with Arcaded it to the la | dis to obtain aboratory for Mix Temp. (°F) | a sam testing Air Co | ple of t | he fill materia | al being used Material | at the site. | | |

| Project | Signature | Strata | Signature |
|-----------------|----------------------|-----------------|-----------------------------|
| Representative: | | Representative: | Jon-Paul Cardin |
| | Name/Company (print) | | Name (print) |
| | | Review | wed: <u>Angelalemmerman</u> |





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DAILVEIELD DEDADT

| Proje Proje Perm | ect Name: ect Address nit Number: | Jose Old F | ephine Mill N Pend Oreille N | o. 1 /lines Rd | DAIL | alis, WA | Date: Client No.: Project No | ; ; ;; | Friday C ARCADI S10103/ | ectober 1, 201 | 0 | |
|---|---|---------------|-----------------------------------|-------------------|--------------|-----------------|--|-----------------------|-------------------------------|-------------------------------|---------------------------------------|--------------------------|
| A | ctivity Code | | | | Description | n | | | From | То | Hours | Miles |
| | SED | | | | Field Densit | v | | | | | 7.5 | 195 |
| | 010 | | | | | y | | | | | | |
| | | | | | | | · _ · . · · · · · | | | | | 1 |
| 1 | Equipment | r r | Densometer Coring Equipme | nt l | Mobile Lab | oratory ator | Torque | e Wrenc 10re | h | Floor Flatnes | s ICc ent ICc | re Barrel re Diameter |
| | Samples | | Concrete Aggregate | C s | ubes _ | Mortar CMU | | Grout SAFR | | Prisms Other: | Aspł | nalt |
| | | Mr. | Tom Mullen - | Arcadis | | | | • | | | | |
| 1 | Distribution: | Ms. | Paula Lvon – | Arcadis | | | | | | | | |
| | Mr. Andrew Roberts - Arcadis | | | | | | | | <u> </u> | | | |
| Refere | ence Documen | ts: | | | | | ų | | | | | |
| | | ···· | | | | <u></u> | | | ··· | A | | |
| Report | ted To: | Andre | w Roberts | | | Supervisor | Position | <u> </u> | | Arcadis | Company | |
| | | | Name | | | | rosidon | | | | Company | |
| | | | Name | | | | Position | | | | Company | |
| Narra | tive: | | | | | | | | | | | |
| | | | | , | | | | | | | | |
| SAMPL | E SUMMARY | | | | | | | | - | | | |
| Set | Mix No. | Supplier | Ticket No. | Truck | Slump | Air Temp. | Mix Temp | . Air | Content | Unit Weight | Material | Total |
| No. | | | | No. | (inches) | (°F) | (°F) | _ | _(%) | (PCF) | · · · · · · · · · · · · · · · · · · · | (Yd ³) |
| | | | | | | | | _ | | | | |
| | | | | | | | | | | | | |
| Sample | e Locations: | | | | · | | ······································ | | | | | |
| Weath | er: | Sunn | у | Clou | dy | | Rainy | | V | Vindy | | |
| Sample Locations: Weather: Project Representative: | | | Signature Name/Company (print) | | | | Str Represe | ata entative Re | ∷ <u>Jo</u> viewed: | n-Paul Cardi <i>Angeli</i> | Signature N Name (print) | man) |



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|--------------|----------------------|-----------------------|---------------------------------------|-----------------|------------------|-----|
| Client: | | Arcadis | | | Date: 10/01 | /10 |
| • | | | | Clier | nt No.: ARC/ | ADI |
| Project: | | Josephine Mill No. 1 | | Projec | ct No.: | 03A |
| Test Metho | d: (N) | Nuclear Densometer X | ASTM D2922/D30 | 17 | AASHTO T238/T239 | |
| | | (S) Sand Cone | ASTM D1556/D22 | 16 | AASHTO T191 | |
| | | Gauge Make/Model: CPN | | Serial No.: M37 | 037496 | |
| | Std | Count - Density N1: | Density N₄ | Moist N₁ | Moist N₄ | |
| | | | | | | |
| Test Locatio | on Selected By: | Strata Rep.: Jon- | Paul Cardin | Your Personnel: | | |
| | | Contractor: | | Other: | | |
| Project Spe | cifications: | Minimum Percent Co | ompaction: 90% | | | |
| Max. | Density, pcf: Opt. N | loist. | Visual Description of Soil | | | |
| 1) | 119.5 11 | .5 RC-Silty SAND | with Gravel and Cobbles (S | L92810-2) | ASTM D698 | Х |
| 2) | | | · · · · · · · · · · · · · · · · · · · | | ASTM D1557 | |
| 3) | | | ····· | | AASHTO T99 | |
| 4) | | | | | AASHTO T180 | |

Test Results which do not meet the minimum requirements are underlined. "RP" after underlined tests results indicates that additional compactive effort has been applied and has been retested with results meeting the minimum requirements.

TEST RESULTS

| Field No. Lab No. | Location | Elevation | Field Wet Density, pcf Moist, pcf | Field Moist, % | Fid. Dry Density, pcf | MD No. | % of Max. Density Obtained |
|----------------------|--|------------------|---|-----------------------|----------------------------------|----------------------|----------------------------------|
| 1 | NE section of pad | SG | | 18.5 | 109.0 | 1 | 91 |
| 2 | N. central section of pad | SG | | 11.6 | 121.6 | 1 | 100+ |
| 3 | NW section of pad | SG | | 13.3 | 119.1 | 1 | 100 |
| 4 | SW section of pad | SG | | 9.0 | 120.9 | 1 | 100+ |
| 5 | S. central section of pad | SG | | 13.7 | 109.7 | 1 | 92 |
| 6 | SE section of pad | SG | | 16.2 | 115.1 | 1 | 96 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Elevations: | FB = Finished Base SB = Subbas EG = Existing Grade AC = Asphalt | se t Concrete | SG = Subgrad B preceding el | le levation desigi | FTG = Footing nates below (i. | g Grade e. 4'BSG) | |



Representative:

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DAILY FIELD REPORT

| Project Name: | Josephine Mill No. 1 |
|------------------|---|
| Project Address: | Old Pend Oreille Mines Rd, Metaline Falls, WA |
| Permit Number: | |

Date: Client No.: Project No.: Thursday October 7, 2010 ARCADI S10103A

| A | ctivity Code | | | | Description | n | | | From | То | Hours | Miles |
|------------|--------------|--|----------------|--------------|-------------------|------------------|--------------------|-----------|----------------|----------------------|-----------|-----------------------------|
| | SFD | | | | Field Densit | у | | | | | 10.5 | 195 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | <u>.</u> |
| | Equipment | | Densometer | Г | Mobile Lab | oratory | Torqu | ue Wrencl | h 🕻 | Floor Flatness | Г Co | re Barrel |
| | Equipment | ſ | Coring Equipme | ant Г | Rebar Loca | ator | 🔽 Skidi | more | ſ | " NDT Equipmer | nt 🔽 Co | re Diameter |
| | Complee | | Concrete | C | ubes | Mort | ar | Grout | | Prisms | Asph | alt |
| | Jampies | | Aggregate | Se Se | pil _ | CML | , <u> </u> | SAFR | M | Other: | | |
| | | Mr. | Tom Mullen - | - Arcadis | | | | - | | | | |
| | Distribution | ; Ms. | Paula Lyon - | Arcadis | | | | | | | | |
| | | Mr. | Andrew Robe | erts - Arca | dis | | | | | | | |
| Refere | ence Docum | ents: | | | | | | | | | | |
| _ | | Dave | Frost | | | Supervisor | • | | | Arcadis | | |
| Repor | ited To: | Dave | Name | | | Oupor 150 | Position | | | 7400010 | Company | |
| | | | | | | | | | | | | |
| | | ······································ | Name | | | . | Position | | | | Company | |
| Narra | tive: | | | | | | | | | | | |
| Resi | ults were re | ported to D | ave on-site. | See the | attached o | density sh | eet for test | results | and locatio | ons. | | |
| SAMP | LE SUMMAF | RY | | | | | | | | | | |
| Set No. | Mix No. | Supplier | Ticket No. | Truck No. | Slump (inches) | Air Temp (°F) | . Mix Temp (*F) | o. Air | Content (%) | Unit Weight (PCF) | Material | Total (Yd ³) |
| | | | | | ļ | | | | | | | |
| | - | | | <u>_</u> | <u></u> | | | | | | | <u> </u> |
| Samul | e Locatione | | l | | | | | | | | | |
| Weath | er: | Suno | v | Clour | łv | | Rainv | | W | indv | | |
| | Project | | | Signature | -; | I | - St | rata | | | Signature | |

| Signature | Representative: | Jon-Paul Cardin |
|----------------------|-----------------|----------------------------|
| Name/Company (print) | | Name (print) |
| | Review | ed: <u>Angelalemmerman</u> |



| | | | | F | Report No.: | 22194 | 4 |
|------------------|------------------------|---------------------------------------|--------------------------|----------------------|-----------------------|--------------------|----|
| Client: | | Arcadis | | | Date: | 10-71 | 0 |
| | | | | | Client No.: | ARCA | DI |
| Project: | Jos | ephine Mill No. 1 | | P | Project No.: | | 3A |
| Test Method: | (N) Nucle | ar Densometer X | ASTM D2922/D | 3017 | AASHTO 1 | [238/T239 | |
| | | (S) Sand Cone | ASTM D1556/D | 2216 | AASHTO T191 | | |
| | Gauge | Make/Model: CPN | | Serial No.: | Serial No.: M37037496 | | |
| | Std Cour | nt - Density N ₁ : | Density N ₄ | Moist N ₁ | Mo | ist N ₄ | |
| Test Location S | Selected By: | Strata Rep.: Jon-Pa | ul Cardin | Your Personnel: | | | |
| | • | Contractor: | | Other: | | | |
| Project Specific | cations: | Minimum Percent Com | paction: 90% | | | | |
| Max. Dens | sity, pcf: Opt. Moist. | v | sual Description of Soil | | | | |
| 1) 1 | 19.5 11.5 | RC-Silty SAND wit | h Gravel and Cobbles | (SL92810-2) | A | STM D698 | Х |
| 2) | | · · · · · · · · · · · · · · · · · · · | | | AS ⁻ | TM D1557 | |
| 3) | | | | | AAS | SHTO T99 | |
| 4) | | | | | AASI | нто т180 | |

Test Results which do not meet the minimum requirements are underlined. "RP" after underlined tests results indicates that additional compactive effort has been applied and has been retested with results meeting the minimum requirements.

TEST RESULTS

| | Location | | Field Wet | | Fld. Dry | MD | % of Max. |
|-------------|--------------------------------|-----------|--------------|----------|--------------|---------|-----------|
| Field No. | | | Density, pcf | Field | Density, | No. | Density |
| Lab No. | | Elevation | Moist, pcf | Moist, % | pcf | | Obtained |
| 1 | | | | | | | |
| Lift 1 | NE section of pad | SG | | 13.9 | 119.5 | 1 | 100+ |
| 2 | | | | | | | |
| Lift 1 | N. central section of pad | SG | | 11.9 | 115.3 | 1 | 97 |
| 3 | | | | | | | |
| Lift 1 | NW section of pad | SG | | 10.5 | 111.6 | 1 | 93 |
| 4 | | | | | | | |
| Lift 2 | SW section of pad | SG | | 14,4 | 119.6 | 1 | 100 |
| 5 | | | | | | | |
| Lift 1 | S. central section of pad | SG | | 18.1 | 115.7 | 1 | 97 |
| 6 | | | | | | | |
| Lift 1 | SE section of pad | SG | | 20.0 | 110.1 | 1 | 92 |
| 7 | | | | | | | |
| Lift 2 | NE section of pad | SG | | 13.5 | 117,1 | 1 | 98 |
| 8 | | | | | | | |
| Lift 2 | N. central section of pad | SG | | 13.7 | 116.1 | 1 | 97 |
| 9 | | | | | | | |
| Lift 2 | NW section of pad | SG | | 14.5 | 112.8 | 1 | 94 |
| 10 | | | | | | | |
| Lift 2 | SW section of pad | SG | | 16.9 | 110.1 | 1 | 92 |
| Elevations: | FB = Finished Base SB = Subbas | e | SG = Suborac | ie | FTG = Footin | g Grade | |

AC = Asphalt Concrete

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Remarks:



| Client: | Arcadis | Report No.: | 22194 |
|----------|----------------------|--------------|-----------|
| Project: | | Date: | 10/7/2010 |
| | Josephine Mill No. 1 | Client No.: | ARCADI |
| | | Project No.: | S10103A |

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TEST RESULTS

| Field No. | | | | Field Wet | Field | Field Dry | MD | % of Max |
|--------------|-----------------------|---------------------------------------|---------------|---------------------------------------|---------------------------------------|--------------|-----|----------|
| Lab No. | Lo | cation: | Elevation | Density, pcf | Moist., % | Density, pcf | No. | Density |
| 11 Lift 2 | S. central section of | pad | sg | | 17.8 | 107.9 | 1 | 90 |
| 12 Lift 2 | SE section of nad | | 56 | | 17.8 | 108.9 | 1 | 91 |
| | | | | | 11.0 | 100.0 | i | |
| | | | | · · · · · · · · · · · · · · · · · · · | | | | |
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| | | | | | | | | |
| | | | | | | | | |
| Elevations: | FB = Finished Base | SB = Subbase | SG = Subgra | de de | FTG = Footin | g Grade | L | 1 |
| | EG = Existing Grade | AC = Asphalt Concrete | B preceding (| elevation desigi | nates délow (i. | .e. 4 85G) | | |

Remarks:



11:1:1

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| Proje Proje Perm | ect Name: ect Addres nit Number | Jose s: Old F : | phine Mill N Pend Oreille N | o. 1 ⁄lines Rd, | DAIL Metaline F | Y FIEL Falls, WA | Date: Date: Client N Project | PORT Io.: No.: | Friday ARCA S101(| Octo DI 03A | ber 8, 2010 |) | | |
|------------------------|--|-----------------------|-----------------------------------|--------------------|--------------------------|----------------------------|---------------------------------------|--|-------------------------|-------------------|------------------|---------------------------------------|--------------------|--|
| A | ctivity Code | | | | Description | n | | | Fro | m | То | Hours | Miles | |
| | SED | | | | Field Densit | | | | | <u></u> | | 12 | 195 | |
| | | | | | | 9 | | | | | <u>.</u> | 12 | | |
| | | | | ·· ··· ··· | | •••• | | | + | | | | | |
| | Equipment | יק ין | Densometer Coring Equipme | ent T | Mobile Lab Rebar Loca | xoratory ator | Γ To Γ Sk | rque Wren kidmore | ch | Г Г | Floor Flatness | Core Barrel nt Core Diameter | | |
| | Samples | | Concrete | Ci | ubes pil | Morta CMU | ar | Grou | it | | Prisms Other: | Asph | alt | |
| | | | Tom Mullen - | - Arcadis | | | | <u> </u> | | | | · · · · · · · · · · · · · · · · · · · | | |
| | Distribution: | Ms. | Paula Lyon - | Arcadis | | · · · | | | | | | | | |
| | | Mr. | Andrew Robe | erts - Arca | Idis | | | | | | | | | |
| Refero | nco Documo | nfe | | | | | | | • | | · · · · · | | • | |
| 1101010 | | iitə | | | | | | | | | | | | |
| Report | ted To: | Dave | Frost | | | Supervisor | | | | | Arcadis | 0 | | |
| | | | Name | | | | Position | | | | | Company | | |
| | | | Name | | | | Position | | | - | | Company | | |
| Narra | tive: | | | | | | | | | | | | | |
| | reported to Dave on-site. See the attached density sheet for test results and locations. | | | | | | | | | | | | | |
| SAMPL | E SUMMAR | (| | | | | | | | | | | | |
| Set | Mix No. | Supplier | Ticket No. | Truck | Slump | Air Temp. | . Mix Te | mp. A | ir Conten | t Uı | nit Weight | Material | Total | |
| No. | | | | No. | (inches) | <u> (°F)</u> | (°F) |) ····- | (%) | _ | (PCF) | | (Yd ³) | |
| | | | | | | | | | | _ | | | | |
| | | | | | | <u> </u> | | | | | | | | |
| Sample | Locations: | | I | · · · | | , I | <u> </u> | . I | | | | | | |
| Weathe | er: | Sunn | Ŷ | Cloud | dy vi | | Rainy | | | Wind | у | | | |
| Rep | Project resentative: | | Signature Name/Company (print) | | | | | - Strata Representative: <u>Jon-Paul Cardin</u> Name (print) Reviewed: <u>Maelalummum</u> | | | | | nan | |



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| | | | | | | Ke | port No.: | 2224 | (|
|-------------|---------------|-------------|------------------------------------|-------------------|-------------|------------------------|-----------|-----------|----|
| Client: | | | Arcadis | | | | Date: | 10/08/ | 10 |
| | | | | | - | CI | ient No.: | ARCA | DI |
| Project: | | Jos | ephine Mill No. 1 | | - | Pro | ject No.: | S1010 | 3A |
| Test Metho | od: | (N) Nuclea | ar Densometer X | ASTM | D2922/D3017 | | AASHTO T | 238/T239 | |
| | | | (S) Sand Cone | ASTM | D1556/D2216 | | AASH | | |
| | | Gauge | Make/Model: CPN | | - | Serial No.: M | 37037496 | | |
| | | Std Coun | t - Density N₁: | Density N₄ | | Moist N ₁ | Moi | st N₄ | |
| Test Locati | on Selectec | l By: | Strata Rep.: Jon-Pa Contractor: | aul Cardin | - You - | r Personnel: Other: | | | |
| Project Spe | ecifications: | | Minimum Percent Com | paction: | 90% | | | | |
| Max. | Density, pcf: | Opt. Moist. | V V | isual Description | of Soil | | | | |
| 1) | 119.5 | 11.5 | RC-Silty SAND with | th Gravel and C | obbles (SL9 | 2810-2) | AS | TM D698 | х |
| 2) | | • | | | | | AST | M D1557 | |
| 3) | | | | | | | AAS | нто т99 🗌 | |
| 4) | | | | | | | AASH | то т180 | |

Test Results which do not meet the minimum requirements are underlined. "RP" after underlined tests results indicates that additional compactive effort has been applied and has been retested with results meeting the minimum requirements.

TEST RESULTS

Remarks:

| | Location | | Field Wet | | Fld. Dry | MD | % of Max. |
|-------------|---------------------------------|-----------|--------------|----------|---------------|---------|-----------|
| Field No. | | | Density, pcf | Field | Density, | No. | Density |
| Lab No. | | Elevation | Moist, pcf | Moist, % | pcf | l | Obtained |
| 1 | | | | | | | |
| Lift 1 | NE section of pad | SG | | 8.6 | 125.9 | 1 | 100+ |
| 2 | | | | | | | |
| Lift 1 | N. central section of pad | SG | | 8.2 | 117.9 | 1 | 99 |
| 3 | | | | | | | |
| Lift 1 | NW section of pad | SG | | 9.3 | 116.9 | 1 | 98 |
| 4 | | | | | | | |
| Lift 1 | SW section of pad | SG | | 14.7 | 111.8 | 1 | 94 |
| 5 | | | | | | | |
| Lift 1 | S. central section of pad | SG | | 13.2 | 116.2 | 1 | 97 |
| 6 | | | | | | | |
| Lift 1 | SE section of pad | SG | | 14.9 | 113.3 | 1 | 95 |
| 7 | | | | | | - | |
| Lift 2 | NE section of pad | SG | | 15.3 | 109.0 | 1 | 91 |
| 8 | | | | | | | |
| Lift 2 | N. central section of pad | SG | | 17.0 | 110.1 | 1 | 92 |
| 9 | | | | | | | |
| Lift 2 | NW section of pad | SG | | 14.5 | 109.4 | 1 | 92 |
| 10 | | | | | | | |
| Lift 2 | SW section of pad | SG | | 15.7 | 110.1 | 1 | 92 |
| Elevations: | FB = Finished Base SB = Subbase |) | SG = Subgrad | 0 | FTG = Footing | g Grade | |

AC = Asphalt Concrete

B preceding elevation designates below (i.e. 4'BSG)

EG = Existing Grade



| Client: | Arcadis | Report No.: | 22247 |
|----------|----------------------|--------------|-----------|
| | | Date: | 10/8/2010 |
| Project: | Josephine Mill No. 1 | Client No.: | ARCADI |
| | | Project No.: | S10103A |

TEST RESULTS

| Field No. | | | | Field Wet | Field | Field Dry | MD | % of Max |
|-------------|---------------------------------------|-----------------------|-----------------------------------|------------------|-----------------|--------------|-----|----------|
| Lab No. | Le | ocation: | Elevation | Density, pcf | Moist., % | Density, pcf | No. | Density |
| 11 | | | | | | | | |
| Lift 2 | S. central section of | fpad | SG | | 12.7 | 107.7 | 1 | 90 |
| 12 | | | | | | | | |
| Lift 2 | SE section of pad | | SG | | 13.5 | 118.0 | 1 | 99 |
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| Claust! | | 07 0 V | | | | | | |
| Elevations: | FB = Finished Base | SB = Subbase | SG = Subgrad | 1e | FTG = Footing | g Grade | | |
| | EG = Existing Grade | AC = Asphalt Concrete | B preceding e | elevation design | nates below (i. | e. 4' BSG) | | |

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Remarks:



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DAILY FIELD REPORT

| Proje Proje Perm | ct Name: ct Address it Number: | Jose 3: Old I | Josephine Mill No. 1 Date: Did Pend Oreille Mines Rd, Metaline Falls, WA Client No.: Project No.: | | | | |).: | Monday ARCADI S10103/ | October 11, 2 A | 010 | | | | | | | | | | |
|------------------------|---|------------------|---|-------------|--------------------------|-----------------|--------------|---|-----------------------------|--------------------|--|--------------------------|--|--|--|--|--|--|--|--|--|
| A | ctivity Code | | | | Description | ì | | | From | То | Hours | Miles | | | | | | | | | |
| | SFD | | | | - Field Densit | у | | | | | 6 | 195 | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| E | Equipment | <u>र</u> न | Densometer Coring Equipme | r mt F | Mobile Lab Rebar Loca | oratory ator | Torq Skid | ue Wrench more | | Floor Flatness | s <mark>F</mark> Co ent F Co | re Barrel re Diameter | | | | | | | | | |
| | Samples | | Concrete Aggregate | Ci Sc | ubes | Mortar | · | Grout SAFRM | ۰ | Prisms Other: | Aspl | nalt | | | | | | | | | |
| | | Mr. | Tom Mullen | - Arcadis | | | | | | | | | | | | | | | | | |
| (| Distribution: | Ms. | Paula Lyon - | Arcadis | | | | | | | | | | | | | | | | | |
| | | Mr. | Andrew Robe | erts - Arca | dis | | | | | | | | | | | | | | | | |
| Refere | nce Docume | nts: | | | | | | | | | | | | | | | | | | | |
| | | Andre | w Poherte | | | Supervisor | | | _ | Arcadia | | | | | | | | | | | |
| Report | ed To: | | Name | | | oupervisor | Position | · · · · | | Alcaula | Company | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | • | | Name | | | | Position | | | | Company | | | | | | | | | | |
| Narrat | ive: | | | | | | | | | | | | | | | | | | | | |
| Resu | performed 6 nuclear density tests throughout the lift of the fill area. All tests met project specifications of 90% maximum density. Results were reported to Andrew on-site. See the attached density sheet for test results and locations. | | | | | | | | | | | | | | | | | | | | |
| SAMPL | E SUMMARY | , | | | | | | | | | | | | | | | | | | | |
| Set | Mix No. | Supplier | Ticket No. | Truck | Slump | Air Temp. | Mix Tem | p. Air (| Content | Unit Weight | Material | Total | | | | | | | | | |
| <u>- NU.</u> | | ÿ | | NO. | (incries) | | <u> </u> | | (70) | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Sample | Locations: | | | | | ····· | 1 | | | | | Sample Locations: | | | | | | | | | |
| weathe | ir: | Sunn | y I | Cloud | ly | | Rainy | | | Vindy | | | | | | | | | | | |
| _ | Project | | Signature Name/Company (print) | | | | | Strata Representative: Jon-Paul Cardin Name (print) Reviewed: Amgulalummumam | | | | | | | | | | | | | |



| | | | | | | Re | eport No.: | 22249 | 9 |
|--------------|---------------|-------------|------------------------------|------------------------|---------------------------------|----------------------|------------|-------------------|----|
| Client: | | | Arcadis | | | | Date: | 10/11/ | 10 |
| | | | | | - | C | lient No.: | ARCA | DI |
| Project: | | Jos | ephine Mill No. | 1 | _ | Pr | oject No.: | S10103 | 3A |
| Test Method | d : | (N) Nuclea | ar Densometer X | ASTM | TM D2922/D3017 AASHTO T238/T239 | | | | |
| | | | (S) Sand Cone | ASTM | D1556/D2216 | | AASH | | |
| | | Gauge | Make/Model: CF | PN | - | Serial No.: N | 137037496 | | |
| | | Std Count | t - Density N ₁ : | Density N ₄ | | Moist N ₁ | Mo | st N ₄ | |
| Test Locatio | on Selected | d By: | Strata Rep.: JO | n-Paul Cardin | You | ır Personnel: | | | |
| | | · | Contractor: | | - | Other: | | | |
| Project Spe | cifications: | | Minimum Percent | t Compaction: | 90% | | | | |
| Max. C | Density, pcf: | Opt. Moist. | | Visual Description | of Soil | | | | |
| 1) | 119.5 | 11.5 | RC-Silty SAN | D with Gravel and C | obbles (SL9 | 2810-2) | AS | TM D698 | Х |
| 2) | | | | | | | AST | M D1557 | |
| 3) | | | | | | <u></u> | AAS | НТО Т99 | |
| 4) | | | | | | | AASH | ITO T 180 | |

Test Results which do not meet the minimum requirements are underlined. "RP" after underlined tests results indicates that additional compactive effort has been applied and has been retested with results meeting the minimum requirements.

TEST RESULTS

| Field No. | Location | | Field Wet Density, pcf | Field | Fld. Dry Density, | MD No. | % of Max. Density |
|-------------|---|---------------|--|----------|----------------------|-----------|----------------------|
| Lab No. | | Elevation | Moist, pcf | Moist, % | pcf | | Obtained |
| 1 | NE section of pad | SG | | 16.6 | 107.8 | 1 | 90 |
| 2 | SE section of pad | SG | | 17.4 | 111.4 | 1 | 93 |
| 3 | S. central section of pad | SG | | 18.1 | 111.8 | 1 | 94 |
| 4 | SW section of pad | SG | | 17.7 | 111.7 | 1 | 94 |
| 5 | NW section of pad | SG | | 17.8 | 109.6 | 1 | 92 |
| 6 | N. central section of pad | SG | | 18.5 | 108.1 | 1 | 91 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Elevations: | FB = Finished Base SB = Subbase EG = Existing Grade AC = Asphalt | e Concrete | SG = Subgrade FTG = Footing Grade B preceding elevation designates below (i.e. 4'BSG) | | | | |

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Miles

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Hours

DAILY FIELD REPORT

| Project Name: Project Address: Permit Number: | Josephine Mill No. 1 Old Pend Oreille Mines Rd, Metaline Falls, WA | Date: Client No.: Project No.: | Tuesday October 13, 2010 ARCADI S10103A | | |
|---|---|--------------------------------------|---|------|--|
| Activity Code | Description | | From | То | |
| SFD | Field Density | | 6:30 | 5:30 | |

| SFD | Field Density | | | | | 5:30 | 11 | 195 | |
|----------------------|------------------------------|-------------------|----------|---------------|---------|----------------|---------------|-----------|--|
| | | | | | | | | | |
| | | | | | | | | | |
| Equipment | Densometer | Mobile Laboratory | Г | Torque Wrench | Г | Floor Flatness | ☐ Co | re Barrel | |
| Equipment | Coring Equipment | Rebar Locator | Г | Skidmore | Г | NDT Equipment | Core Diameter | | |
| Samples | Concrete | Cubes | Mortar | Grout | | Prisms | Asph | alt | |
| | Aggregate | Soil | CMU | SAFRM | l | Other: | | | |
| | Mr. Tom Mullen – Arca | dis | | | | | | | |
| Distribution: | Ms. Paula Lyon – Arcadis | | | | | | - | | |
| | Mr. Andrew Roberts - Arcadis | | | | | | | | |
| Reference Documents: | N/A | | | · | | | | | |
| Reported To: | Andrew Roberts Supervisor | | | | Arcadis | | | | |
| | Name | | Position | | | Company | | | |
| | Name Position | | | tion | | | Company | | |
| N | | | | | | | | | |

Narrative:

STRATA arrived on-site at the request of Andy with Arcadis to perform compaction testing on the fill material. STRATA conducted 10 nuclear density tests throughout the fill pad. Test results indicate compaction meets or exceeds the project specification of 90 percent for areas tested. Results were reported to Dave on-site. See attached in-place density tests sheet for results and locations.

| SAMPI F SUMMARY | | | | | | | | | | | |
|-----------------|-------------------------|----------|------------|--------------|-------------------|-------------------|---------------------|--------------------|----------------------|-----------|-----------------------------|
| Set No. | Mix No. | Supplier | Ticket No. | Truck No. | Slump (inches) | Air Temp. (°F) | Mix Temp. (°F) | Air Content (%) | Unit Weight (PCF) | Material | Total (Yd ³) |
| | | | | | | | | | | | |
| | | | | | | | | | ++ | | |
| Sampl | Sample Locations: | | | | | | | | | | |
| Weath | er: | Sunn | y 🗌 | Cloud | iy 📃 | | Rainy | | Windy | | |
| Rer | Project vresentative |); | | Signature | | | Strata Represent | a | ² Cardin | Signature | |

| Name/Company (print) | Name (print) |
|----------------------|---------------------------------|
| | Reviewed: <u>Angelalummuman</u> |



IN-PLACE DENSITY TESTS

| | | | | | | | Re | eport No.: | 22275 | |
|--------------|---------------|-------------|------------------------------|-----------------|-------------------|-----------|----------------------|------------|----------------------|--|
| Client: | | | Arcadis | | | | | Date: | 10/13/10 | |
| - | | | | | | | C | lient No.: | ARCADI | |
| Project: | | Jos | ephine Mill N | <u>No.</u> 1 | | | Pro | oject No.: | S10103A | |
| Test Metho | d: | (N) Nuclea | ar Densometer | х | ASTM D293 | 22/D3017 | | AASHTO |) T238/T239 | |
| | | (| S) Sand Cone | | ASTM D15 | 56/D2216 | | AA | SHTO T191 | |
| | | Gauge | Make/Model: | Troxler 3430 |) | | Serial No.: | | | |
| | | Std Count | t - Density N ₁ : | C | Density N₄ | | Moist N ₁ | N | loist N ₄ | |
| Test Locatio | on Selected | l By: | Strata Rep.: | JP Cardin | | Your | Personnel: | | | |
| | | | Contractor: | | | | Other: | | | |
| Project Spe | cifications: | | Minimum Perc | cent Compaction | n: 90 % | % | | | | |
| Max. I | Density, pcf: | Opt. Moist. | | Visual I | Description of So | oil | | | | |
| 1)_ | 119.5 | 11.5 | RC-Silty SA | AND with Gra | avel and Cobb | les (SL92 | 810-2) | | ASTM D698 | |
| 2) | | | | | | | | A | STM D1557 | |
| 3) | | | | | | | | A | ASHTO T99 | |
| 4) | | | | | | | | AA | SHTO T180 | |

Test Results which do not meet the minimum requirements are underlined. "RP" after underlined tests results indicates that additional compactive effort has been applied and has been retested with results meeting the minimum requirements.

TEST RESULTS

| | Location | | Field Wet | | Fld. Dry | MD | % of Max. |
|--------------------|---------------------------------|-----------|--------------|----------|---------------|---------|-----------|
| Field No. | | | Density, pcf | Field | Density, | No. | Density |
| Lab No. | | Elevation | Moist, pcf | Moist, % | pcf | | Obtained |
| | | | 141.6 | | | | |
| 1 - lift 1 | NW quadrant of pad | SG | 16.7 | 13.4 | 124.9 | 1 | 100+ |
| | | | 128.9 | | | | |
| <u> 2 - lift 1</u> | NE quadrant of pad | SG | 18.5 | 16.8 | 110.4 | 1 | 92 |
| | | | 129.2 | | - | | |
| 3 - lift 1 | SE quadrant of pad | SG | 18.7 | 16.9 | 110.4 | 1 | 92 |
| | | | 140.7 | | | | |
| 4 - lift 1 | SW quadrant of pad | SG | 18.9 | 15.5 | 121.8 | 1 | 100+ |
| | | | 134.6 | | | | |
| 5 - lift 1 | Central area of pad | SG | 16.7 | 14.2 | 117.9 | 1 | 99 |
| | | | 123.0 | | | | |
| 6 - lift 2 | NE quadrant of pad | SG | 17.2 | 16.3 | 105.8 | 2 | 100 |
| | | | 120.6 | | | | |
| 7 - lift 2 | NW quadrant of pad | SG | 18.9 | 18.6 | 101.7 | 2 | 96 |
| | | | 121.0 | | | | |
| 8 - lift 2 | SW quadrant of pad | SG | 21.5 | 21.6 | 99.5 | 2 | 94 |
| | | | 121.3 | | | | |
| 9 - lift 2 | SE quadrant of pad | SG | 24.1 | 24.8 | 97.2 | 2 | 92 |
| | | | 119.0 | | | | |
| 10 - lift 2 | Central area of pad | SG | 19.1 | 19.1 | 99.9 | 2 | 94 |
| Elevations: | FB = Finished Base SB = Subbase |) | SG = Subgrad | e | FTG = Footing | g Grade | |

AC = Asphalt Concrete

EG = Existing Grade

B preceding elevation designates below (i.e. 4'BSG)

-

Appendix D

Site Photographs



1. Mobilization to site and initial site clearing



2. Installation of BMP prior to soil movement



3. Example of some wood debris encountered



4. Metal debris consolidation.



5. Cleared base of the repository area



6. Repository area geogrid base



7. Compaction of repository lift



8. Removal of soils near foundations of Mill.



9. Staging of soils to be compacted in repository



10. Repository waste area



11. Compaction testing



12. Repository prior to membrane installation



13. Membrane installation



14. Confirmation Sample location



15. Cover soil being applied on repository



16. Removal area graded and backfilled



17. Repository cover soils in place

Appendix E

Post Closure Maintenance and Monitoring Plan



Imagine the result

Stimson Lumber Company

Post-Removal Site Control Plan Josephine Mill No. 1

CERCLIS ID No. WAN001002401 Pend Oreille County, Washington

February 23, 2012

Trent A. Weise, P.E. Principal Engineer



Post Removal Site Control Plan

Josephine Mill No. 1 Pend Oreille County, Washington

Prepared for: Stimson Lumber Company

Prepared by: ARCADIS U.S., Inc. 2310 North Molter Road Suite 101 Liberty Lake Washington 99019 Tel 509.535.7225 Fax 509.535.7361

Our Ref.: SK030179.0002

Date: February 23, 2012

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Former Josephine Mill No. 1

1. Introduction

On behalf of Stimson Lumber Company (Stimson), ARCADIS U.S. Inc. (ARCADIS) has prepared this "Post Removal Site Control Plan" to outline the requirements of long- term maintenance and monitoring necessary to ensure the protection and long- term stability of the mine waste repository constructed at the former Josephine Mill No. 1 in Pend Oreille County, Washington (the "Site"). The repository was constructed as part of the Administrative Settlement Agreement and Order on Consent Docket No. CERCLA-10-2010-0180 (ASAOC) between the United States Environmental Protection Agency (EPA) and Stimson for the former Josephine Mill No. 1 and in accordance with the EPA-approved "Removal Action Work Plan" (RAWP). This document is submitted as an Appendix E to the Removal Action Report. Record drawings of the completed mine waste repository can be found in Appendix A of the Removal Action Report.

1.1 Site Location

The former Josephine Mill No. 1 is located in northeast Washington, approximately 1.5 miles northwest of the city of Metaline Falls in the southwest half (SW¹/₂) of Section 16, Township 39N, Range 43 W, Willamette Meridian, Pend Oreille County, Washington. The Site's approximate geographic coordinates are Latitude 48°52' 29.99" North, Longitude 117°22' 50.77" West. The Site is accessed by Pend Oreille County Highway 2975 (also referred to as the Boundary Dam Road) and the unpaved Old Pend Oreille Mine Road. Site access to the public is limited by a locked gate. The Site is bounded to the southeast by Flume Creek, which flows to the north-northeast and discharges into the Pend Oreille River.

2. Mine Waste Repository

On September 13, 2012, construction of the mine waste repository was completed. The mine waste repository consists of consolidated mine tailings from across the site. The consolidated mine waste was compacted, graded and capped with a low-permeability cover system. The cover system consists of a 16ounce non-woven geotextile placed on the mine waste followed by a layer of 40-mil low-density polyethylene liner (LLDPE) that is protected by a geocomposite drainage layer and 18 inches of soil cover. Figure A presents a cross section of the cover system.

Figure A: Cover System Cross-Section





Post-Removal Site Control Plan

Former Josephine Mill No. 1

Perimeter under-drains were installed to route groundwater around the repository to help maintain stability of the mine waste. The surface of the repository is graded to shed stormwater towards the stormwater collection ditch located on the eastern side of the repository.

3. Protection of the Repository

The mine waste repository was constructed at the Site to limit exposure of the mine waste to humans and the environment. The primary risk to the repository is willing or unwilling vandalism by unauthorized trespassers that may damage the integrity of the cover system. There is a lesser risk of damage to the cover system by animals. Large woody debris and large boulders were placed to discourage human use and potential for damage of Site structures.

"No Trespassing" signage is posted at the locked gate to the access road and at the eastern property boundary to warn and discourage trespassers from entering onto the property.

3.1 Long Term Maintenance and Monitoring

The long- term protection of the mine waste repository will be ensured by the periodic inspection of the repository to ensure that the required control measures are in-place and that the repository has not been damaged. This section describes the inspection protocol and schedule.

3.1.1 Periodic Monitoring Protocol

Site inspections will be performed at the monitoring schedule discussed under Section 3.3.2. Each Site inspection will include the following:

- · Confirm presence and condition of warning signage
- · Confirm presence and operation of site controls including access gates
- Observe the condition of the repository cover and identifying areas of movement, erosion or exposed liner
- · Observe operation of the underdrain system and cleanout as necessary
- · Observe the condition of stormwater management structures
- · Visual evidence or indications of mine waste release

Any sign or potential sign of damage will be photo-documented and marked as appropriate.

Following each site inspection the observations will be documented, areas requiring repair will be photographed and repairs recommended. Minor repairs that can be performed immediately will be



Former Josephine Mill No. 1

completed. If significant damage is observed requiring repair, the inspection report will recommend repair plan. Completed inspection reports will be submitted to the EPA 45 days following each inspection.

3.1.2 Monitoring Schedule

Mine waste repository inspections will be performed under the following schedule:

- annually, once in the Spring following peak runoff and/or within 5 days of a 100-year storm event the first two years;
- Annually thereafter

After the first five years of monitoring it is appropriate to assess the monitoring schedule based upon the results of the periodic inspections and effectiveness of the protective measures.

4. Potential Singularly Damaging Events

This section describes potential events that may damage the cap structure and risk endangering the public health or environment. The appropriate responses to assess the damage and associated risks are further described in Section 5.

4.1 Earthquake

The project site is located in a seismically active area and there is the potential for significant seismic events. Seismic events were considered in the design of the repository; however it is possible that a seismic event could exceed the design assumptions or cause land movement around the repository.

4.2 Extreme Weather Event

The Site grading, cover system, and stormwater management structures were sized for the 100-year 24hour storm event. It is not inconceivable that a higher storm event can occur, causing higher runoff volumes (e.g. rapid spring runoff from snow melt coinciding with a heavy precipitation event). Other extreme weather events include extreme wind, extreme heat, etc.

Runoff in excess of the design runoff volumes can cause 1) damage to the stormwater conveyance system such as the stormwater collection ditch,2) excessive erosion of the cover soils, 3) regional flooding raising groundwater elevations and the elevation of Flume Creek that may cause erosion, and/or 4) other issues not conceived here.



Former Josephine Mill No. 1

4.3 Forest Fire

The former Josephine Mill No. 1 and the mine waste repository is located with a heavily forested area; therefore it is conceivable that a forest fire could occur in the immediate vicinity of the repository. Significant fire damage is mitigated by the 18-inch soil layer protecting the LLDPE liner. However, a fire can cause significant damage, or even total destruction of the above-described structures.

5. Potential Significant Post-Events Responses

This section describes post-event inspections and schedule to develop and implement appropriate repairs.

5.1 Post-Event Inspection

Following a significant event such as an earthquake, extreme rain event, or forest fire a post-event inspection is required. Stimson personnel (or their contractor) with appropriate knowledge and experience will conduct inspection of the mine waste repository. The inspection will focus on the following main items:

- · Signs of waste release
- Damage to soil cover
- Damage to rip-rap in the stormwater management area
- · Damage to liners
- Damage to access roads
- · Damage to stormwater management structures

Any sign or potential sign of damage will be photo-documented and marked as appropriate.

The inspection will be repeated periodically to ascertain whether additional signs of damage develop over time at the discretion of the inspector. This could indicate ongoing deformation, leading to larger cumulative failure.

A list of the inspected areas will be compiled for future evaluation.

5.2 Post-Event Damage Assessment and Repair Planning

During the initial inspection Stimson personnel (or contractor) will render an immediate opinion, if a sign of damage would require immediate attention. Immediate attention is required if release of contaminated soil, sediment or water is suspected. In case of such an occurrence, the immediate action needs to be taken that may include the following:



Post-Removal Site Control Plan

Former Josephine Mill No. 1

- Use of absorbent materials to capture liquid waste
- · Use of clean soil to cover any crack, fissure that have showed release
- Additional BMP and/or stormwater controls to prevent or mitigate a potential release to Flume Creek;

Irrespective of the immediate repair of areas exhibiting potential release , all inspected items/areas (compiled as discussed above) will require a detailed assessment of the damage and recommended repairs.

The damage assessment will include the following main elements:

- · Exact location of the damage
- Damage description
- Extent, area, volume of the damage
- Number and pieces of equipment, appurtenance, structure, fixture damaged
- · Proposed repair action with appropriate sketches
- · Recommended timeframe of repair

5.3 Post-Event Reporting

Stimson will submit an initial inspection report to the EPA 72 hours after the inspection is completed. Based on the damage assessment a Repair Plan will be prepared and will be submitted to the EPA as soon as practicable. Upon EPA's review and approval of the Repair Plan, a timeframe for the implementation of the repair actions will be established.