

**2014 Report  
Soil Removal Action and Assessment Activities at  
Residential Properties  
Eureka Smelter Sites  
Eureka, Eureka County, Nevada**



**TDD No.: TO2-09-14-02-0002  
Project No.: EE-002693-2241**

**October 2014**

**Prepared for:**

**U.S. ENVIRONMENTAL PROTECTION AGENCY  
Emergency Response Section, Region 9**

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## List of Abbreviations and Acronyms

bgs	below ground surface
BLM	United States Bureau of Land Management
CSP	consolidated slag pile
U.S. DOI	United States Department of Interior
E & E	Ecology and Environment, Inc.
ERS	Emergency Response Section
ERRS	Emergency and Rapid Response Services
Esri	Environmental Systems Research Institute
FOSC	Federal On-Scene Coordinator
mg/kg	milligrams per kilogram
NDEP	Nevada Division of Environmental Protection
RSL	Regional Screening Level
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
SAP	Sampling and Analysis Plan
SOP	Standard Operating Procedure
SPLP	synthetic precipitation leaching procedure
SRM	standard reference material
SSLs	site-specific screening levels
START	Superfund Technical Assessment and Response Team
TCLP	toxicity characteristic leaching procedure
U.S. EPA	United States Environmental Protection Agency
USCG	United States Coast Guard
XRF	X-Ray Fluorescence

## Chapter 1

# 1 Introduction

United States Environmental Protection Agency (U.S. EPA) Region 9 Federal On-Scene Coordinator (FOSC) Tom Dunkelman tasked Ecology and Environment, Inc.'s (E & E's) Superfund Technical Assessment and Response Team (START) to support a U.S. EPA-funded soil removal action at residential properties and to support data collection activities for an Engineering Evaluation/Cost Analysis (EE/CA) in the town of Eureka (Eureka) located in Eureka County, Nevada.

In October 2012 and May 2013, the U.S. EPA, Nevada Division of Environmental Protection (NDEP) and START collected surface and subsurface soil, surface water, and ore smelting waste (slag) samples in and around Eureka as part of a U.S. EPA Emergency Response Section (ERS) removal and human health risk assessment. The data collected during that assessment provided evidence of elevated lead and arsenic soil concentrations throughout the town and highly elevated lead and arsenic soil concentrations at numerous residential properties. The removal assessment activities are documented in the reports: *Eureka Smelter Site Removal Assessment Report, Eureka, Eureka County, Nevada*, February 2013 (E & E 2013a); *Addendum Letter Report to Eureka Smelter Site Removal Assessment Report*, September 2013 (E & E 2013b); *2013 Final Report, Soil Removal Action at Residential Properties Eureka Smelter Sites*, January 2014 (E & E 2014a). Based on U.S. EPA human health risk assessment criteria, areas of immediate concern were initially defined at numerous properties in Eureka where removal actions would be required to mitigate potential human health risks from exposure to lead and arsenic compounds in residential soils associated with historic ore milling and smelter operations. In 2013, the U.S. EPA Region 9 ERS, the START and Emergency and Rapid Response Services (ERRS) contractors completed soil removal and capping at 18 properties where highly elevated lead and arsenic soil concentrations in surface soil were documented.

Between April 28 and July 30, 2014, the U.S. EPA Region 9 ERS, the START and the U.S. EPA's ERRS contractors completed soil removal and/or capping at 29 properties where highly elevated lead and arsenic soil concentrations in surface soil were found. The properties remediated include 16 high-priority residential properties identified in the 2012 and 2013 removal assessments and 13 properties identified by supplemental assessments in May, June, and July 2014.

During the 2014 removal action, START documented soil removal volumes and areas along with backfill areas, sampled imported backfill to ensure the materials were acceptable for use, sampled soils at previously assessed properties to better define excavation boundaries, and sampled soils at properties that had not been previously assessed. All collected samples were analyzed in the field following U.S. EPA SW-846 Method 6200 (U.S. EPA, 2007) X-ray fluorescence (XRF) analysis, with 10 percent of the field-analyzed samples were also analyzed by U.S. EPA SW-846 Method 6010 at the U.S. EPA regional laboratory for a confirmation analysis. START additionally performed real-time air particulate monitoring and air sampling to document ambient air contaminant concentrations in order to establish that contaminants did not migrate from work zones at concentrations that exceeded the project's action level. This report documents soil removal volumes, capped areas, and results of the sampling and analysis performed during the 2014 removal action.

## 2 Site Background

### 2.1 Site Location and Description

Eureka is an unincorporated community situated in the southern part of Eureka County, Nevada, which occupies approximately 480 acres of land and is primarily accessed by U.S. Highway 50. The geographic coordinates for the approximate center of Eureka are 39° 30' 45" Latitude North and 115° 57' 39" Longitude West (Figure 2-1).

The community of Eureka is situated in a historical mining district with at least ten known former ore milling and smelter operations and three significantly-sized consolidated slag piles (CSPs). Based on a review of Eureka County Tax Assessor parcel information and historical land maps, there are more than 400 residential, public, and commercial parcels in the community of Eureka that are either on, adjacent to, or in close proximity to the sites of the former ore smelters and milling operations.

The areas of concern within Eureka that were addressed with excavation and/or restoration during this 2014 removal action include 27 residential properties, one county road and one residential property that is also used as a day care facility. Soils containing elevated lead and arsenic concentrations removed from these properties were transported to a constructed temporary contaminated soil stockpile. Documented clean materials were used to cover contaminated areas at three additional residential properties and on a publicly-used access road on a Eureka County property. Locations of the properties and temporary soil stockpiles are shown on Figure 2-2. Photographic documentation of the 2014 removal action is included as Appendix A.

In addition to the 29 remediated properties, 58 additional private, Nevada-, or Eureka county-owned properties were sampled and assessed during this phase of the project.

#### 2.1.1 Residential Removal Properties

Based upon the removal assessment of these properties, approximately 195,000 square feet of soil with a total volume of approximately 7,600 cubic yards was documented to be contaminated. The residential properties and associated estimations of the volume of contaminated soil are indicated in Table 2-1. Locations of the residential removal properties that were addressed by the 2014 removal action are shown on Figure 2-2.

#### 2.1.2 Newly Assessed Areas and Properties

The U.S. EPA was granted access to 58 properties within Eureka that had not been previously assessed. Locations of the newly assessed areas and properties are shown on Figure 2-3.

### 2.2 Site History

According to information obtained from the United States Bureau of Land Management (BLM) document *A Historic View of the BLM Shosone-Eureka Resource Area, Nevada, Technical Report 7* (U.S. BLM 1991), between 1866 and 1910, mining for geological deposits of silver and lead took place in the Ruby Hill area, which is located approximately 2 miles west of Eureka. During this period, over one million tons of ore were extracted from Ruby Hill primarily by the



<b>Table 2-1</b> <b>Residential Removal Property Volume Estimates</b>  <b>Eureka Smelter Sites</b> <b>Removal Support</b> <b>Eureka, Eureka County, Nevada</b> <b>Project No.EE-002693-2241</b> <b>TDD No. TO2-09-14-02-0002</b>		
<b>Addresses (in order of their remediation)</b>	<b>APN</b>	<b>Initial Volume Estimate (Cubic Yards)</b>
North Main	001-033-06	261
South O'Neil	001-153-02	436
South Main	001-129-03	187
North Spring	001-074-04	426
South Edwards	001-117-03	188
South Edwards	001-158-07	118
West McCoy	001-157-03	853
East Mineral	001-129-04	207
South Spring	001-134-08	268
South O'Neil	001-116-04	139
South Main	001-161-17	232
Nob Hill	001-012-22	692
North O'Neil	001-095-03	255
South Main	001-125-03	343
South Spring	001-136-10	147
South Monroe	001-161-09	248
North O'Neil	001-033-03	202
South Monroe	001-161-14	266
Railroad	001-113-21	328
South Main	001-162-02	95
South Main	001-162-01	4
North Spring	001-104-09	145
Well	001-187-04	82
Well	001-187-05	260
North Edwards	001-093-05	41
South Buel	001-132-01	140
South Monroe	001-161-19	464
North Buel	001-073-02	110*
Road behind the County Annex	001-202-10	463
<b>Assessment Total Cubic Yards</b>		<b>7,600</b>
APN = Assessor's Parcel Number Ecology and Environment Inc. 2014 * Contamination is based on Iso-Concentration map projections		

Eureka Consolidated Mining Company and Richmond Consolidated Mining Company. The ore mined from Ruby Hill was then transported via railcar to various mill and smelter operations historically located throughout Eureka. The following historical ore milling and smelter operations were identified in Eureka:

- Lemon Mill
- McCoys Mill
- Eureka Consolidated Smelter
- Matamoras Smelter
- Hoosac Smelter
- Atlas Smelter
- Richmond Company Smelter
- Jackson Smelter
- Silver West Smelter
- Taylor Mill

As a result of ore processing at these former mill and smelter sites, waste product known as slag was produced and consolidated into a number of separate piles located throughout Eureka. The two largest CSPs (Eureka Company CSP and Richmond Company CSP) are located along U.S. Highway 50 on the north and south ends of town. The locations of mills, smelters and CSPs are shown in Figures 2-2 and 2-3.

### **2.3 Previous Investigations**

In 1978, the United States Department of the Interior (U.S. DOI) Geological Survey collected 593 samples that identified a 3-kilometer by 6-kilometer area of contamination within the Eureka mining district. The data were published in a 1978 report titled *Geochemical Analyses of Rock and Soil Samples, Eureka Mining District and Vicinity, Eureka and White Pine Counties* (U.S. DOI 1978) and discussed in a 2004 U.S. DOI publication, *Hydrogeochemical Studies of Historical Mining Areas in the Humboldt River Basin and Adjacent Areas, Northern Nevada* (U.S. DOI 2004).

In 2012, the U.S. EPA and NDEP personnel collected 38 surface soil samples from publically-accessible locations around Eureka for lead and arsenic analysis. Analysis of these 38 samples was performed in the field by the NDEP with a field-portable XRF, by START with an XRF following U.S. EPA method 6200, and by the U.S. EPA Region 9 Laboratory following U.S. EPA Method 6010C, inductively coupled plasma analysis. The sample analysis results were similar across analysis methods. Analytical laboratory results from these 38 surface soil samples had lead concentrations that ranged from 4 mg/kg to 45,000 mg/kg; 10 samples had lead concentrations below 400 milligrams per kilogram (mg/kg), 20 samples had lead concentrations between 400 mg/kg and 5,000 mg/kg, and eight samples had lead concentrations above 5,000 mg/kg. Analytical laboratory results for arsenic ranged from 10 mg/kg to 6,700 mg/kg; five samples had arsenic concentrations below 60 mg/kg, 23 samples had arsenic concentrations between 60 mg/kg and 600 mg/kg, and 10 samples had arsenic concentrations above 600 mg/kg. The highest lead and arsenic soil concentrations were detected from the CSPs located on both the north and south ends of Eureka, and at former smelter site locations.

## 2. Site Background

During October 2012 and May 2013, the U.S. EPA, NDEP and START conducted removal assessment sampling throughout Eureka. The February 2013 assessment report (E & E 2013a) and a September 2013 report addendum (E & E 2013b) documented the collection of 1,335 unique soil samples for analysis by field XRF (U.S. EPA method 6200). A total of 319 soil samples were submitted to the U.S. EPA Region 9 laboratory for confirmation analysis by U.S. EPA Methods 6010C and 7471A. Additionally, 40 soil samples were submitted for bio-accessibility extraction followed by U.S. EPA Method 6010C analysis. Three prepared composite soil samples with highly elevated arsenic and lead concentrations were subjected to toxicity characteristic leaching procedure (TCLP) and synthetic precipitation leaching procedure (SPLP) extractions followed by U.S. EPA Method 6010C analysis.

Based on evaluation of results from the U.S. EPA removal assessment actions, the following conclusions were reached:

- Soil sampling data indicated that arsenic and lead concentrations exceeded their respective U.S. EPA site-specific screening levels (SSLs) protective of human health throughout much of Eureka. In general, the majority of residential properties sampled in established town areas had arsenic and lead concentrations that were significantly greater than their respective SSLs. The SSLs for lead and arsenic were set at 400 mg/kg and 60 mg/kg, respectively.
- A total of 92 of the 109 sampled residential and public properties contained soils with arsenic and/or lead concentrations that exceed the U.S. EPA SSLs.
- A total of 18 occupied residential properties and portions of two Eureka County school district-owned properties contained soils with arsenic and/or lead concentrations 10 times greater than the U.S. EPA SSLs.
- Elevated arsenic and lead concentrations in creek sediments were found nearby and downgradient of the two CSPs located at each end of the town. Arsenic and lead concentrations downgradient of both CSPs were 300 to 400 percent higher than concentrations found up gradient.
- In the surrounding, undeveloped areas of Eureka, arsenic and lead concentrations in surface soils were two to three times greater than concentrations in the underlying subsurface soils. The distribution of elevated arsenic and lead concentrations is greater to the north and northeast of historical ore processing operations and at locations closest to the historical ore processing locations.
- Given that a principal mechanism for the deposition of arsenic and lead contamination is air dispersion, it is reasonable to assume that similar contamination would be found throughout Eureka.

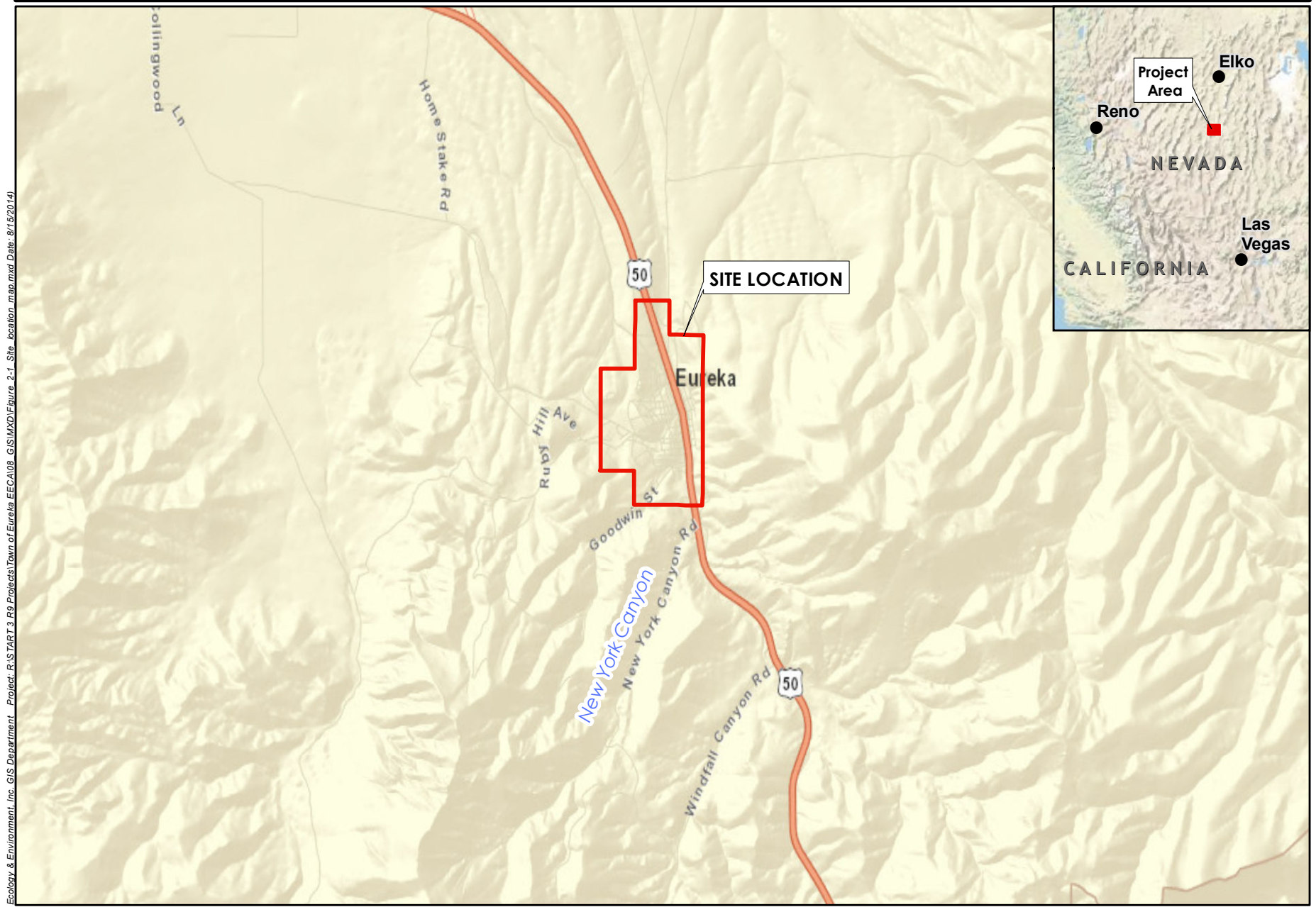
The U.S. EPA removal assessments also indicated that approximately 80 percent of the properties in Eureka were not sampled and that additional removal assessments at the remaining properties appeared to be necessary in order to fully document the extent and magnitude of arsenic and lead contamination.

Based on U.S. EPA removal assessment data (E & E 2013a and E & E 2013b), there is regulatory concern that residents in Eureka may be exposed to lead and arsenic soil

## ***2. Site Background***

concentrations above U.S. EPA human health risk exposure criteria. As a result of the investigation a U.S. EPA-funded removal action was initiated in August 2013.

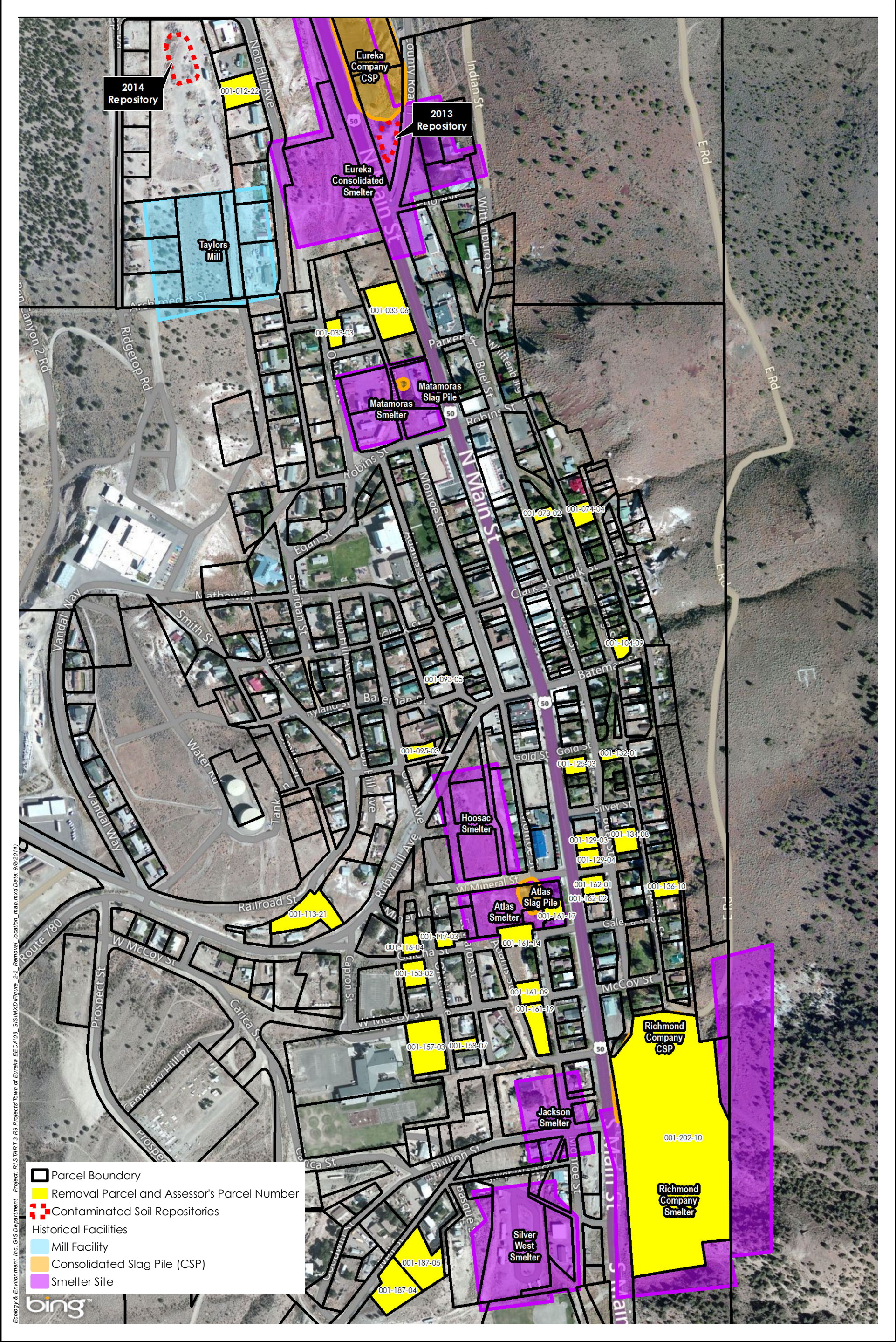
During the 2013 removal action an additional 31 properties, not previously sampled, were assessed between August 8 and November 31, 2013. The arsenic and lead concentration data for each property were evaluated in the field by the U.S. EPA FOSC immediately following analysis in order to determine if immediate removal actions were warranted at the property. The FOSC determined that four of the 31 properties required immediate removal action due to the documented elevated arsenic and lead concentrations and the property's use. The data generated by these assessments were in agreement with previously collected data (E & E 2014a).



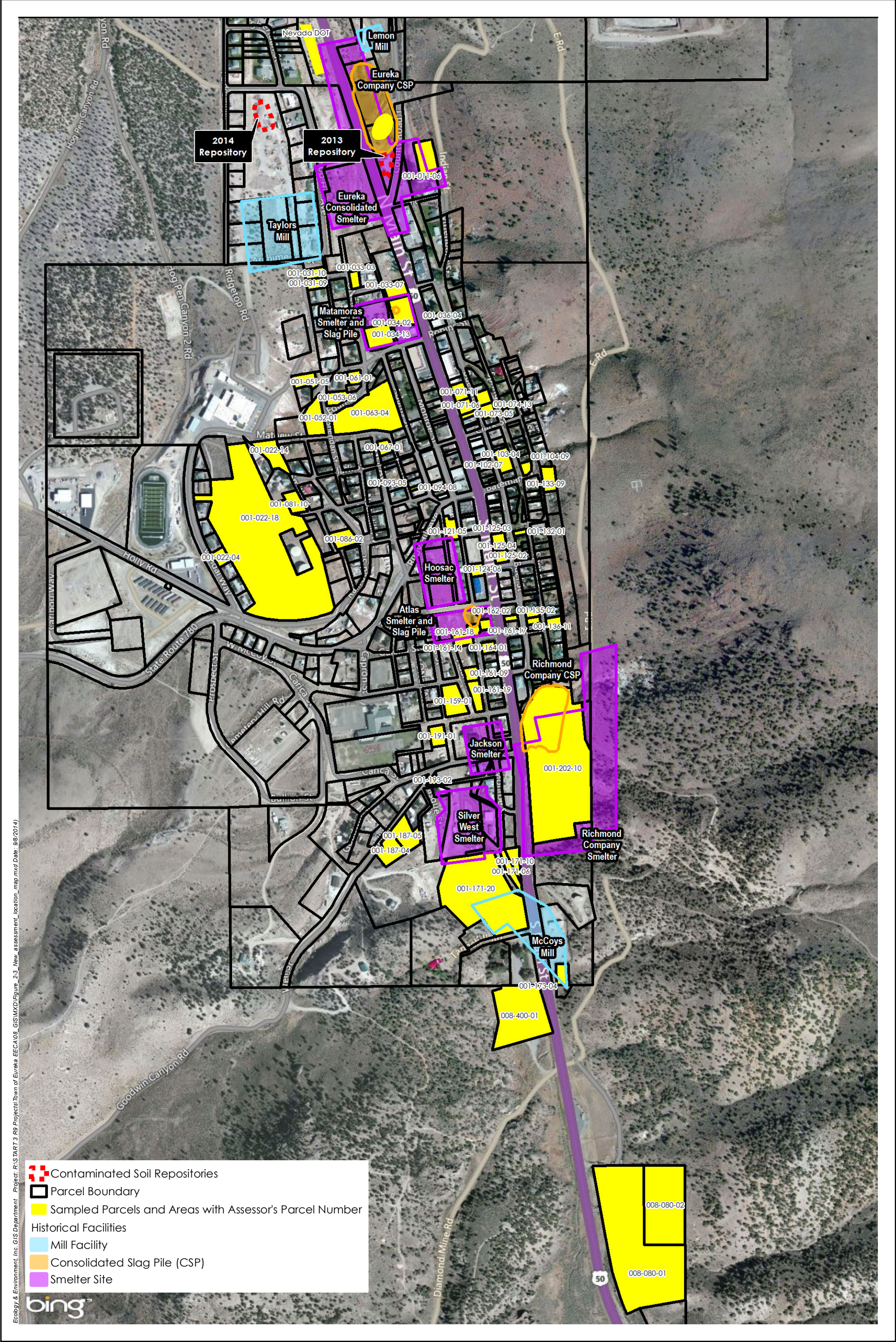
Ecology & Environment, Inc. GIS Department Project: R:\START 3 R9 Projects\Town of Eureka EECA08 GIS\MXD\Figure 2-1 Site location map.mxd Date: 8/15/2014

Figure 2-1  
**Site Location Map**  
**Eureka Smelter Sites**  
Town of Eureka, Eureka County, Nevada





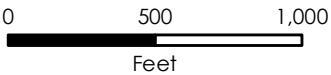




Ecology & Environment, Inc. GIS Department Project: R:\S PART 3 R9 Projects\Town of Eureka EECA08 GISMXD\Figure\_2-3\_New\_assessment\_location\_map.mxd Date: 9/8/2014



Figure 2-3  
New Assessment Locations  
Eureka Smelter Sites  
Town of Eureka, Eureka County, Nevada





## Chapter 3

# 3 Field Activities

The START, U.S. EPA, United States Coast Guard (USCG), and ERRS contractor mobilized to Eureka, Nevada for removal activities between April 28, 2014 and July 30, 2014. The START provided field documentation of property excavation, backfill, and in-place capping activities. START also supported the removal by providing soil sampling and analysis to further delineate contaminated areas, sampling and analysis of backfill materials, and ambient air monitoring and sampling around excavation sites. The START, with the assistance of the U.S. EPA, USCG, and ERRS, completed the assessment of 58 Eureka properties not previously investigated. Additional sampling was also done at four previously investigated properties and two slag piles.

All field activities, including soil sampling, backfill material sampling, daily real-time particulate monitoring, and co-located air sampling at locations around residential properties during soil excavations were performed in accordance with standard operating procedures (SOPs) and the *Sampling and Analysis Plan for Soil Removal Action at Residential Properties, Eureka, Eureka County, Nevada*, E & E Inc. (E & E 2013c). Field activities were conducted without significant deviations from the Sampling and Analysis Plan (SAP).

The data collection objectives presented within the SAP were developed by the U.S. EPA and START as a pre-determined guidance to provide the most appropriate documentation of the removal support activities. The SAP provides data collection procedures, rationale, and SOPs for sampling and analysis of soil, purchased backfill materials, and ambient air.

This section summarizes the specific removal actions performed by U.S. EPA, START, USCG and ERRS contractors.

## 3.1 Removal Actions

The areas of concern for the removal action were identified during previous U.S. EPA assessments (E & E, 2013a, E & E, 2013b, E & E, 2014) or by removal assessment of properties conducted by START in May, June and July of 2014 as discussed in section 3.3.

Prior to the removal action, ERRS developed an individual work plans for each property, which were approved by the FOSC and the property owners prior to excavation and restoration activities. The soil excavations at each removal property were completed using various equipment and techniques. During excavation, backfilling or in-place capping at a property, the START documented activities in log books and with photos as described in the SAP. Excavation locations were also documented using a mobile map via the Environmental Systems Research Institute, Inc. (Esri) iOS Geographic Information System (ArcGIS®) application on an iPad®.

### 3.1.1 Supplemental Sampling Prior to Removal

Supplemental sampling and analysis was completed by START at removal action properties as needed by the FOSC and ERRS. The original assessment and sampling locations data along with all supplemental data for each of the removal properties are graphically presented in Appendix B1. The original assessment and supplemental data with volume estimations are presented in Appendix C, Tables 3-1-1 through 3-1-28.



### **3.1.2 Removal Action Excavation and Backfill Volumes**

During this removal action a total of 25 residential properties underwent excavation and restoration and three residential properties and a county property were capped with no excavation for a total of 29 properties addressed by the U.S. EPA (Figure 2-2). The location of the removal action properties is graphically presented in Appendix B1. The final excavation and backfill volumes are provided in Table 3-2. Approximately 180,000 square feet of contaminated residential soil were excavated from areas of concern to a maximum depth of 1 foot below ground surface (bgs). Excavated soil was transported to a soil repository located at the north end of Eureka adjacent to the Eureka Company CSP. The soil repository was compacted and covered with gravel. The excavated locations were then backfilled with purchased fill materials, compacted, graded, and restored to original landscaping. At several locations the area of concern was not excavated, but capped in place with crushed rock. All fill material was documented to have concentrations of lead, arsenic, barium, cadmium, chromium, mercury, selenium, and silver at concentrations significantly below any health-based benchmark.

### **3.1.3 Post-Excavation Confirmation Sampling**

Prior to backfilling at each of the removal parcel locations, START conducted surface soil sampling at each of the original decision units in order to document the concentration of arsenic and lead at the limit of excavation in those areas. The arsenic and lead concentrations left in place under the backfill for each excavated property are presented in Table 3-3. Any locations with elevated concentrations of arsenic and lead were crisscrossed with a warning tape, prior to backfill or capping. The location of the removal action properties is graphically presented in Appendix B1. A removal completion documentation package that including the arsenic and lead concentrations left in place were generated by ERRS and the FOSC for the property owner.

## **3.2 Fill Material Sampling and Analysis**

Prior to site mobilization, the U.S. EPA and ERRS identified sources for backfill materials. Prior to use, the START collected or received samples of the fill materials and documented the concentrations of lead, arsenic, barium, cadmium, chromium, mercury, selenium, and silver in the fill material. The data for each fill sample, as well as the calculated average concentration for each metal, are presented in Table 3-4. All average concentrations of metals other than arsenic in the fill material were below the U.S. EPA residential Regional Screening Levels (RSLs); the average concentration of arsenic in fill material was documented to be below the background concentration of 38 mg/kg documented in the 2012 removal assessment.

## **3.3 New Property Assessments**

A total of 63 properties, including 13 that were selected for immediate removal action, were assessed between April 28 and July 30 2014 at the direction of the U.S. EPA FOSC.

Once identified, the decision units on each property were documented and a multi-point composite sample was collected at each decision unit. All collected samples were field analyzed by XRF following U.S. EPA 6200 to determine the arsenic and lead concentrations. Ten percent of these field analyzed samples were also sent to the U.S. EPA regional laboratory for confirmation analysis by U.S. EPA method 6010C.

### 3. Field Activities

<b>Table 3-2</b> <b>Excavation and Restoration</b> <b>Soil Volumes</b>  <b>Eureka Smelter Sites</b> <b>Removal Support</b> <b>Eureka, Eureka County, Nevada</b>  <b>Project No. EE-002693-2241</b> <span style="float: right;"><b>TDD No. TO2-09-14-02-0002</b></span>			
<b>Addresses</b> <b>(in order of their remediation)</b>	<b>APN</b>	<b>Contaminated Soil</b> <b>Removed</b> <b>(Cubic Yards)</b>	<b>Backfill and Cover</b> <b>Materials Used</b> <b>(Cubic Yards)</b>
North Main	001-033-06	357	370
South O'Neil	001-153-02	578	649
South Main	001-129-03	410	334
North Spring	001-074-04	431	411
South Edwards	001-117-03	249	306
South Edwards	001-158-07	189	214
West McCoy	001-157-03	1,087	1,007
East Mineral	001-129-04	189	287
South Spring	001-134-08	266	307
South O'Neil	001-116-04	0	36
South Main	001-161-16	174	236
Nob Hill	001-012-22	623	629
North O'Neil	001-095-03	355	470
South Main	001-125-03	0	408
South Spring	001-136-10	245	237
South Monroe	001-161-09	264	285
North O'Neil	001-033-03	238	278
South Monroe	001-161-09	83	85
Railroad	001-113-21	49	63
South Main	001-162-02	105	147
South Main	001-162-01	21	18
North Spring	001-104-09	48	56
Well	001-187-04	108	106
Well	001-187-05	180	268
North Edwards	001-093-05	64	70
South Buel	001-132-01	168	188
South Monroe	001-161-19	371	280
North Buel	001-073-02	0	41
Road behind the County Annex	001-202-10	0	150
<b>Total Cubic Yard</b>		<b>6,850</b>	<b>7,963</b>
APN = Assessor's Parcel Number			
Ecology and Environment Inc. 2014			

**Table 3-3 Post Excavation Sampling Data**

**Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TQ2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>Nob Hill (APN: 001-012-22)</b>				
101222-S01-CONF	S01	12 inches under backfill	<b><u>3,400</u></b>	<b><u>780</u></b>
101222-S02-CONF	S02	12 inches under backfill	310	60
101222-S03-CONF	S03	12 inches under backfill	<b><u>1,900</u></b>	<b><u>480</u></b>
101222-S05-CONF	S05	12 inches under backfill	370	70
<b>North O'Neil (APN: 001-033-03)</b>				
103303-S01-CONF	S01	12 inches under backfill	<b><u>1,400</u></b>	<b><u>250</u></b>
103303-S02-CONF	S02	12 inches under backfill	<b><u>940</u></b>	<b><u>210</u></b>
103303-P01-CONF	P01	12 inches under backfill	<b><u>1,200</u></b>	<b><u>210</u></b>
103303-P02-CONF	P02	12 inches under backfill	<b><u>2,600</u></b>	<b><u>370</u></b>
103303-P03-CONF	P03	12 inches under backfill	<b><u>960</u></b>	<b><u>150</u></b>
103303-P05-CONF	P05	12 inches under backfill	<b><u>3,900</u></b>	<b><u>640</u></b>
<b>North Main Street (APN: 001-033-06)</b>				
103306-S01-CONF	S01	12 inches under backfill	<b><u>1,400</u></b>	<b><u>220</u></b>
103306-S02-CONF	S02	12 inches under backfill	<b><u>2,000</u></b>	<b><u>280</u></b>
103306-S03-CONF	S03	12 inches under backfill	<b><u>7,000</u></b>	<b><u>980</u></b>
103306-S05-CONF	S05	12 inches under backfill	<b><u>3,900</u></b>	<b><u>550</u></b>
103306-S06-CONF	S06	12 inches under backfill	<b><u>3,000</u></b>	<b><u>450</u></b>
103306-P01-CONF	P01	12 inches under backfill	<b><u>4,800</u></b>	<b><u>700</u></b>
<b>North Spring (APN: 001-074-04)</b>				
107404-S01-CONF	S01	12 inches under backfill	<b><u>1,900</u></b>	<b><u>230</u></b>
107404-S02-CONF	S02	12 inches under backfill	<b><u>1,600</u></b>	<b><u>240</u></b>
107404-S03-CONF	S03	12 inches under backfill	<b><u>4,000</u></b>	<b><u>590</u></b>
<b>North Edwards (APN: 001-093-05)</b>				
109305-S01-CONF	S01	12 inches under backfill	<b><u>5,300</u></b>	<b><u>810</u></b>
109305-S02-CONF	S02	12 inches under backfill	<b><u>2,200</u></b>	<b><u>330</u></b>
<b>North O'Neil (APN: 001-095-03)</b>				
109503-S01-CONF	S01	12 inches under backfill	<b><u>2,400</u></b>	<b><u>220</u></b>
109503-S02-CONF	S02	12 inches under backfill	<b><u>1,100</u></b>	<b><u>200</u></b>
109503-S03-CONF	S03	12 inches under backfill	<b><u>1,300</u></b>	<b><u>210</u></b>
109503-S04-CONF	S04	12 inches under backfill	<b><u>3,100</u></b>	<b><u>510</u></b>
<b>North Spring Street (APN: 001-104-09)</b>				
110409-S03A-CONF	S01	12 inches under backfill	<b><u>770</u></b>	<b><u>100</u></b>
110409-S03B-CONF	S02	12 inches under backfill	<b><u>1,300</u></b>	<b><u>190</u></b>
110409-S03C-CONF	S03	12 inches under backfill	<b><u>1,200</u></b>	<b><u>140</u></b>
<b>Railroad (APN: 001-113-21)</b>				
111321-S01-CONF	S01	12 inches under backfill	<b><u>540</u></b>	<b><u>66</u></b>
<b>South Edwards (APN: 001-117-03)</b>				
111703-S01-CONF	S01	12 inches under backfill	50	46
111703-S02-CONF	S02	12 inches under backfill	<b><u>1,300</u></b>	<b><u>180</u></b>
111703-S03-CONF	S03	12 inches under backfill	310	<b><u>100</u></b>

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

Table 3-3 Post Excavation Sampling Data

Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada

Project No. EE-002693-2241

TDD No. TQ2-09-14-02-0002

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>South Main (APN: 001-125-03)</b>				
112503-S01-CONF	S01	12 inches under soil cover	<b>1,900</b>	<b>230</b>
112503-S02-CONF	S02	12 inches under soil cover	<b>2,200</b>	<b>330</b>
<b>South Main (APN: 001-129-03)</b>				
112903-S01-CONF	S01	12 inches under backfill	<b>1,600</b>	<b>280</b>
112903-S02-CONF	S02	12 inches under backfill	<b>1,000</b>	<b>210</b>
112903-S03-CONF	S03	12 inches under backfill	400	<b>130</b>
112903-S04-CONF	S04	12 inches under backfill	120	<b>95</b>
<b>East Mineral (APN: 001-129-04)</b>				
112904-S01-CONF	S01	12 inches under backfill	390	<b>66</b>
112904-S02-CONF	S02	12 inches under backfill	<b>7,300</b>	<b>1,200</b>
112904-S03-CONF	S03	12 inches under backfill	<b>5,000</b>	<b>810</b>
112904-S04-CONF	S04	12 inches under backfill	<b>4,500</b>	<b>660</b>
112904-S05-CONF	S05	12 inches under backfill	<b>1,700</b>	<b>250</b>
<b>South Buel St. (APN: 001-132-01)</b>				
113201-S01-CONF	S01	12 inches under backfill	<b>2,100</b>	<b>300</b>
113201-S02-CONF	S02	12 inches under backfill	<b>2,800</b>	<b>320</b>
113201-S03-CONF	S03	12 inches under backfill	<b>2,300</b>	<b>270</b>
<b>260 South Spring (APN: 001-134-08)</b>				
113408-S01-CONF	S01	12 inches under backfill	<b>2,400</b>	<b>330</b>
113408-S02-CONF	S02	12 inches under backfill	<b>2,300</b>	<b>300</b>
113408-S03-CONF	S03	12 inches under backfill	<b>7,100</b>	<b>1300</b>
113408-S04-CONF	S04	12 inches under backfill	<b>5,100</b>	<b>800</b>
113408-S05-CONF	S05	12 inches under backfill	<b>1,800</b>	<b>220</b>
113408-S06-CONF	S06	12 inches under backfill	<b>2,200</b>	<b>320</b>
<b>South Spring St. (APN: 001-136-10)</b>				
113610-S01-CONF	S01	12 inches under backfill	<b>5,600</b>	<b>740</b>
<b>South O'Neill (APN: 001-153-02)</b>				
115302-S01-CONF	S01	12 inches under backfill	<b>550</b>	<b>100</b>
115302-S02-CONF	S02	12 inches under backfill	<b>880</b>	<b>150</b>
115302-S03-CONF	S03	12 inches under backfill	<b>3,800</b>	<b>570</b>
115302-S04-CONF	S04	12 inches under backfill	<b>1,500</b>	<b>130</b>
115302-S05S-CONF	S05-South	12 inches under backfill	<b>970</b>	<b>180</b>
115302-S05N-CONF	S05-North	12 inches under backfill	280	<b>65</b>
115302-S06-CONF	S06	12 inches under backfill	360	<b>94</b>
<b>West McCoy St. (APN: 001-157-03)</b>				
115703-S01-CONF	S01	12 inches under backfill	200	<b>79</b>
115703-S02-CONF	S02	12 inches under backfill	<b>4,700</b>	<b>920</b>
115703-S04-CONF	S04	12 inches under backfill	<b>4,200</b>	<b>700</b>
115703-S05-CONF	S05	12 inches under backfill	<b>11,000</b>	<b>3,600</b>

Notes:

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

**Table 3-3 Post Excavation Sampling Data**

**Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TQ2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>South Edwards St. (APN: 001-158-07)</b>				
115807-S01-CONF	S01	12 inches under backfill	<b><u>2,400</u></b>	<b><u>380</u></b>
115807-S02-CONF	S02	12 inches under backfill	<b><u>680</u></b>	<b><u>140</u></b>
115807-S03-CONF	S03	12 inches under backfill	<b><u>6,900</u></b>	<b><u>1,000</u></b>
<b>South Monroe (APN: 001-161-09)</b>				
116109-S01-CONF	S01	12 inches under backfill	<b><u>1,100</u></b>	<b><u>200</u></b>
116109-S02-CONF	S02	12 inches under backfill	<b><u>1,600</u></b>	<b><u>260</u></b>
116109-S04-CONF	S04	12 inches under backfill	<b><u>3,800</u></b>	<b><u>600</u></b>
116109-P01-CONF	P01	12 inches under backfill	<b><u>1,200</u></b>	<b><u>190</u></b>
116109-P02-CONF	P02	12 inches under backfill	<b><u>110</u></b>	<b><u>44</u></b>
116109-P03-CONF	P03	13 inches under backfill	<b><u>330</u></b>	<b><u>62</u></b>
<b>South Monroe (APN: 001-161-14)</b>				
116114-S03-CONF	S03	12 inches under backfill	<b><u>2,900</u></b>	<b><u>490</u></b>
<b>South Main (APN: 001-161-17)</b>				
116117-S01-CONF	S01	12 inches under backfill	<b><u>7,000</u></b>	<b><u>1,100</u></b>
116117-S02-CONF	S02	12 inches under backfill	<b><u>4,300</u></b>	<b><u>770</u></b>
116117-S03-CONF	S03	12 inches under backfill	<b><u>11,000</u></b>	<b><u>2,600</u></b>
<b>South Monroe (APN: 001-161-19)</b>				
116119-S01-CONF	S01	12 inches under backfill	<b><u>1,300</u></b>	<b><u>190</u></b>
116119-S02-CONF	S02	12 inches under backfill	<b><u>2,100</u></b>	<b><u>290</u></b>
116119-S04-CONF	S04	12 inches under backfill	<b><u>6,000</u></b>	<b><u>1,000</u></b>
116119-S05-CONF	S05	12 inches under backfill	<b><u>1,500</u></b>	<b><u>240</u></b>
116119-S06-CONF	S06	12 inches under backfill	<b><u>1,400</u></b>	<b><u>240</u></b>
116119-S07-CONF	S07	12 inches under backfill	<b><u>3,200</u></b>	<b><u>530</u></b>
<b>South Main Street (APN: 001-162-01)</b>				
116201-S01-CONF	S01	12 inches under backfill	<b><u>380</u></b>	<b><u>110</u></b>
116201-S02-CONF	S02	12 inches under backfill	<b><u>260</u></b>	<b><u>380</u></b>
116201-S03-CONF	S03	12 inches under backfill	<b><u>1,100</u></b>	<b><u>150</u></b>
116201-S04-CONF	S04	12 inches under backfill	<b><u>2,100</u></b>	<b><u>260</u></b>
116201-S05-CONF	S05	12 inches under backfill	<b><u>1,400</u></b>	<b><u>240</u></b>
116201-S06-CONF	S06	12 inches under backfill	<b><u>960</u></b>	<b><u>140</u></b>
116201-P01-CONF	P01	12 inches under backfill	<b><u>1,600</u></b>	<b><u>240</u></b>
<b>South Main (APN: 001-162-02)</b>				
116202-S01-CONF	S01	12 inches under backfill	<b><u>2,100</u></b>	<b><u>320</u></b>
116202-S02-CONF	S02	12 inches under backfill	<b><u>4,300</u></b>	<b><u>600</u></b>
116202-S03-CONF	S03	12 inches under backfill	<b><u>3,900</u></b>	<b><u>580</u></b>
116202-S04-CONF	S04	12 inches under backfill	<b><u>4,400</u></b>	<b><u>580</u></b>
116202-P01-CONF	P01	12 inches under backfill	<b><u>21,000</u></b>	<b><u>3,600</u></b>
<b>Well Street (APN: 001-187-04)</b>				
118704-S01-CONF	S01	12 inches under backfill	<b><u>920</u></b>	<b><u>160</u></b>
<b>Well Street (APN: 001-187-05)</b>				
118705-S01-CONF	S01	12 inches under backfill	<b><u>700</u></b>	<b><u>110</u></b>
118705-S02-CONF	S02	12 inches under backfill	<b><u>1,000</u></b>	<b><u>160</u></b>
118705-S03-CONF	S03	12 inches under backfill	<b><u>1,300</u></b>	<b><u>180</u></b>

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

**Table 3-4  
Backfill and Cover Materials Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

Project No. EE-002693-2241

TDD No. TO2-09-14-02-0002

		<b>Lead</b>	<b>Arsenic</b>	<b>Chromium</b>	<b>Selenium</b>	<b>Silver</b>	<b>Cadmium</b>	<b>Barium</b>	<b>Mercury</b>
		<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>
<b>2014 U.S. EPA RSL</b>	<b>Date</b>	<b>400</b>	<b>Background</b>	<b>1,200</b>	<b>39</b>	<b>39</b>	<b>7</b>	<b>1,500</b>	<b>2.3</b>
<b>2013 Background</b>	<b>Collected</b>	<b>52</b>	<b>38</b>	<b>11</b>	<b>&lt;2</b>	<b>1.3</b>	<b>1.2</b>	<b>360</b>	<b>NA</b>
<b>Base Material</b>	<b>4/30/2014</b>	15	18	22	<2	<1	0.27J	250	NA
<b>Coarse Mix</b>	<b>4/30/2014</b>	24	21	18	<2	<1	0.45J	300	NA
<b>Top Soil Mix from 2013</b>	<b>5/01/2014</b>	8.2	18	16	<2	<1	0.28J	230	NA
<b>Top Soil Mix</b>	<b>5/01/2014</b>	46	25	17	<2	<1	0.41J	250	NA
<b>Coarse Mix</b>	<b>5/03/2014</b>	6.2	16	16	<2	<1	0.31J	290	NA
<b>Top Soil Mix</b>	<b>5/07/2014</b>	18	15	22	<2	<1	0.50	330	NA
<b>Top Soil Desert Mix</b>	<b>5/07/2014</b>	13	14	20	<2	<1	0.45J	330	NA
<b>Top Soil Mix</b>	<b>5/29/2014</b>	13	17	19	<2	<1	0.40J	250	0.014J
<b>Sand</b>	<b>5/29/2014</b>	7.3	25	17	<2	<1	<0.5	210	0.014J
<b>Base Material</b>	<b>5/29/2014</b>	7.3	19	23	<2	<1	<0.5	210	<0.027
<b>Coarse Mix</b>	<b>5/29/2014</b>	7.4	21	22	<2	<1	<0.5	210	0.016J
<b>Top Soil Mix</b>	<b>5/30/2014</b>	11	16	19	<2	<1	0.28J	290	0.031J
<b>Coarse Mix</b>	<b>6/04/2014</b>	8.3	22	17	<2	<1	<0.5	220	0.017J
<b>Sand</b>	<b>6/04/2014</b>	7.3	19	17	<2	<1	<0.5	210	0.013J
<b>Base Material</b>	<b>6/04/2014</b>	7.4	23	18	<2	<1	<0.5	210	0.014J
<b>Top Soil Mix</b>	<b>6/05/2014</b>	12	19	19	<2	<1	<0.5	240	0.023J

mg/kg = milligrams per kilogram

NA = Not Analyzed or Background concentration for mercury is not known.

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### 3. Field Activities

**Table 3-4 (continued)**  
**Backfill and Cover Materials Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

Project No. EE-002693-2241

TDD No. TO2-09-14-02-0002

		<b>Lead</b>	<b>Arsenic</b>	<b>Chromium</b>	<b>Selenium</b>	<b>Silver</b>	<b>Cadmium</b>	<b>Barium</b>	<b>Mercury</b>
		<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>
<b>2014 U.S. EPA RSL</b>	<b>Date</b>	<b>400</b>	<b>Background</b>	<b>1,200</b>	<b>39</b>	<b>39</b>	<b>7</b>	<b>1,500</b>	<b>2.3</b>
<b>2013 Background</b>	<b>Collected</b>	<b>52</b>	<b>38</b>	<b>11</b>	<b>&lt;2</b>	<b>1.3</b>	<b>1.2</b>	<b>360</b>	<b>NA</b>
<b>Top Soil Mix</b>	<b>6/18/2014</b>	11	17	21	<2	< 1	<0.5	280	0.023J
<b>Coarse Mix</b>	<b>6/18/2014</b>	7.3	19	17	<2	< 1	<0.5	210	0.013J
<b>Sand</b>	<b>6/18/2014</b>	7.0	22	18	<2	< 1	<0.5	200	<0.026
<b>Base</b>	<b>6/18/2014</b>	8	21	16	<2	< 1	<0.5	190	0.016J
<b>Top Soil Mix</b>	<b>6/28/2014</b>	10	16	20	<2	< 1	<0.5	260	0.018J
<b>Base Mix</b>	<b>6/28/2014</b>	8	21	16	<2	< 1	<0.5	190	0.016J
<b>Sand</b>	<b>6/28/2014</b>	7.9	27	18	<2	< 1	<0.5	190	<0.026
<b>Coarse Mix</b>	<b>6/28/2014</b>	7.9	17	17	<2	< 1	<0.5	180	<0.026
<b>Coarse Mix</b>	<b>7/11/2014</b>	8.9	20	20	<2	< 1	0.30J	190	<0.032
<b>Top Soil Mix</b>	<b>7/11/2014</b>	11	18	18	<2	< 1	0.45J	240	0.035J
<b>Sand</b>	<b>7/16/2014</b>	8.9	28	19	<2	< 1	0.37J	180	<0.028
<b>Base</b>	<b>7/16/2014</b>	8.4	18	16	<2	< 1	0.29J	200	<0.030
<b>Sand</b>	<b>7/18/2014</b>	7.4	23	18	<2	< 1	0.32J	190	<0.027
<b>Top Soil Mix</b>	<b>7/21/2014</b>	12	17	20	<2	< 1	0.44J	260	0.021J
<b>AVERAGE</b>		11.2	19.7	18.5	<2	< 1	<0.5	233	0.02

mg/kg = milligrams per kilogram

NA = Not Analyzed or Background concentration for mercury is not known.

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The arsenic and lead concentration data for each property were evaluated in the field by the U.S. EPA FOSC following analysis in order to determine if immediate removal actions were warranted at the property. The FOSC determined that 12 of the 63 newly assessed properties required immediate removal action due to the documented elevated arsenic and lead concentrations and the property's use. The assessment data for these 12 remediated properties are presented graphically with the 17 other removal properties in Appendix B1. Data tables for the 12 remediated properties are presented with the 17 other removal properties in Appendix C1. The assessment data for the remaining 49 properties and additional sampling data for the two major slag piles are graphically presented in Appendix B2 and in Tables 3-5-1 through 3-5-51 in Appendix C2.

### **3.4 Air Sampling and Particulate Monitoring**

START collected daily real-time particulate monitoring data and co-located air samples at locations around residential properties during soil excavations. The monitoring and sample collection was done in accordance with the SAP. The average daily particulate concentration did not exceed the project action level of 1.0 milligram per cubic meter at any excavation location. Real-time particulate monitor data were collected every day of excavation except when it was raining or snowing. A total of 70 work days were monitored at the soil repository and 25 excavation properties. A total of 183 ambient air samples were collected and archived. A summary of air monitoring data for each property and for the soil repository stockpile is presented graphically in Figure 3-4a and Figure 3-4b, respectively. Since the time weighted average concentration for particulates did not exceed the 0.3 milligram per cubic meter concentration criteria for air sample submission for analyses, air samples were not analyzed.

### **3.5 Slag Pile Sampling**

The U.S. EPA FOSC and ERRS personnel sampled the two larger slag piles located on the north and south end of the town. The sampling locations are shown on the two figures of the slag piles in Appendix B2. The samples were analyzed for Resource Conservation and Recovery Act (RCRA) metals, using TCLP, SPLP, and total metal extraction procedure with the resultant data presented in Table 3-6.

### **3.6 Sampling and Analysis Quality Assurance/Quality Control**

During the removal action, 910 samples were collected and field analyzed using an Innov-X Systems XRF unit operated in accordance with the manufacturer's guidance, U.S. EPA SW-846 Method 6200, and Quality Assurance/Quality Control (QA/QC) procedures provided in the SAP.

#### **3.6.1 Field Sampling and Field Analytical Quality Control**

All site sample locations were logged using an iPad® and uploaded to a site database immediately following collection. Samples were processed by homogenizing and sieving prior to XRF analysis. Organic matter, twigs, and rocks or pebbles were first removed from the samples, and then each sample was homogenized while in the sample bag by kneading, crushing, and shaking the sample until mixing of the sample was complete. After homogenization, all samples were passed through a 250-micron mesh sieve (#60) to remove large particles considered less respirable as an airborne particulate. The remaining 250 micron-sieved aliquot was transferred to a pre-labeled polyethylene cup, covered with Mylar film, and analyzed by XRF for arsenic and lead concentrations. All XRF sample analyses were performed in the



intrusive soil mode with a 120-second count time for measurement, within a designated field laboratory.

The QA/QC procedures for XRF analysis were performed in accordance with the SAP. Before operation of the XRF each day, the unit was allowed the manufacturer-recommended warm up time of 25 to 30 minutes. To determine whether the XRF instrument was within resolution and stability tolerances, an energy calibration check was run with a pure manganese element standard at the beginning of each day as the first XRF analysis, and at any time at which the instrument detected that the characteristic x-ray lines were shifting. To check the accuracy of the instrument and to assess the stability and consistency of analyses for the analytes of interest (arsenic and lead), a standard reference material (SRM) sample (NIST 2702) and site-specific reference sample used during the removal assessment were analyzed each day the XRF unit was utilized. The measured values for each SRM sample run during field XRF analysis for the project were within  $\pm 20$  percent standard deviation of the true value and considered acceptable.

Two types of blank samples were analyzed to provide quality control for XRF analysis:

- A pre-prepared “clean” silica sand sample served as an analysis blank sample. An analysis blank sample was used to verify that no contamination existed on the probe window during XRF analysis. The instrument blank sample was analyzed after each set of 10 samples and at the beginning and end of each day the XRF unit was utilized. No arsenic or lead concentrations above the method detection limits were found during instrument blank sample analyses.
- Method/preparation blank samples were prepared daily using “clean” silica. Method/preparation blank samples were used to monitor for sample preparation-induced contaminants or interferences. Each method blank sample was prepared by following the same preparation procedure as the site samples. Method/preparation blank samples were prepared each day that samples were prepared. No arsenic or lead concentrations above the method detection limits were found during method blank sample analyses.

In addition, one out of every ten site samples was selected for preparation duplicate analysis. Preparation duplicates were collected by splitting a single site sample, after homogenization and sieving occurred, and then preparing two separate sample aliquots for XRF analysis. Preparation duplicates were labeled and recorded with a “PD” following the corresponding sample identifier for identification. The measured values for each preparation duplicate sample analysis were within  $\pm 20$  percent standard deviation of the original site sample value and considered acceptable.

### **3.6.2 XRF and Laboratory Data Correlation Study**

U.S. EPA SW-846 Method 6200 suggests that a minimum of 5 to 10 percent of the XRF-analyzed samples be submitted to an analytical laboratory for confirmatory analysis to verify the quality of the XRF data. Out of the approximately 910 soil samples collected in Eureka and analyzed by XRF during the removal, 153 samples (17 percent) were submitted to the U.S. EPA Region 9 Laboratory for confirmatory analysis by U.S. EPA Method 6010C for arsenic and lead.

Once data were generated by the U.S. EPA Region 9 Laboratory, a data review was completed, and the laboratory data were validated using the *Region 9 Draft Superfund Data*

*Evaluation/Validation Guidance* (U.S. EPA, 2001c). All laboratory analytical results were provided by the U.S. EPA Region 9 Laboratory with Tier 1 data validation. Tier 1 data validation included evaluation of criteria such as laboratory QA/QC summaries, holding times, and matrix-related recoveries. Data qualifiers were applied by START according to the *U.S. EPA CLP National Functional Guidelines for Inorganic Data Review* (OSWER 9240.1-45, EPA 540-R-04-004) October 2004 (U.S. EPA, 2004). All data were found to be acceptable for use with qualifiers. Laboratory analysis and data validation reports are provided in Appendix D.

### **Lead Data Correlation**

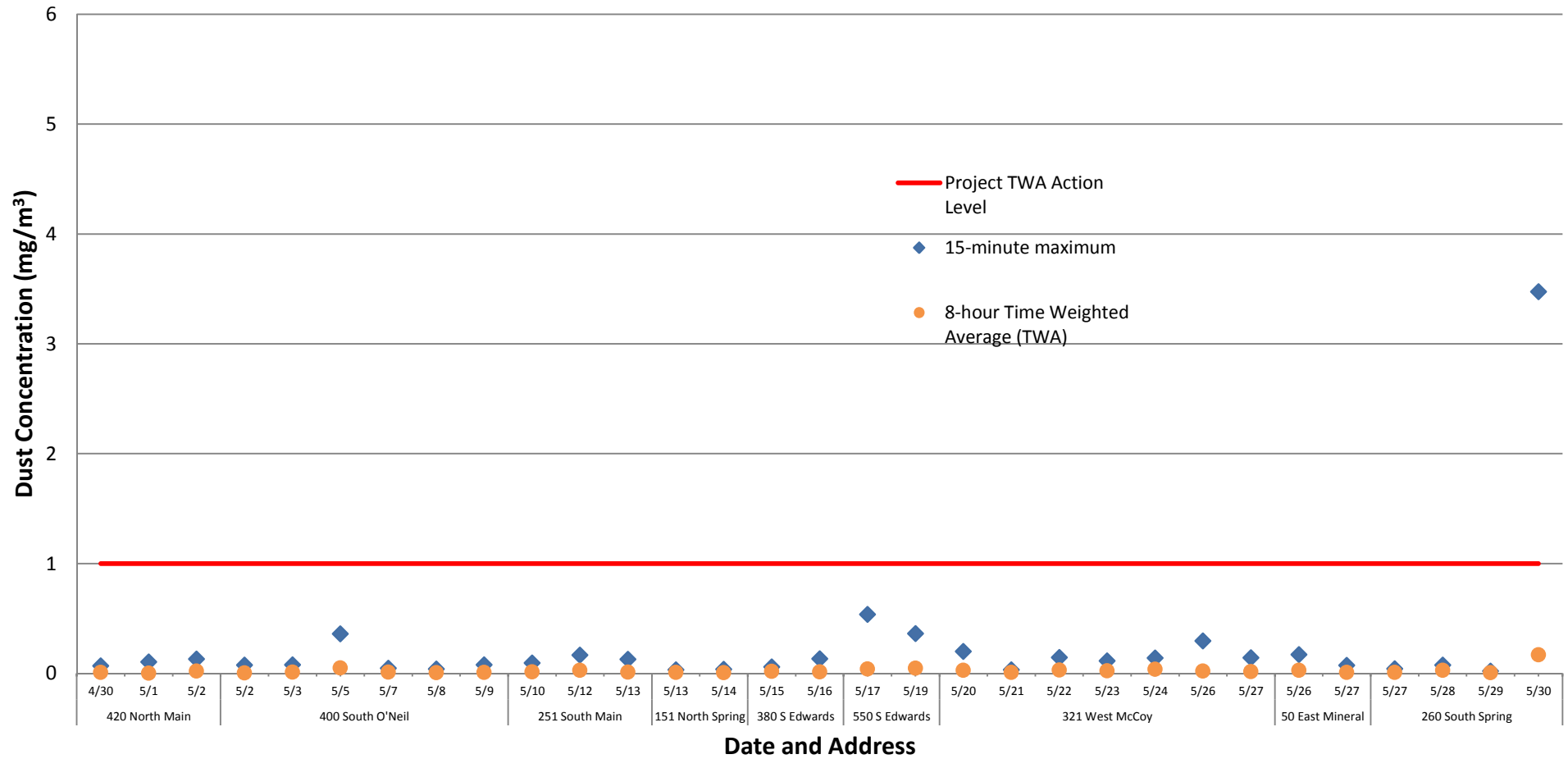
Linear regression analysis between field XRF and laboratory results for lead from 153 unique soil samples submitted to the laboratory generated a final coefficient of determination ( $R^2$ ) value of 0.9739 and slope value of 1.0513. Based on the strong positive correlation of 0.9739 between XRF and laboratory results, the XRF data generated for lead concentrations during this assessment exceed the U.S. EPA criteria and is acceptable for use as screening level data ( $R^2 \geq 0.7$ ). Based upon the calculated slope of 1.0513, the reported XRF concentrations for lead are documented as exhibiting a slightly low bias. Since the slope is within 20 percent of a 1:1 slope, the documented biases are acceptable and usable without adjustment.

### **Arsenic Data Correlation**

Linear regression analysis between field XRF and laboratory results for arsenic from 153 unique soil samples submitted to the laboratory generated a final coefficient of determination ( $R^2$ ) value of 0.9469 and slope value of 1.1014. Based on the strong positive correlation of 0.9469 between XRF and laboratory results, the XRF data generated for arsenic concentrations during this assessment exceed the U.S. EPA criteria and is acceptable for use as screening level data ( $R^2 \geq 0.7$ ). Based upon the calculated slope of 1.1014, the reported XRF concentrations for arsenic are documented as exhibiting a low bias. Since the slope is within 20 percent of a 1:1 slope, the documented biases are acceptable and usable without adjustment.

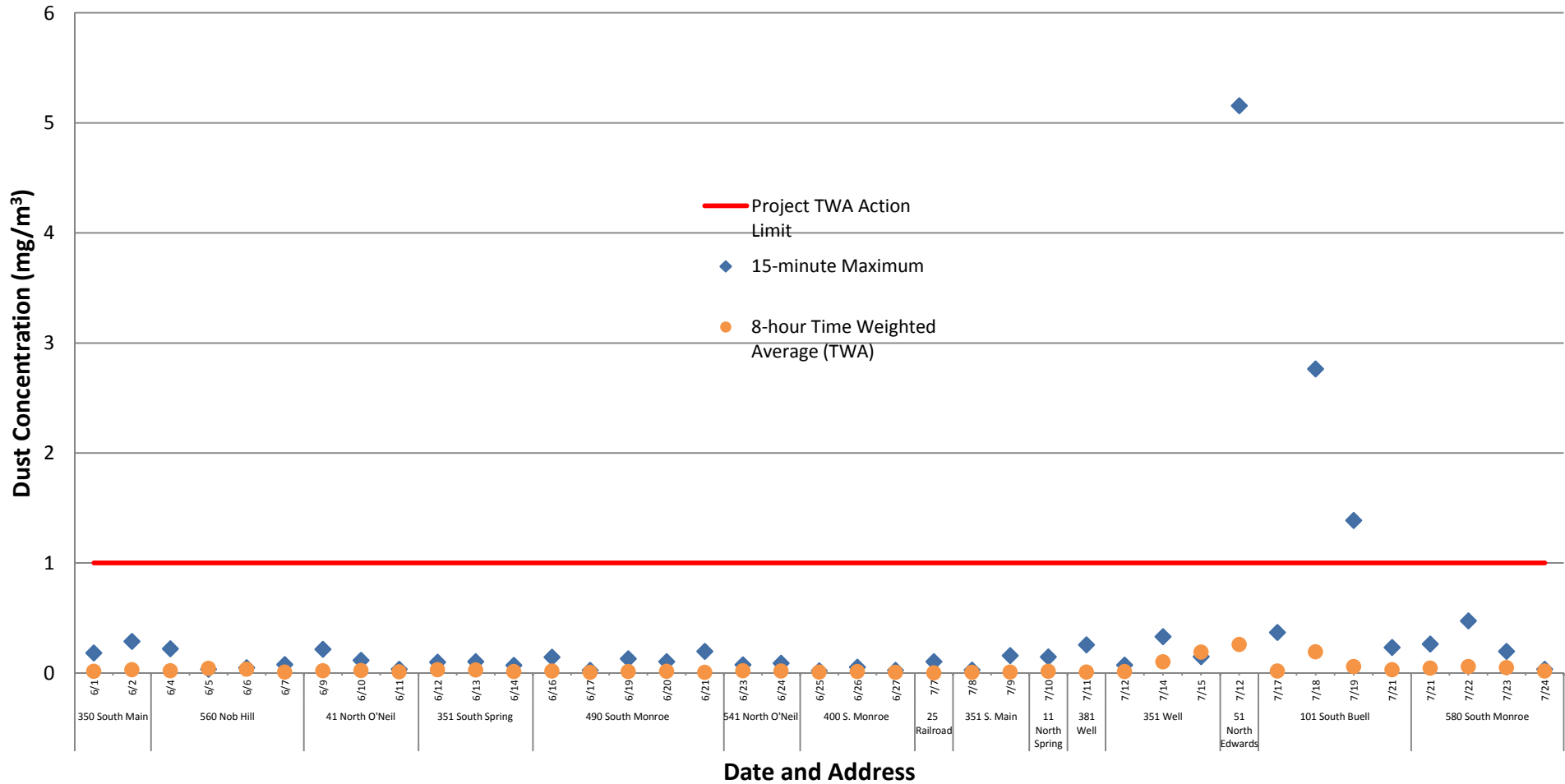
The field XRF and laboratory analysis data used to calculate correlations are presented in Table 3-7. The linear regression analyses for lead and arsenic are provided as Figure 3-6 and Figure 3-7, respectively.

**Figure 3-4**  
**Particulate Monitoring of Removal Properties**  
**Town of Eureka EECA, Removal Support**  
**Eureka, Eureka County, Nevada**



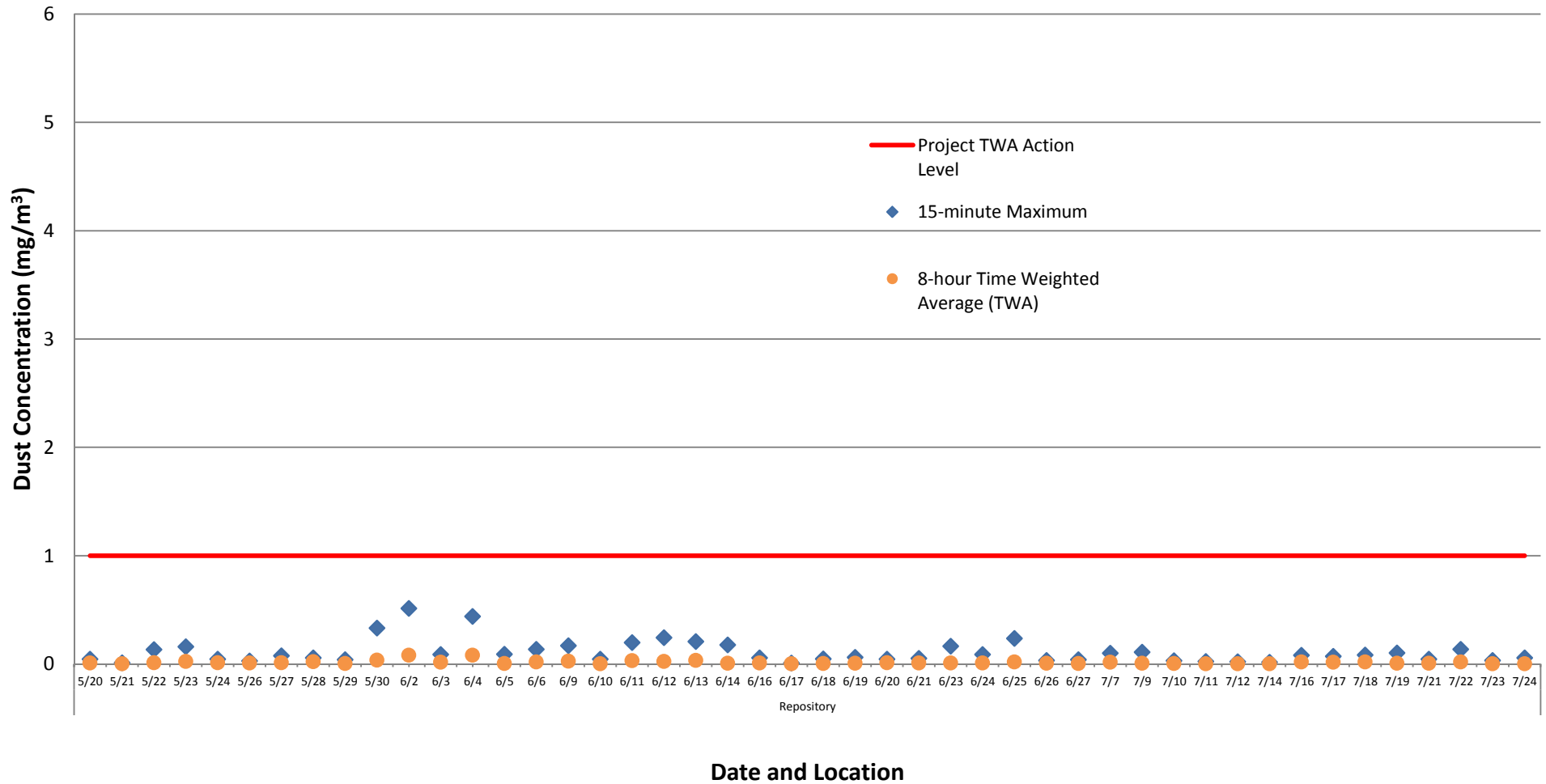
The permissible exposure limit for the respirable fraction of dust published by the Occupational Safety and Health Administration in Table Z-1 is  $5 \text{ mg}/\text{m}^3$ .  
 The 8-hr TWA is the maximum 8-hour time-weighted average calculated from average dust concentration measured during a work day using a particulate monitor.  
 $\text{mg}/\text{m}^3$  Milligrams per cubic meter

**Figure 3-4 (continued)**  
**Particulate Monitoring of Removal Properties**  
**Town of Eureka EECA, Removal Support**  
**Eureka, Eureka County, Nevada**



The permissible exposure limit for the respirable fraction of dust published by the Occupational Safety and Health Administration in Table Z-1 is 5 mg/m³.  
 Max 8-hr TWA is the maximum 8-hour time-weighted average calculated from average dust concentration measured during a work day using a particulate monitor.  
 mg/m³ Milligrams per cubic meter

**Figure 3-5**  
**Particulate Monitoring at Soil Repository**  
**Town of Eureka EECA, Removal Support**  
**Eureka, Eureka County, Nevada**



The permissible exposure limit for the respirable fraction of dust published by the Occupational Safety and Health Administration in Table Z-1 is  $5 \text{ mg}/\text{m}^3$ .  
Max STEL is the maximum short-term excursion limit over a 15-minute period.  
Max 8-hr TWA is the maximum 8-hour time-weighted average calculated from average dust concentration measured during a work day using a particulate monitor.  
 $\text{mg}/\text{m}^3$  Milligrams per cubic meter

### 3. Field Activities

**Table 3-6 Slag Pile Results**

Project No. EE-002693-2241

TDD No. TO2-09-14-02-0002

	Waste Criteria Benchmark	North Slag Pile Dark Slag	North Slag Pile Med Slag	North Slag Pile Light Slag	South Slag Pile
<b>Total Metal in mg/kg</b>					
Lead	NA	15,000	11,000	23,000	34,000
Arsenic	NA	1,700	8,100	6,100	19,000
Mercury	NA	0.17	0.065J	1.1	1.6
Antimony	NA	330	300	180	2,200
Barium	NA	1,800	970	1,300	510
Beryllium	NA	1.2	0.81	1.5	0.51J
Cadmium	NA	10	2.8	69	24
Chromium	NA	12	15,000	12	4.7J
Cobalt	NA	ND	9.1	ND	ND
Iron	NA	250,000	220,000	200,000	170,000
Magnesium	NA	9,400	3,800	9,800	3,200
Manganese	NA	2,100	610	880	360
Molybdenum	NA	190	1,200	1,000	1,100
Nickel	NA	ND	ND	5.5	2,300
Selenium	NA	ND	ND	ND	ND
Silver	NA	28	20	48	57
Thallium	NA	710	ND	ND	5.2
Vanadium	NA	110	88	100	65
Zinc	NA	51,000	24,000	21,000	41
<b>Toxicity Characteristic Leaching Procedure (TCLP) Metals in mg/L</b>					
Lead	5.0	<b>17</b>	<b>37</b>	<b>53</b>	<b>270</b>
Arsenic	5.0	1.4	<b>36</b>	<b>5.0</b>	<b>26</b>
Barium	100	4.0	1.4	2.0	0.22
Cadmium	1.0	ND	ND	0.44	ND
Chromium	5.0	ND	ND	ND	ND
Selenium	1.0	ND	ND	ND	ND
Silver	5.0	ND	ND	ND	ND
Mercury	0.2	ND	ND	ND	ND
<b>Synthetic Precipitation Leaching Procedure (SPLP) Metals in mg/L</b>					
Lead	(0.015)*	<b>0.89J</b>	<b>1.4</b>	<b>1.1</b>	<b>1.8</b>
Arsenic	(0.010)*	<b>0.22J</b>	<b>1.8</b>	<b>0.7</b>	<b>0.75</b>
Barium	(2.0)*	ND	ND	ND	ND
Cadmium	(0.002)*	ND	ND	ND	ND
Chromium	(.05)*	ND	ND	ND	ND
Selenium	(0.1)*	ND	ND	ND	ND
Silver	(0.002)*	ND	ND	ND	ND
Mercury	(0.015)*	0.00004J	0.00005J	0.00005J	0.00019J
<p>mg/kg = milligrams per kilogram  J = Qualified as estimated.  NA = No waste criteria for total metals. ND = Not detected.  () = Value is the National Drinking Water Maximum Contaminant Level ( MCL), MCL goal, concentration based on either National Primary Drinking Water Regulations (NPDWRs or primary standards) on National Secondary Drinking Water Regulations (NSDWRS or secondary standards). * = Values for reference only.  <b>Bolded Value = Greater than benchmark.</b></p>					
Ecology and Environment Inc. 2014					

### 3. Field Activities

**TABLE 3-7**  
**Laboratory Confirmation Data with Field XRF Data**

Project No. EE-002693-2241

Tdd No. TO2-09-14-02-0002

Sample Location	START Sample ID	U.S. EPA Region 9 Laboratory Lead Results by EPA Method 6010B (mg/kg) sieved/cup	START XRF LEAD Results by EPA 6200 (mg/kg) sieved/cup	U.S. EPA Region 9 Laboratory Arsenic Results by EPA Method 6010B (mg/kg) sieved/cup	START XRF Arsenic Results by EPA 6200 (mg/kg) sieved/cup
116114-S02-6	FX-15	23,000	20,000	3,600	4,000
116117-S05-0	OX-07	17,000	18,000	3,300	3,600
101106-S03-2	ANX-17	14,000	14,000	3,200	2,900
115901-S08-0	DX-21	12,000	12,000	2,100	1,800
103307-S03-0	XC-17	21,000	16,000	3,200	2,200
119101-S14-6	AAX-14	10,000	8,800	2,100	1,500
116112-P03-0	GX-22	7,200	7,400	1,400	1,100
103306-S03-CONF	CX-04	6,600	7,000	990	980
115807-S03-CONF	LX-03	6,600	6,900	1,400	1,000
116116-S01-CONF	RX-15	5,800	6,900	1,200	1,100
116110-S01-6	GX-03	6,100	6,800	1,300	1,100
116109-P03-0	QX-21	6,600	6,500	1,100	1,100
116401-S04-6	EX-12	6,800	6,200	1,400	1,200
113610-S03-2	EX-20	5,000	5,900	1,000	900
110409-S03-2	SX-10	5,100	5,500	980	740
116109-S04-0	WX-05	5,100	5,500	1,100	850
116116-S02-0	NX-05	4,400	5,300	850	650
109305-S01-CONF	AOX-06	5,600	5,300	960	890
116401-S04-0	EX-10	4,600	4,900	1,000	810
112502-S01-6	XX-10	4,700	4,500	840	670
103413-S04-0	JX-10	4,400	4,300	540	350
103307-S01-2	XC-20	4,400	3,900	710	500
NDOT-ROW-P02-2	AEX-07	5,400	5,100	1,400	1,000
112503-S06-2	CX-27	3,000	3,600	540	430
116114-S01-0	FX-10	3,300	3,500	700	540
118703-S01-0	HX-03	3,400	3,500	750	530
103303-P01-0	PX-12	3,000	3,400	630	540
101222-S01-CONF	SX-02	3,000	3,400	860	780
101106-S01-0	ANX-10	2,900	3,300	500	450
116401-S01-6	EX-03	2,800	3,100	580	470
109503-S04-CONF	UX-04	2,800	3,100	610	510
120210-S02-6	ZX-05	2,900	3,100	730	580
NDOT-ROW-P04-0	AEX-05	2,800	3,000	690	500
116114-S03-CONF	AGX-09	3,300	2,900	720	490
112503-S02-0	CX-14	2,700	2,700	570	390
103402-S02-0	BX-17	3,200	2,600	420	230
116112-P08-6	VX-06	2,600	2,600	490	380
112503-S06-0	CX-26	2,200	2,400	380	280
108602-S01-0	ALX-01	2,200	2,400	250	220
110409-S02-2	SX-07	2,100	2,300	370	310
120210-P13-0	AIX-27	8,000	2,300	770	310
113201-S03-CONF	APX-04	2,600	2,300	420	270
113610-S02-0	TX-02	2,400	2,200	470	240
110711-P01-6	AMX-02	2,900	2,200	710	420
103303-S01-0	PX-09	2,100	2,100	560	400
120210-P06-2	AEX-23	2,300	2,100	580	410
109503-S04-6	AX-18	2,100	2,000	420	300
109305-S02-2	WX-12	2,000	2,000	440	320
116114-S04-0	FX-19	2,000	1,900	440	300
112503-S01-CONF	VX-19	2,100	1,900	360	230
NDOT-ROW-P06-6	ABX-36	2,300	1,900	600	360
11304-S02-0	AEX-09	1,900	1,900	290	200
113408-S05-CONF	PX-02	1,600	1,800	280	220
112502-S02-2	XX-17	1,800	1,800	280	170
116112-S02-0	GX-13	1,500	1,700	290	260

### 3. Field Activities

**TABLE 3-7**  
**Laboratory Confirmation Data with Field XRF Data**

Project No. EE-002693-2241

Tdd No. T02-09-14-02-0002

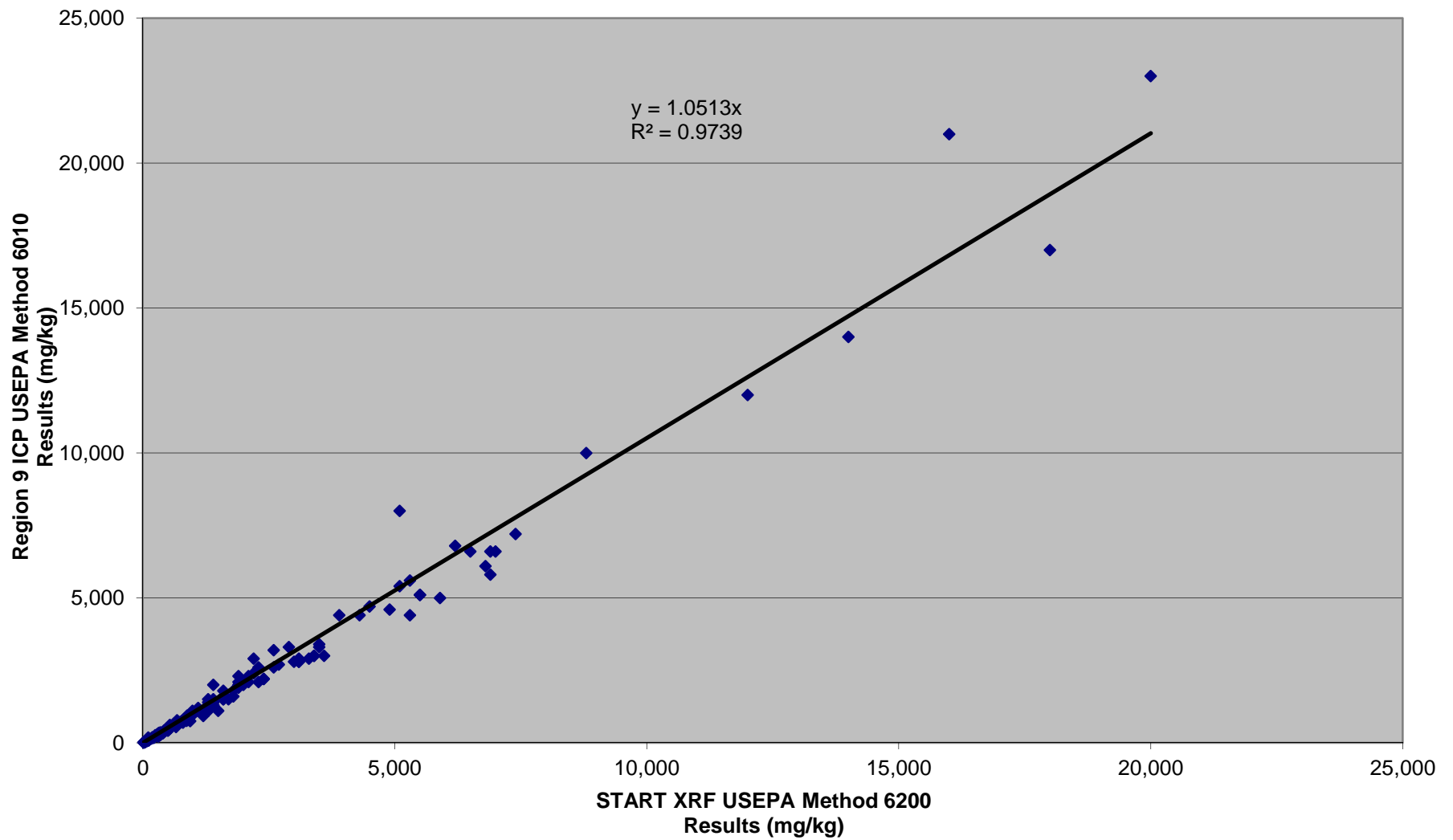
Sample Location	START Sample ID	U.S. EPA Region 9 Laboratory Lead Results by EPA Method 6010B (mg/kg) sieved/cup	START XRF LEAD Results by EPA 6200 (mg/kg) sieved/cup	U.S. EPA Region 9 Laboratory Arsenic Results by EPA Method 6010B (mg/kg) sieved/cup	START XRF Arsenic Results by EPA 6200 (mg/kg) sieved/cup
113309-S01-2	FX-02	1,500	1,600	200	170
112903-S01-CONF	IX-03	1,800	1,600	410	280
108110-S01-2	XX-33	1,600	1,600	340	250
112105-P01-6	XX-49	1,600	1,600	310	220
112505-S02-0	AX-34	1,300	1,400	160	170
112503-S01-2	CX-12	2,000	1,400	480	230
103303-S01-0	PX-08	1,400	1,400	350	270
117110-S01-2	AAX-10	1,400	1,400	290	200
116119-S06-CONF	AQX-01	1,500	1,400	270	72
113309-S01-0	FX-01	1,100	1,300	140	100
111703-S02-CONF	KX-02	1,300	1,300	260	180
116109-S01-6	QX-10	1,500	1,300	330	200
109305-S01-0	WX-08	1,100	1,300	230	180
117106-S01-0	AAX-17	1,300	1,300	250	160
116119-S01-CONF	XC-08	1,400	1,300	270	190
115703-S04-0	AX-22	930	1,200	180	170
116109-P01-CONF	ABX-23	1,100	1,200	260	190
103303-P02-CONF	ABX-15	1,100	1,200	230	210
117110-S05-6	AAX-23	1,200	1,100	290	210
106304-P02-0	JX-04	1,100	990	190	110
113502-S02-6	XX-51	960	990	160	170
105201-P01-0	AHX-01	990	990	180	140
103413-S03-2	JX-08	950	980	210	120
116112-P06-0	VX-01	1,000	970	230	130
116202-S01-0	RX-01	750	940	140	100
103303-S02-2	PX-16	790	910	190	150
103303-P02-2	PX-19	800	900	180	140
118703-S02-0	VX-13	940	880	160	100
116202-S01-2	RX-02	760	870	130	90
120210-P05-2	AEX-34	890	870	290	240
112502-S04-0	YX-01	780	860	170	120
103413-S01-0	BX-04	810	820	160	110
106404-P03-0	AX-10	700	800	130	110
112406-S01-0	WX-01	750	780	190	140
106701-S04-2	AJX-23	730	780	140	100
110409-S03A-CONF	AHX-12	720	770	130	100
113309-S03-0	FX-07	720	750	140	120
118705-S02-CONF	ALX-05	700	700	150	110
115807-S02-CONF	LX-02	780	680	220	140
840001-S08-2	ABX-12	550	660	140	120
116101-S01-2	AOX-13	660	620	96	73
106701-S05-0	AKX-18	500	550	120	92
111321-S01-CONF	AGX-08	620	540	110	60
115901-S01-0	DX-01	540	520	130	86
118703-S04-0	WX-04	470	520	85	71
109408-S01-0	XX-03	430	510	87	87
105201-S01-0	AIX-03	420	500	69	61
117304-S02-0	QX-05	480	480	120	100
110304-S01-6	ADX-10	430	480	85	49
107305-P01-0	AOX-16	490	480	86	76
105105-S01-0	XB-10	420	420	82	52
808001-S03-0	AIX-02	370	420	92	70
103604-S01-6	XX-44	330	400	73	87
112904-S01-CONF	OX-02	320	390	91	66
117120-S03-0	ABX-02	350	380	88	59
116119-P07-2	UX-10	320	370	64	63
808002-S02-0	AJX-17	340	370	78	66
107413-S02-0	BX-21	310	350	50	39
173201-P04-0	WX-21	280	350	70	52



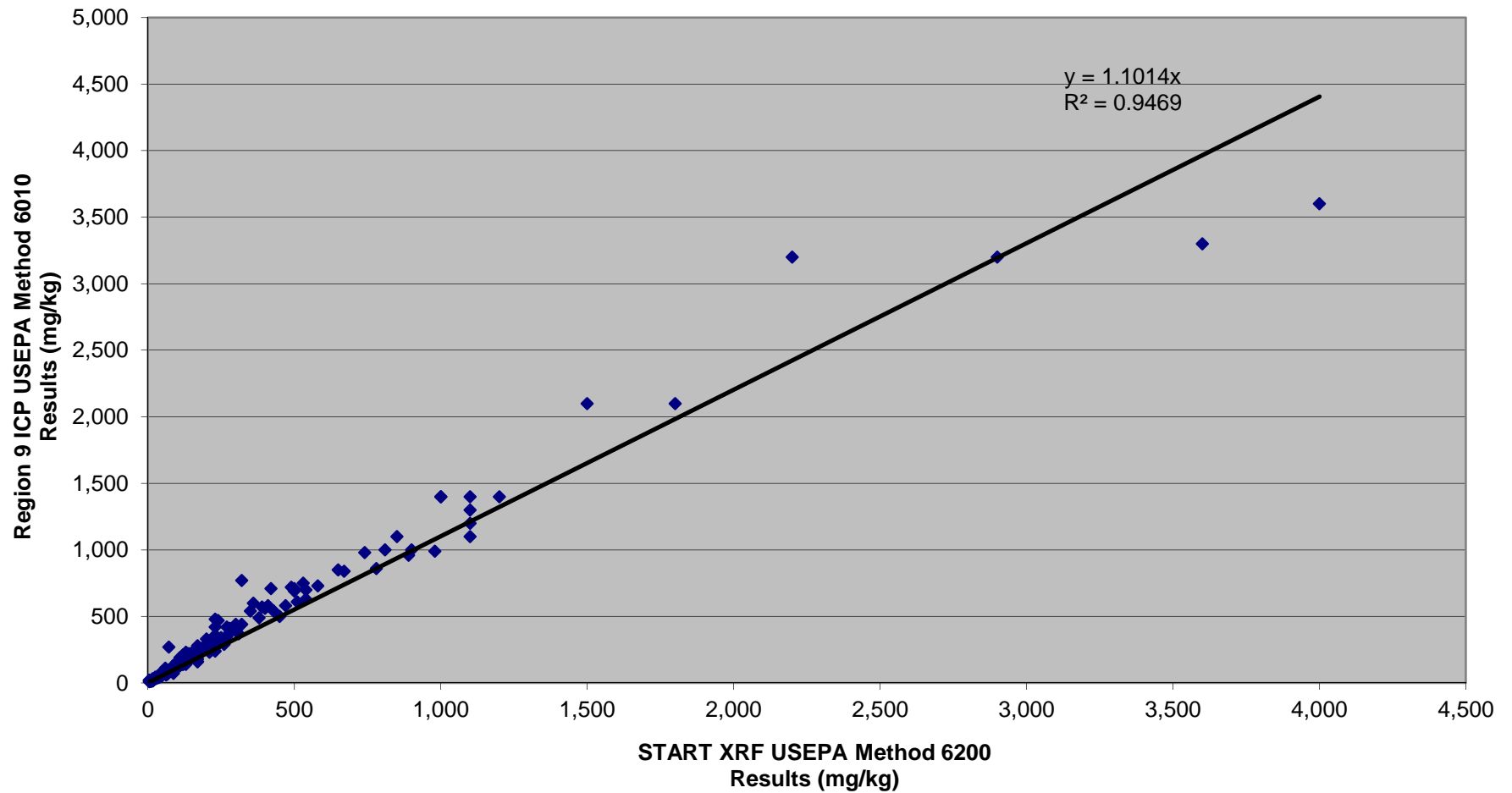
### 3. Field Activities

TABLE 3-7 Laboratory Confirmation Data with Field XRF Data					
Project No. EE-002693-2241			Tdd No. TO2-09-14-02-0002		
Sample Location	START Sample ID	U.S. EPA Region 9 Laboratory Lead Results by EPA Method 6010B (mg/kg) sieved/cup	START XRF LEAD Results by EPA 6200 (mg/kg) sieved/cup	U.S. EPA Region 9 Laboratory Arsenic Results by EPA Method 6010B (mg/kg) sieved/cup	START XRF Arsenic Results by EPA 6200 (mg/kg) sieved/cup
103604-S01-6	XX-46	360	350	78	64
105105-S03-2	XB-07	340	340	77	60
116109-P03-CONF	AGX-10	260	340	61	62
103110-S04-2	XA-06	340	320	88	64
105306-S01-2	MX-02	220	310	51	40
101222-S02-CONF	SX-18	270	300	77	51
119302-S01-0	AAX-12	300	290	93	77
103109-S02-2	AHX-04	250	280	69	68
118703-S03-6	HX-11	260	250	56	36
110207-S01-2	AX-14	200	240	49	46
115703-S01-CONF	NX-01	170	220	96	79
115901-S03-6	DX-08	190	190	81	54
120210-P07-0	AEX-18	160	180	43	25
118703-S02-6	HX-08	150	170	37	27
120214-S02-2	AHX-14	110	130	37	30
115703--P04-0	AX-25	88	120	34	28
108110-S04-0	XX-24	95	120	26	21
808002-S02-2	AJX-04	100	120	47	45
106701-P02-0	AKX-05	92	120	15	17
107305-S01-2	AOX-03	120	120	36	25
107305-P02-6	AOX-15	130	120	23	16
106701-S04-6	AKX-06	180	230	42	38
102218-S01-2	AKX-16	76	96	31	16
102204-S02-0	GX-28	56	85	18	8
116112-P01-0	GX-17	67	78	18	15
107305-P01-0	AOX-08	30	48	8	5
Rest Area South	MX-10	38	47	19	17
113503-S01-2	XX-59	27	43	40	35
109408-P01-0	XX-05	28	42	16	12
120210-P08-2	AGX-01	23	39	36	28
840001-S04-0	ADX-05	30	36	22	ND
Top Soil/ 5-29-14	PX-04	17	27	13	10
Top Soil/5-30-14	PX-27	15	22	14	11
Sand/ 5-29-14	PX-05	13	21	18	15
Pit Run/5-29-14	PX-07	13	21	15	12
Base/5-29-14	PX-06	14	20	16	13
mg/kg = milligrams per kilograms			Ecology and Environment Inc. 2014		

**Figure 3-6**  
**XRF/ICP**  
**Lead**  
**Data Correlation**



**Figure 3- 7**  
**XRF/ICP**  
**Arsenic**  
**Data Correlation**



## Chapter 4

# 4 Conclusion

Between April 28 and July 30, 2014, the U.S. EPA Region 9 ERS, START, and ERRS contractors completed soil removal, capping and restoration at 29 properties where highly elevated lead and arsenic concentrations in surface soil were identified. The properties remediated include 13 properties identified in concurrent 2014 removal assessments. The removal actions in Eureka in 2014 were performed to reduce human health risks from exposure to elevated arsenic and lead concentrations in surface soils at residential properties.

Removal activities consisted of either excavation of soil up to 1 foot bgs followed by backfill or in-place capping without excavation. Approximately 195,000 square feet of contaminated soil at 29 residential locations was either excavated or capped. A total of 6,850 cubic yards of contaminated surface soil were excavated and stockpiled. A total of 7,963 cubic yards of backfill and cover material were used to complete the remediation. All materials used for backfill and cover were sampled, analyzed, and documented by the START to have metal concentrations (for the eight RCRA metals) well below U.S. EPA RSLs or below the documented soil background concentrations for the area.

A total of 63 private, state, and county-owned properties were sampled and assessed concurrently with the removal activities. Of the 63 newly properties assessed in 2014, 49 were found to have lead or arsenic at concentrations greater the project's action level.

Additional removal of contaminated surface soil at residential properties is scheduled by the U.S. EPA for the spring of 2015.

## Chapter 5

# 5 References

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- U.S. EPA, 2003. *Superfund Lead-Contaminated Residential Sites Handbook* (OSWER Directive 9285.7-90), August.
- U.S. EPA, 2004. *U.S. EPA CLP National Functional Guidelines for Inorganic Data Review* (OSWER 9240.1-45, EPA 540-R-04-004) October 2004.

## **5. References**

U.S. EPA, 2007. *Office of Solid Waste Method 6200, Field Portable X-Ray Fluorescence Spectrometry for the Determination of Elemental Concentrations in Soil and Sediment*, February 2007.

***Appendix A:***  
***Photographic Documentation***

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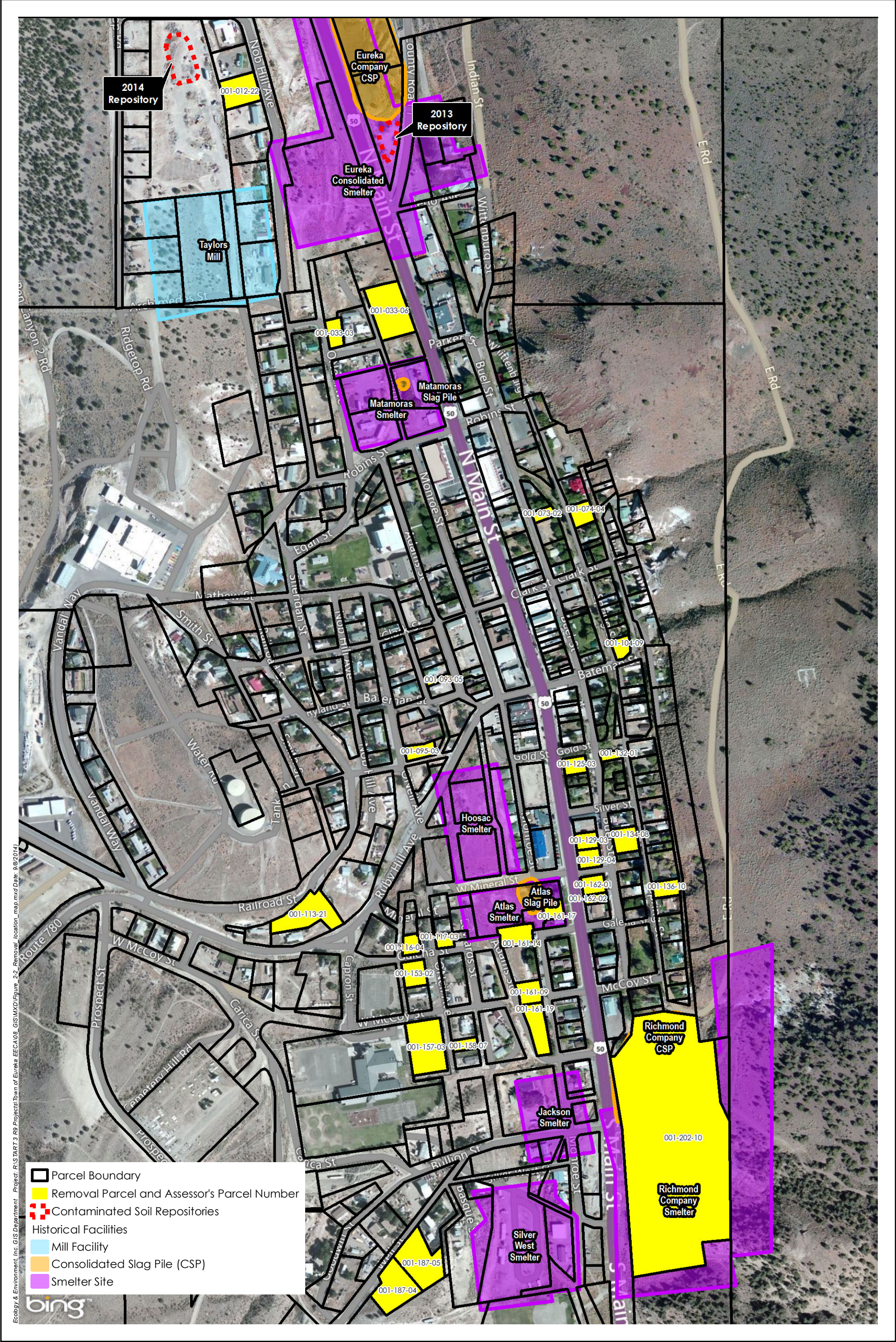
Link with  
Photos

***Appendix B1:***

**Removal Property Location Map**

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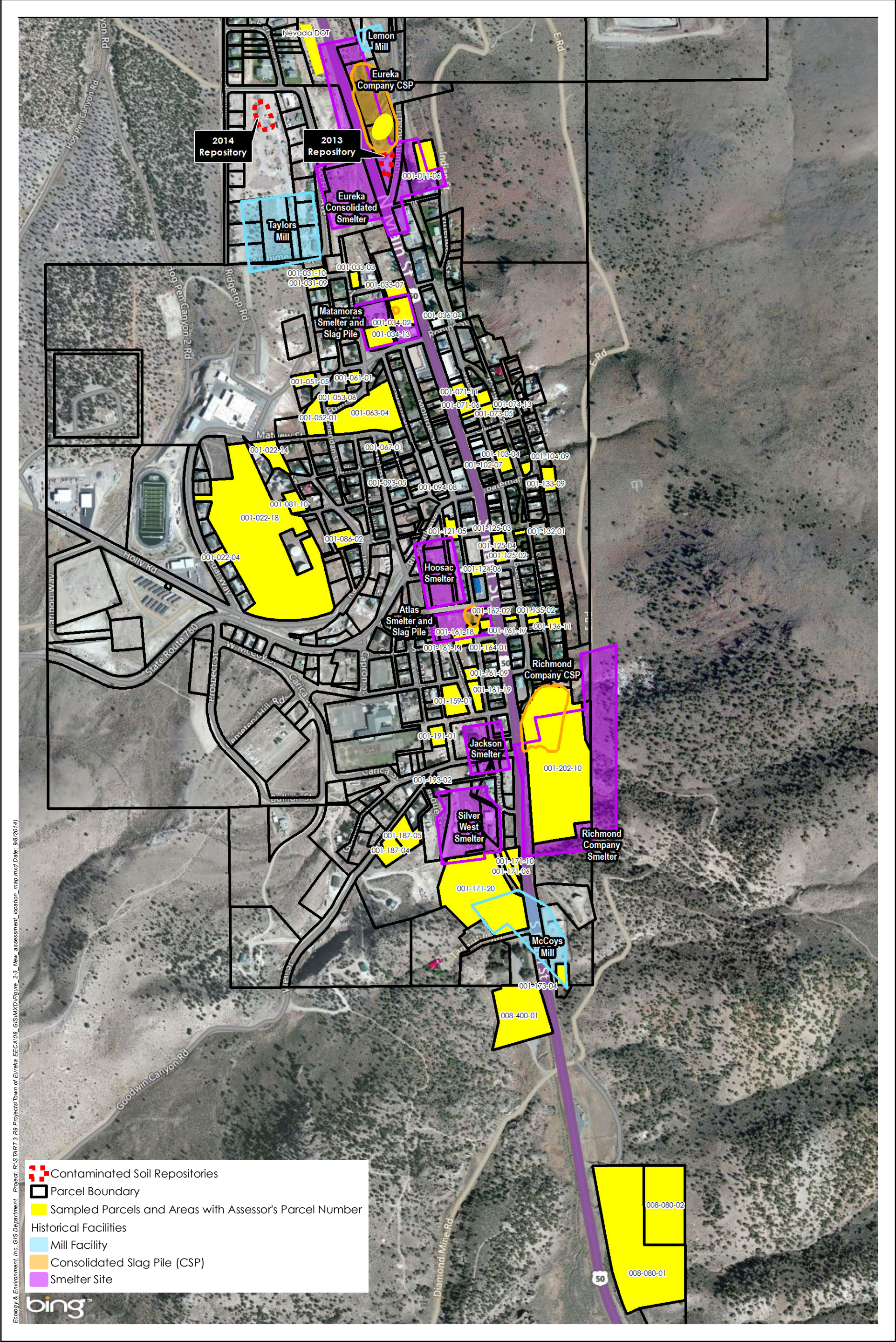


***Appendix B2:***

**Removal Assessment Location Map  
for New Properties**

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Ecology & Environment, Inc. GIS Department Project: R:\S PART 3 R9 Projects\Town of Eureka EECA08 GISMXD\Figure\_2-3\_New\_assessment\_location\_map.mxd Date: 9/8/2014



Figure B-2  
New Assessment Locations  
Eureka Smelter Sites  
Town of Eureka, Eureka County, Nevada





***Appendix C1:***  
***Summary Tables for Removal Properties***

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<b>Table 3-1-1 through 3-1-28</b>	<b>Removal Assessment Data for Eureka Removal Properties</b>
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**Table 3-1-1 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>Nob Hill (APN: 001-012-22)</b>				
101222-S01-0	S01	0-2 inches bgs	<b>800</b>	<b>120</b>
101222-S01-2	S01	2-6 inches bgs	<b>1,100</b>	<b>190</b>
101222-S01-6	S01	6-12 inches bgs	<b>1,600</b>	<b>310</b>
101222-S02-0	S02	0-2 inches bgs	<b>980</b>	<b>160</b>
101222-S02-2	S02	2-6 inches bgs	<b>1,200</b>	<b>190</b>
101222-S02-6	S02	6-12 inches bgs	<b>930</b>	<b>160</b>
101222-S03-0	S03	0-2 inches bgs	<b>1,600</b>	<b>270</b>
101222-S03-2	S03	2-6 inches bgs	<b>1,600</b>	<b>510</b>
101222-S03-6	S03	6-12 inches bgs	<b>2,000</b>	<b>370</b>
101222-S04-0	S04	0-2 inches bgs	<b>250</b>	<b>76</b>
101222-S04-2	S04	2-6 inches bgs	<b>260</b>	<b>79</b>
101222-S04-6	S04	6-12 inches bgs	<b>150</b>	<b>64</b>
101222-S05-0	S05	0-2 inches bgs	<b>410</b>	<b>75</b>
101222-S05-2	S05	2-6 inches bgs	<b>1,100</b>	<b>180</b>
101222-S05-6	S05	6-12 inches bgs	<b>980</b>	<b>180</b>
101222-S06-0	S06	0-2 inches bgs	<b>280</b>	<b>140</b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	5,216	1	193
S02	1,791	1	66
S03	6,023	1	223
S04	3,940	1	146
S05	721	1	27
S06	2,012	0.5	37

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-2 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North O'Neil (APN: 001-033-03)</b>				
103303-S01	S01	0 to 2 inches	<b><i>1,700</i></b>	<b><i>330</i></b>
103303-S01	S01	2 to 6 inches	<b><i>3,300</i></b>	<b><i>520</i></b>
103303-S01	S01	6 to 12 inches	<b><i>2,100</i></b>	<b><i>380</i></b>
103303-S02	S02	0 to 2 inches	<b><i>1,500</i></b>	<b><i>220</i></b>
103303-S02	S02	2 to 6 inches	<b><i>930</i></b>	<b><i>150</i></b>
103303-S02	S02	6 to 12 inches	<b><i>1,400</i></b>	<b><i>270</i></b>
103303-S03	S03	0 to 2 inches	<b><i>360</i></b>	<b><i>66</i></b>
103303-S03	S03	2 to 6 inches	<b><i>650</i></b>	<b><i>120</i></b>
103303-S03	S03	6 to 12 inches	<b><i>220</i></b>	<b><i>73</i></b>
103303-S04	S04	0 to 2 inches	<b><i>360</i></b>	<b><i>56</i></b>
103303-S04	S04	2 to 6 inches	<b><i>330</i></b>	<b><i>54</i></b>
103303-S04	S04	6 to 12 inches	<b><i>760</i></b>	<b><i>120</i></b>
103303-P01	P01	0 to 2 inches	<b><i>3,400</i></b>	<b><i>540</i></b>
103303-P01	P01	2 to 6 inches	<b><i>4,500</i></b>	<b><i>670</i></b>
103303-P01	P01	6 to 12 inches	<b><i>4,500</i></b>	<b><i>740</i></b>
103303-P02	P02	0 to 2 inches	<b><i>540</i></b>	<b><i>82</i></b>
103303-P02	P02	2 to 6 inches	<b><i>1,400</i></b>	<b><i>200</i></b>
103303-P02	P02	6 to 12 inches	<b><i>1,600</i></b>	<b><i>220</i></b>
103303-P03	P03	0 to 2 inches	<b><i>610</i></b>	<b><i>110</i></b>
103303-P03	P03	2 to 6 inches	<b><i>900</i></b>	<b><i>140</i></b>
103303-P03	P03	6 to 12 inches	<b><i>560</i></b>	<b><i>110</i></b>
103303-P04	P04	0 to 2 inches	<b><i>710</i></b>	<b><i>160</i></b>
103303-P04	P04	2 to 6 inches	<b><i>1,900</i></b>	<b><i>300</i></b>
103303-P04	P04	6 to 12 inches	<b><i>1,600</i></b>	<b><i>310</i></b>
103303-P05	P05	0 to 2 inches	<b><i>2,100</i></b>	<b><i>320</i></b>
103303-P05	P05	2 to 6 inches	<b><i>5,900</i></b>	<b><i>910</i></b>
103303-P05	P05	6 to 12 inches	<b><i>2,500</i></b>	<b><i>440</i></b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	1715	1	64
S02	1536	1	57
S03	660	1	24
S04	220	1	8
P01	886	1	33
P02	200	1	7
P03	200	1	7
P04	15	1	1
P05	25	1	1

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-3 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>North Main Street (APN: 001-033-06)</b>				
103306-S01-0	S01	0 to 2 inches	<b>980</b>	<b>170</b>
103306-S01-2	S01	2 to 6 inches	<b>910</b>	<b>140</b>
103306-S01-6	S01	6 to 12 inches	<b>2,300</b>	<b>360</b>
103306-S02-0	S02	0 to 2 inches	<b>1,600</b>	<b>220</b>
103306-S02-2	S02	2 to 6 inches	<b>1,700</b>	<b>230</b>
103306-S02-6	S02	6 to 12 inches	<b>1,900</b>	<b>280</b>
103306-S03-0	S03	0 to 2 inches	<b>9,100</b>	<b>1250</b>
103306-S03-2	S03	2 to 6 inches	<b>11,000</b>	<b>1600</b>
103306-S03-6	S03	6 to 12 inches	<b>16,000</b>	<b>2400</b>
103306-S04-0	S04	0 to 2 inches	<b>1,600</b>	<b>270</b>
Decision Unit or Sample Location	Square Feet of Contamination Over SSL*	Estimated Depth of Contamination (feet)**	Estimated Cubic Yards of Contamination Over SSL	
S01	1,557	1	58	
S02	2,159	1	80	
S03	2,812	1	104	
S04	519	1	19	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-4 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North Spring (APN: 001-074-04)</b>				
107404-S01-0	S01	0 to 2 inches	<b>920</b>	<b>96</b>
107404-S01-2	S01	2 to 6 inches	<b>1,700</b>	<b>220</b>
107404-S01-6	S01	6 to 12 inches	<b>2,400</b>	<b>320</b>
Not Sampled	S02	0 to 2 inches	No Sample	No Sample
107404-S02-2	S02	2 to 6 inches	<b>1,400</b>	<b>140</b>
107404-S02-6	S02	6 to 12 inches	<b>3,500</b>	<b>500</b>
107404-S03-0	S03	0 to 2 inches	<b>1,700</b>	<b>210</b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	5,555	1	206	
S02	3,930	1	146	
S03	2,030	1	75	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.



**Table 3-1-5 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North Edwards (APN :001-093-05)</b>				
109305-S01-0	S01	0 to 2 inches	<b><i>1,300</i></b>	<b><i>170</i></b>
109305-S01-2	S01	2 to 6 inches	<b><i>1,800</i></b>	<b><i>280</i></b>
109305-S01-6	S01	6 to 12 inches	<b><i>3,200</i></b>	<b><i>490</i></b>
109305-S02-2	S02	0 to 2 inches	<b><i>1,300</i></b>	<b><i>170</i></b>
109305-S02-4	S02	2 to 6 inches	<b><i>2,000</i></b>	<b><i>320</i></b>
109305-S02-6	S02	6 to 12 inches	<b><i>2,100</i></b>	<b><i>320</i></b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Contamination Over SSL*</b>	<b>Estimated Depth of Contamination (feet) **</b>	<b>Estimated Cubic Yards of Contamination Over SSL</b>	
S01	374	1	14	
S02	734	1	27	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

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**Table 3-1-6 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North O'Neil (APN: 001-095-03)</b>				
109503-S01-0	S01	0-2 inches bgs	<b>1,100</b>	<b>160</b>
109503-S01-2	S01	2-6 inches bgs	<b>1,400</b>	<b>270</b>
109503-S01-6	S01	6-12 inches bgs	<b>1,100</b>	<b>210</b>
109503-S02-0	S02	0-2 inches bgs	<b>4,100</b>	<b>690</b>
109503-S02-2	S02	2-6 inches bgs	<b>3,400</b>	<b>700</b>
109503-S02-6	S02	6-12 inches bgs	<b>2,700</b>	<b>500</b>
109503-S03-0	S03	0-2 inches bgs	<b>1,700</b>	<b>270</b>
109503-S03-2	S03	2-6 inches bgs	<b>1,500</b>	<b>240</b>
109503-S03-6	S03	6-12 inches bgs	<b>1,300</b>	<b>230</b>
109503-S04-0	S04	0-2 inches bgs	<b>3,000</b>	<b>480</b>
109503-S04-2	S04	2-6 inches bgs	<b>3,200</b>	<b>510</b>
109503-S03-6	S04	6-12 inches bgs	<b>2,000</b>	<b>300</b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	2,473	1	92	
S02	2,560	1	95	
S03	1,741	1	64	
S03	116	1	4	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-7 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>North Spring Street (APN: 001-104-09)</b>				
110409-S01-0	S01	0 to 2 inches	250	69
110409-S01-2	S01	2 to 6 inches	400	55
110409-S01-6	S01	6 to 12 inches	<b>3,100</b>	<b>330</b>
110409-S02-0	S02	0 to 2 inches	<b>2,200</b>	<b>330</b>
110409-S02-2	S02	2 to 6 inches	<b>2,300</b>	<b>160</b>
110409-S02-6	S02	6 to 12 inches	<b>1,900</b>	<b>150</b>
110409-S03-0	S03	0 to 2 inches	<b>750</b>	<b>99</b>
110409-S03-2	S03	2 to 6 inches	<b>5,600</b>	<b>800</b>
110409-S03-6	S03	6 to 12 inches	<b>2,700</b>	<b>390</b>
110409-S04-0	S04	0 to 2 inches	<b>1,500</b>	<b>160</b>
110409-P01-0	P01	0 to 2 inches	<b>1,500</b>	<b>150</b>
Decision Unit or Sample Location	Square Feet of Contamination Over SSL*	Estimated Depth of Contamination (feet) **	Estimated Cubic Yards of Contamination Over SSL	
S01	1,521	1	56	
S02	498	1	18	
S03	1,268	1	47	
S04	227	1	8	
P01	400	1	15	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-8 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>Railroad (APN: 001-113-21)</b>				
111321-S01-0	S01	0-2 inches bgs	<b>1,100</b>	<b>150</b>
111321-S01-2	S01	2-6 inches bgs	<b>2,200</b>	<b>330</b>
111321-S01-6	S01	6-12 inches bgs	<b>1,700</b>	<b>210</b>
111321-S02-0	S02	0-2 inches bgs	62	15
111321-S02-2	S02	2-6 inches bgs	100	17
111321-S02-6	S02	6-12 inches bgs	160	27
111321-S03-0	S03	0-2 inches bgs	170	27
111321-S04-0	S04	0-2 inches bgs	350	49
111321-G01-0	G01	0-2 inches bgs	<b>690</b>	<b>94</b>
111321-G01-2	G01	2-6 inches bgs	<b>420</b>	58
111321-G01-6	G01	6-12 inches bgs	56	<b>380</b>
111320-G02-0	G02	0-2 inches bgs	<b>440</b>	46
111321-G02-2	G02	2-6 inches bgs	150	32
111321-G02-6	G02	6-12 inches bgs	160	24
111321-G03-0	G03	0-2 inches bgs	<b>830</b>	<b>110</b>
111321-G03-2	G03	2-6 inches bgs	<b>730</b>	<b>83</b>
111321-G03-6	G03	6-12 inches bgs	<b>870</b>	<b>100</b>
111321-G04-0	G04	0-2 inches bgs	<b>450</b>	<b>180</b>
111321-G04-2	G04	2-6 inches bgs	<b>2,900</b>	<b>390</b>
111321-G04-6	G04	6-12 inches bgs	<b>790</b>	<b>90</b>
111321-G05-0	G05	0-2 inches bgs	<b>1,600</b>	<b>200</b>
111321-G05-2	G05	2-6 inches bgs	<b>1,500</b>	<b>220</b>
111321-G05-6	G05	6-12 inches bgs	<b>440</b>	<b>72</b>
111321-P1-0	P1	0-2 inches bgs	86	40
111321-P1-2	P1	2-6 inches bgs	90	40
111321-P1-6	P1	6-12 inches bgs	85	32

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	1,241	1	46
S02	0	0	0
S03	3,439	1	127
S04	2,990	1	111
G01 through G05	2,000	1	74
P01	0	0	0

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-9 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>South O'Neil (APN: 001-116-04)</b>				
111604-S01-0	S01	0 to 2 inches	320	<i>77</i>
111604-S01-2	S01	2 to 6 inches	<i>1,600</i>	<b>220</b>
111604-S01-6	S01	6 to 12 inches	<b>990</b>	<b>190</b>
111604-S02-0	S02	0 to 2 inches	<b>580</b>	<b>85</b>
111604-S02-2	S02	2 to 6 inches	<b>960</b>	<b>140</b>
111604-S02-6	S02	6 to 12 inches	<i>1,700</i>	<b>250</b>
Decision Unit or Sample Location	Square Feet of Contamination Over SSL*	Estimated Depth of Contamination (feet) **	Estimated Cubic Yards of Contamination Over SSL	
S01	872	1	32	
S02	2,875	1	106	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-10 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>South Edwards (APN: 001-117-03)</b>				
111703-S01-0	S01	0 to 2 inches	<b><i>1,600</i></b>	<b><i>200</i></b>
111703-S01-2	S01	2 to 6 inches	<b><i>4,800</i></b>	<b><i>760</i></b>
111703-S01-6	S01	6 to 12 inches	<b><i>2,900</i></b>	<b><i>430</i></b>
111703-S02-0	S02	0 to 2 inches	<b><i>2,800</i></b>	<b><i>390</i></b>
111703-S02-2	S02	2 to 6 inches	<b><i>800</i></b>	<b><i>130</i></b>
111703-S02-6	S02	6 to 12 inches	<b><i>520</i></b>	<b><i>100</i></b>
111703-S03-0	S03	0 to 2 inches	<b><i>2,200</i></b>	<b><i>350</i></b>
111703-S03-2	S03	2 to 6 inches	<b><i>4,800</i></b>	<b><i>710</i></b>
111703-S03-6	S03	6 to 12 inches	<b><i>2,600</i></b>	<b><i>360</i></b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	2,278	1	84
S02	1,478	1	55
S03	1,329	1	49

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-11 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>South Main (APN: 001-125-03)</b>				
112503-S01-0	S01	0-2 inches bgs	<b>690</b>	<b>77</b>
112503-S01-2	S01	2-6 inches bgs	<b>1,500</b>	<b>200</b>
112503-S01-6	S01	6-12 inches bgs	<b>2,600</b>	<b>330</b>
112503-S02-0	S02	0-2 inches bgs	<b>2,700</b>	<b>390</b>
112503-S02-2	S02	2-6 inches bgs	<b>3,500</b>	<b>440</b>
112503-S02-6	S02	6-12 inches bgs	<b>3,600</b>	<b>550</b>
112503-S03-0	S03	0-2 inches bgs	<b>1,700</b>	<b>230</b>
112503-S03-2	S03	2-6 inches bgs	<b>2,200</b>	<b>290</b>
112503-S03-6	S03	6-12 inches bgs	<b>3,800</b>	<b>520</b>
112503-S04-0	S04	0-2 inches bgs	<b>670</b>	<b>97</b>
112503-S04-2	S04	2-6 inches bgs	<b>1,400</b>	<b>200</b>
112503-S04-6	S04	6-12 inches bgs	<b>2,800</b>	<b>420</b>
112503-S05-0	S05	0-2 inches bgs	<b>1,200</b>	<b>170</b>
112503-S05-2	S05	2-6 inches bgs	<b>1,200</b>	<b>170</b>
112503-S05-6	S05	6-12 inches bgs	<b>2,100</b>	<b>320</b>
112503-S06-0	S06	0-2 inches bgs	<b>2,400</b>	<b>280</b>
112503-S06-2	S06	2-6 inches bgs	<b>3,600</b>	<b>400</b>
112503-S06-6	S06	6-12 inches bgs	<b>3,500</b>	<b>490</b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	816	1	30
S02	1,812	1	67
S03	2,474	1	92
S04	1,350	1	50
S05	1,305	1	48
S06	1,505	1	56

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-12 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>South Main (APN: 001-129-03)</b>				
112903-S01-0	S01	0-2 inches bgs	200	<i>270</i>
112903-S01-2	S01	2-6 inches bgs	<b><i>6,800</i></b>	<b>100</b>
112903-S01-6	S01	6-12 inches bgs	<b>1,300</b>	<b>210</b>
112903-S02-0	S02	0-2 inches bgs	<b>2,000</b>	<b>280</b>
112903-S02-2	S02	2-6 inches bgs	<b>2,300</b>	<b>350</b>
112903-S02-6	S02	6-12 inches bgs	<b>3,000</b>	<b>380</b>
112903-S03-0	S03	0-2 inches bgs	<b>1,300</b>	<b>200</b>
112903-S03-2	S03	2-6 inches bgs	<b>2,900</b>	<b>460</b>
112903-S03-6	S03	6-12 inches bgs	<b>1,900</b>	<b>280</b>
112903-S04-0	S04	0-2 inches bgs	<b>2,000</b>	<b>350</b>
112903-S04-2	S04	2-6 inches bgs	<b>2,800</b>	<b>480</b>
112903-S04-6	S04	6-12 inches bgs	<b>3,900</b>	<b>660</b>
112903-P1-0	P1	0-2 inches bgs	<b>830</b>	<b>150</b>
112903-P1-2	P1	2-6 inches bgs	<b>2,200</b>	<b>290</b>
112903-P1-6	P1	6-12 inches bgs	<b>1,200</b>	<b>190</b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	616	1	23	
S02	1,085	1	40	
S03	969	1	36	
S04	2,359	1	87	
P01	25	1	1	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.



**Table 3-1-13 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>East Mineral St. (APN: 001-129-04)</b>				
112904-S01-0	S01	0-2 inches bgs	<b>530</b>	<b>110</b>
112904-S01-2	S01	2-6 inches bgs	230	57
112904-S01-6	S01	6-12 inches bgs	180	48
112904-S02-0	S02	0-2 inches bgs	<b>1,000</b>	<b>190</b>
112904-S02-2	S02	2-6 inches bgs	<b>5,800</b>	<b>980</b>
112904-S02-6	S02	6-12 inches bgs	<b>13,000</b>	<b>2600</b>
112904-S03-0	S03	0-2 inches bgs	<b>1,100</b>	<b>170</b>
112904-S03-2	S03	2-6 inches bgs	<b>2,400</b>	<b>390</b>
112904-S03-6	S03	6-12 inches bgs	<b>4,800</b>	<b>830</b>
112904-S04-0	S04	0-2 inches bgs	<b>2,300</b>	<b>320</b>
112904-S04-2	S04	2-6 inches bgs	<b>4,500</b>	<b>710</b>
112904-S04-6	S04	6-12 inches bgs	<b>4,700</b>	<b>820</b>
112904-S05-0	S05	0-2 inches bgs	<b>1,600</b>	<b>260</b>
112904-S05-2	S05	2-6 inches bgs	<b>1,300</b>	<b>200</b>
112904-S05-6	S05	6-12 inches bgs	270	<b>84</b>
112904-S06-0	S06	0-2 inches bgs	66	31
112904-S06-2	S06	2-6 inches bgs	120	29
112904-S06-6	S06	6-12 inches bgs	<b>590</b>	<b>130</b>

Decision Unit or Sample Location	Square Feet of Arsenic and Lead Over SSL*	Estimated Depth of Arsenic and Lead Over SSL (feet) **	Estimated Cubic Yards of Arsenic and Lead Over SSL
S01	2,328	0.5	43
S02	1,515	1	56
S03	549	1	20
S04	1,294	1	48
S05	129	1	5
S06	929	1	34

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-14 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>South Buel St. (APN: 001-132-01)</b>				
113201-S01-0	S01	0-2 inches bgs	<b>1,500</b>	<b>180</b>
113201-S01-2	S01	2-6 inches bgs	<b>1,600</b>	<b>340</b>
113201-S01-6	S01	6-12 inches bgs	<b>2,300</b>	<b>330</b>
113201-S02-0	S02	0-2 inches bgs	<b>2,300</b>	<b>220</b>
113201-S02-2	S02	2-6 inches bgs	<b>1,800</b>	<b>170</b>
113201-S02-6	S02	6-12 inches bgs	<b>3,700</b>	<b>550</b>
113201-S03-0	S03	0-2 inches bgs	<b>980</b>	<b>120</b>
113201-S03-2	S03	2-6 inches bgs	<b>1,900</b>	<b>100</b>
113201-S03-6	S03	6-12 inches bgs	<b>2,300</b>	<b>300</b>

Decision Unit or Sample Location	Square Feet of Arsenic and Lead Over SSL*	Estimated Depth of Arsenic and Lead Over SSL (feet) **	Estimated Cubic Yards of Arsenic and Lead Over SSL
S01	1,214	1	45
S02	608	1	23
S03	1,970	1	73

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-15 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>South Spring St. (APN: 001-134-08)</b>				
113408-S01-0	S01	0-2 inches bgs	370	69
113408-S01-2	S01	2-6 inches bgs	<b>760</b>	<b>110</b>
113408-S01-6	S01	6-12 inches bgs	<b>1,700</b>	<b>240</b>
113408-S02-0	S02	0-2 inches bgs	<b>1,600</b>	<b>230</b>
113408-S02-2	S02	2-6 inches bgs	<b>2,100</b>	<b>240</b>
113408-S02-6	S02	6-12 inches bgs	<b>1,800</b>	<b>240</b>
113408-S03-0	S03	0-2 inches bgs	<b>1,300</b>	<b>200</b>
113408-S03-2	S03	2-6 inches bgs	<b>1,900</b>	<b>240</b>
113408-S03-6	S03	6-12 inches bgs	<b>9,500</b>	<b>2100</b>
113408-S04-0	S04	0-2 inches bgs	<b>890</b>	<b>160</b>
113408-S04-2	S04	2-6 inches bgs	<b>1,200</b>	<b>210</b>
113408-S04-6	S04	6-12 inches bgs	<b>4,000</b>	<b>630</b>
113408-S05-0	S05	0-2 inches bgs	<b>870</b>	<b>130</b>
113408-S05-2	S05	2-6 inches bgs	<b>910</b>	<b>110</b>
113408-S05-6	S05	6-12 inches bgs	<b>1,300</b>	<b>190</b>
113408-S06-0	S06	0-2 inches bgs	<b>600</b>	<b>100</b>
113408-S06-2	S06	2-6 inches bgs	<b>550</b>	<b>94</b>
113408-S06-6	S06	6-12 inches bgs	<b>1,900</b>	<b>260</b>
113408-P01-0	P01	0-2 inches bgs	Gravel	Gravel
113408-P01-2	P01	2-6 inches bgs	<b>2,600</b>	<b>310</b>
113408-P01-6	P01	6-12 inches bgs	<b>3,500</b>	<b>440</b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	1,230	1	46
S02	638	1	24
S03	919	1	34
S04	1,088	1	40
S05	1,396	1	52
S06	1,756	1	65
P01	200	1	7

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-16 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>South Spring St. (APN: 001-136-10)</b>				
113610-S01-0	S01	0-2 inches bgs	<b><i>2,200</i></b>	<b><i>710</i></b>
113610-S01-2	S01	2-6 inches bgs	<b><i>3,300</i></b>	<b><i>390</i></b>
113610-S01-6	S01	6-12 inches bgs	<b><i>3,300</i></b>	<b><i>450</i></b>
113610-S02-0	S02	0-2 inches bgs	<b><i>2,200</i></b>	<b><i>240</i></b>
113610-S02-2	S02	2-6 inches bgs	<b><i>2,300</i></b>	<b><i>290</i></b>
113610-S02-6	S02	6-12 inches bgs	<b><i>2,500</i></b>	<b><i>450</i></b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	2,566	1	95
S02	1,397	1	52

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-17 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>South O'Neil (APN: 001-153-02)</b>				
115302-Grab-1	Grab	0 to 2 inches	36	16
115302-S01-0	S01	0 to 2 inches	740	130
115302-S01-2	S01	2 to 6 inches	1,100	160
115302-S01-6	S01	6 to 12 inches	500	110
115302-S02-0	S02	0 to 2 inches	690	110
115302-S02-2	S02	2 to 6 inches	1,200	110
115302-S02-6	S02	6 to 12 inches	930	140
115302-S03-0	S03	0 to 2 inches	700	100
115302-S03-2	S03	2 to 6 inches	2,300	370
115302-S03-6	S03	6 to 12 inches	4,400	800
115302-S04-0	S04	0 to 2 inches	980	100
115302-S04-2	S04	2 to 6 inches	1,900	170
115302-S04-6	S04	6 to 12 inches	560	78
115302-S05-0	S05	0 to 2 inches	960	120
115302-S05-2	S05	2 to 6 inches	2,100	290
115302-S05-6	S05	6 to 12 inches	1,300	200
115302-S06-0	S06	0 to 2 inches	1,200	160
115302-S06-2	S06	2 to 6 inches	2,000	300
115302-S06-6	S06	6 to 12 inches	1,600	260
115302-P1-0	P1	0 to 2 inches	130	19.5
115302-P1-6	P1	6 to 12 inches	400	54.1
115302-P2-0	P2	0 to 2 inches	94	15.6
115302-P2-6	P2	6 to 12 inches	250	36
115302-P3-0	P3	0 to 2 inches	65	11.3
115302-P3-6	P3	6 to 12 inches	130	22.7
115302-P4-0	P4	0 to 2 inches	67	9.1
115302-P4-6	P4	6 to 12 inches	540	84.2
115302-P5-0	P5	0 to 2 inches	240	40.7
115302-P5-6	P5	6 to 12 inches	400	68.9
115302-P6-0	P6	0 to 2 inches	150	21.9
115302-P6-6	P6	6 to 12 inches	1,200	200
115302-P7-0	P7	0 to 2 inches	100	16.4
115302-P7-6	P7	6 to 12 inches	910	130
115302-P8-0	P8	0 to 2 inches	470	67.4
115302-P8-6	P8	6 to 12 inches	1,000	140
115302-P9-0	P9	0 to 2 inches	80	13.5
115302-P9-6	P9	6 to 12 inches	700	89
115302-P10-0	P10	0 to 2 inches	610	96
115302-P11-0	P11	0 to 2 inches	130	26.3
115302-P11-6	P11	6 to 12 inches	1,500	240
115302-P12-0	P12	0 to 2 inches	49	6.8
115302-P12-6	P12	6 to 12 inches	3,000	450
115302-P13-0	P13	0 to 2 inches	210	34.1
115302-P13-6	P13	6 to 12 inches	370	43.6
115302-P14-0	P14	0 to 2 inches	340	54.4
115302-P14-6	P14	6 to 12 inches	460	51.9
115302-P15-0	P15	0 to 2 inches	140	24.1
115302-P15-6	P15	6 to 12 inches	280	30.6
115302-Grab-0	P15	0 to 2 inches	280	30.6

Notes:

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

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**Table 3-1-17 (Continued) Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Decision Unit or Sample Location	Square Feet of Arsenic and Lead Over SSL *	Estimated Depth of Arsenic and Lead Over SSL (feet) **	Estimated Cubic Yards of Arsenic and Lead Over SSL
<b>South O'Neil (APN: 001-153-02)</b>			
Grab	NA	0	0
S01	646	1	24
S02	758	1	28
S03	2,909	1	108
S04	1,824	1	68
S05	3,096	1	115
S06	2,532	1	94
15 planters (P1 through P15)	NA	1	NA

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-18 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>West McCoy St. (APN: 001-157-03)</b>				
115703-P01-0	P01	0-2 inches bgs	<b><i>1,400</i></b>	<b><i>240</i></b>
115703-P01-2	P01	2-6 inches bgs	<b><i>1,300</i></b>	<b><i>210</i></b>
115703-P01-6	P01	6-12 inches bgs	<b><i>1,700</i></b>	<b><i>270</i></b>
115703-S01-0	S01	0-2 inches bgs	<b><i>6,900</i></b>	<b><i>1000</i></b>
115703-S01-2	S01	2-6 inches bgs	<b><i>4,700</i></b>	<b><i>720</i></b>
115703-S01-6	S01	6-12 inches bgs	<b><i>3,200</i></b>	<b><i>530</i></b>
115703-S02-0	S02	0-2 inches bgs	<b><i>10,000</i></b>	<b><i>1900</i></b>
115703-S02-2	S02	2-6 inches bgs	<b><i>1,400</i></b>	<b><i>250</i></b>
115703-S02-6	S02	6-12 inches bgs	<b><i>1,100</i></b>	<b><i>210</i></b>
115703-S03-0	S03	0-2 inches bgs	<b><i>1,500</i></b>	<b><i>260</i></b>
115703-S03-2	S03	2-6 inches bgs	<b><i>1,300</i></b>	<b><i>210</i></b>
115703-S03-6	S03	6-12 inches bgs	<b><i>1,100</i></b>	<b><i>200</i></b>
115703-S04-0	S04	0-2 inches bgs	<b><i>1,200</i></b>	<b><i>170</i></b>
115703-S04-2	S04	2-6 inches bgs	<b><i>3,200</i></b>	<b><i>430</i></b>
115703-S04-6	S04	6-12 inches bgs	<b><i>3,300</i></b>	<b><i>500</i></b>
115703-S05-0	S05	0-2 inches bgs	<b><i>440</i></b>	<b><i>84</i></b>
115703-S05-2	S05	2-6 inches bgs	<b><i>100</i></b>	<b><i>520</i></b>
115703-S05-6	S05	6-12 inches bgs	<b><i>9,400</i></b>	<b><i>1700</i></b>
115703-P03-0	P03	0-2 inches bgs	<b><i>680</i></b>	<b><i>84</i></b>
115703-P03-2	P03	2-6 inches bgs	<b><i>1,400</i></b>	<b><i>190</i></b>
115703-P03-6	P03	6-12 inches bgs	<b><i>770</i></b>	<b><i>100</i></b>
115703-P04-0	P04	0-2 inches bgs	<b><i>120</i></b>	<b><i>28</i></b>
115703-P04-2	P04	2-6 inches bgs	<b><i>120</i></b>	<b><i>31</i></b>
115703-P04-6	P04	6-12 inches bgs	<b><i>120</i></b>	<b><i>32</i></b>

Decision Unit or Sample Location	Square Feet of Arsenic and Lead Over SSL *	Estimated Depth of Arsenic and Lead Over SSL (feet) **	Estimated Cubic Yards of Arsenic and Lead Over SSL
S01	5,382	1	199
S02	14,753	1	546
S03	520	1	19
S04	1,676	1	62
S05	511	1	19
P01	100	1	4
P03	100	1	4
P04	100	0	0

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.



**Table 3-1-19 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>South Edwards St. (APN: 001-158-07)</b>				
115807-S01-0	S01	0-2 inches bgs	<b>1,300</b>	<b>190</b>
115807-S01-2	S01	2-6 inches bgs	<b>1,100</b>	<b>180</b>
115807-S01-6	S01	6-12 inches bgs	<b>2,700</b>	<b>490</b>
115807-S02-0	S02	0-2 inches bgs	<b>710</b>	<b>180</b>
115807-S02-2	S02	2-6 inches bgs	<b>2,000</b>	<b>360</b>
115807-S02-6	S02	6-12 inches bgs	<b>920</b>	<b>160</b>
115807-S03-0	S03	0-2 inches bgs	<b>2,200</b>	<b>390</b>
115807-S03-2	S03	2-6 inches bgs	<b>6,900</b>	<b>1200</b>
115807-S03-6	S03	6-12 inches bgs	<b>10,000</b>	<b>2000</b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	476	1	18
S02	2,211	1	82
S03	488	1	18

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

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**Table 3-1-20 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>South Monroe (APN: 001-161-09)</b>				
116109-S01-0	S01	0-2 inches bgs	<b>2,000</b>	<b>350</b>
116109-S01-2	S01	2-6 inches bgs	<b>2,100</b>	<b>340</b>
116109-S01-6	S01	6-12 inches bgs	<b>1,500</b>	<b>250</b>
116109-S02-0	S02	0-2 inches bgs	400	51
116109-S02-2	S02	2-6 inches bgs	<b>920</b>	<b>130</b>
116109-S02-6	S02	6-12 inches bgs	<b>440</b>	60
116109-S03-0	S03	0-2 inches bgs	<b>8,400</b>	<b>1500</b>
116109-S04-0	S04	0-2 inches bgs	<b>5,500</b>	<b>850</b>
116109-S04-2	S04	2-6 inches bgs	<b>3,200</b>	<b>480</b>
116109-S04-6	S04	6-12 inches bgs	<b>670</b>	<b>130</b>
116109-P01-0	P01	0-2 inches bgs	<b>1,100</b>	<b>160</b>
116109-P01-2	P01	2-6 inches bgs	<b>3,800</b>	<b>520</b>
116109-P01-6	P01	6-12 inches bgs	<b>5,500</b>	<b>670</b>
116109-P02-0	P02	0-2 inches bgs	<b>1,600</b>	<b>220</b>
116109-P02-2	P02	2-6 inches bgs	100	55
116109-P02-6	P02	6-12 inches bgs	150	<b>77</b>
116109-P03-0	P03	0-2 inches bgs	<b>6,400</b>	<b>1000</b>
116109-P03-2	P03	2-6 inches bgs	<b>1,500</b>	<b>230</b>
116109-P03-6	P03	6-12 inches bgs	<b>1,400</b>	<b>200</b>

Decision Unit or Sample Location	Square Feet of Arsenic and Lead Over SSL *	Estimated Depth of Arsenic and Lead Over SSL (feet) **	Estimated Cubic Yards of Arsenic and Lead Over SSL
S01	2,315	1	86
S02	531	1	20
S03	2,923	1	108
S04	199	1	7
P01	400	1	15
P02	216	1	8
P03	100	1	4

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

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Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-21 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>South Monroe (APN: 001-161-14)</b>				
116114-S01-0	S01	0-2 inches bgs	<b><u>3,500</u></b>	<b><u>540</u></b>
116114-S01-2	S01	2-6 inches bgs	<b><u>4,700</u></b>	<b><u>780</u></b>
116114-S01-6	S01	6-12 inches bgs	<b><u>7,600</u></b>	<b><u>1,300</u></b>
116114-S02-0	S02	0-2 inches bgs	<b><u>6,200</u></b>	<b><u>970</u></b>
116114-S02-2	S02	2-6 inches bgs	<b><u>10,000</u></b>	<b><u>2,300</u></b>
116114-S02-6	S02	6-12 inches bgs	<b><u>20,000</u></b>	<b><u>4,000</u></b>
116114-S03-0	S03	0-2 inches bgs	<b><u>1,900</u></b>	<b><u>310</u></b>
116114-S03-2	S03	2-6 inches bgs	<b><u>2,600</u></b>	<b><u>380</u></b>
116114-S03-6	S03	6-12 inches bgs	<b><u>2,400</u></b>	<b><u>390</u></b>
116114-S04-0	S04	0-2 inches bgs	<b><u>1,900</u></b>	<b><u>300</u></b>
116114-S04-2	S04	2-6 inches bgs	<b><u>390</u></b>	<b><u>63</u></b>
116114-S04-6	S04	6-12 inches bgs	<b><u>450</u></b>	<b><u>93</u></b>
116114-S05-0	S05	0-2 inches bgs	<b><u>6,600</u></b>	<b><u>1,200</u></b>
116114-S05-2	S05	2-6 inches bgs	<b><u>11,000</u></b>	<b><u>3,700</u></b>
116114-S05-6	S05	6-12 inches bgs	<b><u>10,000</u></b>	<b><u>2,800</u></b>
Decision Unit or Sample Location	Square Feet of Arsenic and Lead Over SSL *	Estimated Depth of Arsenic and Lead Over SSL (feet) **	Estimated Cubic Yards of Arsenic and Lead Over SSL	
S01	1,600	1	59	
S02	1,517	1	56	
S03	1,476	1	55	
S04	1,575	1	58	
S05	1,004	1	37	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-22 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>South Main (APN: 001-161-17)</b>				
116117-S01-0	S01	0-2 inches bgs	<b><u>6,000</u></b>	<b><u>840</u></b>
116117-S01-2	S01	2-6 inches bgs	<b><u>6,800</u></b>	<b><u>1200</u></b>
116117-S01-6	S01	6-12 inches bgs	<b><u>11,000</u></b>	<b><u>4000</u></b>
116117-S02-0	S02	0-2 inches bgs	<b><u>5,300</u></b>	<b><u>650</u></b>
116117-S02-2	S02	2-6 inches bgs	<b><u>5,400</u></b>	<b><u>760</u></b>
116117-S02-6	S02	6-12 inches bgs	<b><u>4,100</u></b>	<b><u>670</u></b>
116117-S03-0	S03	0-2 inches bgs	<b><u>8,500</u></b>	<b><u>2400</u></b>
116117-S03-2	S03	2-6 inches bgs	<b><u>11,000</u></b>	<b><u>5100</u></b>
116117-S03-6	S03	6-12 inches bgs	<b><u>20,000</u></b>	<b><u>6900</u></b>

Decision Unit or Sample Location	Square Feet of Arsenic and Lead Over SSL*	Estimated Depth of Arsenic and Lead Over SSL (feet) **	Estimated Cubic Yards of Arsenic and Lead Over SSL
S01	1,579	1	58
S02	1,960	1	73
S03	2,738	1	101

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-23 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>South Monroe (APN: 001-161-19)</b>				
116110-S01-0	10-S01	0 to 2 inches	<u><b>3,600</b></u>	<b>560</b>
116110-S01-2	10-S01	2 to 6 inches	<u><b>5,600</b></u>	<b>820</b>
116110-S01-6	10-S01	6 to 12 inches	<u><b>6,800</b></u>	<b>1100</b>
116111-S01-0	11-S01	0 to 2 inches	<u><b>4,200</b></u>	<b>690</b>
116111-S01-2	11-S01	2 to 6 inches	<u><b>4,800</b></u>	<b>830</b>
116111-S01-6	11-S01	6 to 12 inches	<u><b>3,900</b></u>	<b>650</b>
116111-S02-0	11-S02	0 to 2 inches	<b>950</b>	<b>150</b>
116111-S02-2	11-S02	2 to 6 inches	<u><b>3,500</b></u>	<b>630</b>
116111-S02-6	11-S02	6 to 12 inches	<b>560</b>	<b>130</b>
116112-S01-0	12-S01	0 to 2 inches	<b>790</b>	<b>110</b>
116112-S01-2	12-S01	2 to 6 inches	<u><b>1,600</b></u>	<b>260</b>
116112-S01-6	12-S01	6 to 12 inches	<u><b>1,300</b></u>	<b>200</b>
116112-S02-0	12-S02	0 to 2 inches	<u><b>1,700</b></u>	<b>260</b>
116112-S02-2	12-S02	2 to 6 inches	<u><b>2,700</b></u>	<b>410</b>
116112-S02-6	12-S02	6 to 12 inches	<u><b>4,300</b></u>	<b>670</b>
116112-P01-0	P01	0 to 2 inches	<b>190</b>	<b>35</b>
116112-P01-2	P01	2 to 6 inches	<b>78</b>	<b>15</b>
116112-P01-6	P01	6 to 12 inches	<b>110</b>	<b>15</b>
116112-P02-0	P02	0 to 2 inches	<u><b>470</b></u>	<b>68</b>
116112-P02-2	P02	2 to 6 inches	<b>360</b>	<b>53</b>
116112-P02-6	P02	6 to 12 inches	<b>610</b>	<b>100</b>
116112-P03-0	P03	0 to 2 inches	<u><b>7,400</b></u>	<b>1100</b>
116112-P03-2	P03	2 to 6 inches	<u><b>2,100</b></u>	<b>310</b>
116112-P03-6	P03	6 to 12 inches	<u><b>2,700</b></u>	<b>380</b>
116112-P04-0	P04	0 to 2 inches	<u><b>2,400</b></u>	<b>350</b>
116112-P04-2	P04	2 to 6 inches	<u><b>1,300</b></u>	<b>210</b>
116112-P04-6	P04	6 to 12 inches	<u><b>1,800</b></u>	<b>270</b>
116112-P05-0	P05	0 to 2 inches	<u><b>2,200</b></u>	<b>310</b>
116112-P05-2	P05	2 to 6 inches	<u><b>2,800</b></u>	<b>410</b>
116112-P05-6	P05	6 to 12 inches	<u><b>4,300</b></u>	<b>610</b>
116112-P06-0	P06	0 to 2 inches	<b>970</b>	<b>130</b>
116112-P06-2	P06	2 to 6 inches	<u><b>5,400</b></u>	<b>720</b>
116112-P06-6	P06	6 to 12 inches	<u><b>12,000</b></u>	<b>1900</b>
116112-P07-0	P07	0 to 2 inches	<b>410</b>	<b>54</b>
116112-P07-2	P07	2 to 6 inches	<b>370</b>	<b>63</b>
116112-P07-6	P07	6 to 12 inches	<b>600</b>	<b>83</b>
116112-P08-0	P08	0 to 2 inches	<u><b>2,500</b></u>	<b>340</b>
116112-P08-2	P08	2 to 6 inches	<u><b>5,000</b></u>	<b>710</b>
116112-P08-6	P08	6 to 12 inches	<u><b>2,600</b></u>	<b>380</b>
116112-P09-0	P09	0 to 2 inches	<u><b>1,100</b></u>	<b>160</b>
116112-P09-2	P09	2 to 6 inches	<b>700</b>	<b>100</b>
116112-P09-6	P09	6 to 12 inches	<b>370</b>	<b>57</b>

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet, arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-22 (Continued) Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
<b>South Monroe (APN: 001-161-19)</b>			
10-S01	3700	1	137
11-S01	1,834	1	68
11-S02	3,350	1	124
12-S01	1,160	1	43
12-S02	1,301	1	48
P01	0	0	0
P03	225	1	8
Raised Planters behind home	950	1	35

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead.

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

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**Table 3-1-24 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>South Main Street (APN: 001-162-01)</b>				
116201-S01-0	S01	0 to 2 inches	<b>1,400</b>	<b>170</b>
116201-S01-2	S01	2 to 6 inches	<b>2,100</b>	<b>300</b>
116201-S01-6	S01	6 to 12 inches	<b>1,800</b>	<b>270</b>
116201-S02-0	S02	0 to 2 inches	<b>590</b>	<b>87</b>
116201-S02-2	S02	2 to 6 inches	<b>1,600</b>	<b>150</b>
116201-S02-6	S02	6 to 12 inches	<b>740</b>	<b>93</b>
116201-S03-0	S03	0 to 2 inches	<b>780</b>	<b>95</b>
116201-S03-2	S03	2 to 6 inches	<b>780</b>	<b>96</b>
116201-S03-6	S03	6 to 12 inches	<b>1,300</b>	<b>190</b>
116201-S04-0	S04	0 to 2 inches	130	26
116201-S04-2	S04	2 to 6 inches	110	26
116201-S04-6	S04	6 to 12 inches	79	25
116201-S05-0	S05	0 to 2 inches	<b>470</b>	<b>92</b>
116201-S05-2	S05	2 to 6 inches	290	55
116201-S05-6	S05	6 to 12 inches	<b>1,800</b>	<b>460</b>
116201-S06-0	S06	0 to 2 inches	<b>600</b>	<b>100</b>
116201-P02-0	Child's Sand Box	0 to 2 inches	35	<b>ND</b>
116201-P01-0	Planter	0 to 2 inches	<b>1,400</b>	<b>200</b>
116201-P01-2	Planter	2 to 6 inches	<b>1,600</b>	<b>280</b>
116201-P01-6	Planter	6 to 12 inches	<b>1,500</b>	<b>260</b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	1467	Removed in 2013	Removed in 2013
S02	900	Removed in 2013	Removed in 2013
S03	945	Removed in 2013	Removed in 2013
S04	190	Removed in 2013	Removed in 2013
S05	850	Removed in 2013	Removed in 2013
S06	665	Removed in 2013	Removed in 2013
Child's Sand Box	0	0	0
Soil Under Removed Planter boxes	23	1	4

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-25 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>South Main (APN: 001-162-02)</b>				
116202-S01-0	S01	0-2 inches bgs	940	100
116202-S01-2	S01	2-6 inches bgs	880	90
116202-S01-6	S01	6-12 inches bgs	<i>1,200</i>	150
116202-S02-0	S02	0-2 inches bgs	<i>1,400</i>	150
116202-S02-2	S02	2-6 inches bgs	<i>1,700</i>	<i>220</i>
116202-S02-6	S02	6-12 inches bgs	<b>2,400</b>	<b>320</b>
116202-S03-0	S03	0-2 inches bgs	<b>1,000</b>	<b>170</b>
116202-S03-2	S03	2-6 inches bgs	<b><i>11,000</i></b>	<b><i>2400</i></b>
116202-S03-6	S03	6-12 inches bgs	<b><i>9,300</i></b>	<b><i>1700</i></b>
116202-S04-0	S04	0-2 inches bgs	<b>1,600</b>	<b>200</b>
116202-S04-2	S04	2-6 inches bgs	<b>1,800</b>	<b>200</b>
116202-S04-6	S04	6-12 inches bgs	<b>2,400</b>	<b>320</b>
116202-P01-0	S05	0-2 inches bgs	<b>1,800</b>	<b>200</b>
116202-Dripline	S06	0-2 inches bgs	<b>2,700</b>	<b>290</b>
Decision Unit or Sample Location	Square Feet of Arsenic and Lead Over SSL*	Estimated Depth of Arsenic and Lead Over SSL (feet) **	Estimated Cubic Yards of Arsenic and Lead Over SSL	
S01	661	1	24	
S02	565	1	21	
S03	963	1	36	
S04	340	1	13	
S05	25	1	1	
dripline	included in other areas	0	0	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.



**Table 3-1-26 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>Well Street (APN: 001-187-04)</b>				
118704-S01	S01	0-2 inches bgs	<b><i>3,500</i></b>	<b><i>530</i></b>
118704-S01	S01	2-6 inches bgs	<b><i>5,300</i></b>	<b><i>920</i></b>
118704-S01	S01	6-12 inches bgs	<b><i>5,200</i></b>	<b><i>840</i></b>
118704-S02	S02	0-2 inches bgs	78	21
118704-S02	S02	2-6 inches bgs	160	21
118704-S02	S02	6-12 inches bgs	170	27
118704-S03	S03	0-2 inches bgs	120	21
118704-S03	S03	2-6 inches bgs	110	21
118704-S03	S03	6-12 inches bgs	250	36

Decision Unit or Sample Location	Square Feet of Arsenic and Lead Over SSL*	Estimated Depth of Arsenic and Lead Over SSL (feet) **	Estimated Cubic Yards of Arsenic and Lead Over SSL
S01	2,227	1	82
S02	0	0	0
S03	0	0	0

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-27 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>Well Street (APN: 001-187-05)</b>				
118705-S01	S01	0 to 2 inches	<b><i>1,900</i></b>	<b><i>310</i></b>
118705-S01	S01	2 to 6 inches	<b><i>1,400</i></b>	<b><i>210</i></b>
118705-S01	S01	6 to 12 inches	<b><i>1,100</i></b>	<b><i>150</i></b>
118705-S02	S02	0 to 2 inches	<b><i>880</i></b>	<b><i>100</i></b>
118705-S02	S02	2 to 6 inches	<b><i>3,400</i></b>	<b><i>360</i></b>
118705-S02	S02	6 to 12 inches	<b><i>2,300</i></b>	<b><i>310</i></b>
118705-S03	S03	0 to 2 inches	<b><i>5,900</i></b>	<b><i>990</i></b>
118705-S03	S03	2 to 6 inches	<b><i>2,600</i></b>	<b><i>400</i></b>
118705-S03	S03	6 to 12 inches	<b><i>1,300</i></b>	<b><i>170</i></b>
118705-S04	S04	0 to 2 inches	<b><i>510</i></b>	<b><i>69</i></b>
Decision Unit or Sample Location	Square Feet of Contamination Over SSL*	Estimated Depth of Contamination (feet) **	Estimated Cubic Yards of Contamination Over SSL	
S01	1,556	1	58	
S02	3,607	1	134	
S03	535	1	20	
S04	1,311	1	49	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-1-28 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. T02-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>County Property at South Main (APN: 001-202-10)</b>				
120210-S01-0	S01	0-2 inches bgs	<u>5,600</u>	<u>1,100</u>
120210-S01-2	S01	2-6 inches bgs	<u>580</u>	<u>120</u>
120210-S01-6	S01	6-12 inches bgs	<u>870</u>	<u>200</u>
120210-S02-0	S02	0-2 inches bgs	<u>5,100</u>	<u>1,000</u>
120210-S02-2	S02	2-6 inches bgs	<u>7,400</u>	<u>1,600</u>
120210-S02-6	S02	6-12 inches bgs	<u>3,100</u>	<u>580</u>
120210-S03-0	S03	0-2 inches bgs	<u>39,000</u>	<u>7,000</u>
120210-S03-2	S03	2-6 inches bgs	Not Sampled	Not Sampled
120210-S03-6	S03	6-12 inches bgs	Not Sampled	Not Sampled
120210-S04-0	S04	0-2 inches bgs	<u>24,000</u>	<u>3,900</u>
120210-S04-2	S04	2-6 inches bgs	Not Sampled	Not Sampled
120210-S04-6	S04	6-12 inches bgs	Not Sampled	Not Sampled
120210-S05-0	S05	0-2 inches bgs	<u>28,000</u>	<u>4,200</u>
120210-S05-2	S05	2-6 inches bgs	Not Sampled	Not Sampled
120210-S05-6	S05	6-12 inches bgs	Not Sampled	Not Sampled
120210-S06-0	S06	0-2 inches bgs	<u>3,700</u>	<u>530</u>
120210-S06-2	S06	2-6 inches bgs	Not Sampled	Not Sampled
120210-S06-6	S06	6-12 inches bgs	Not Sampled	Not Sampled
120210-S07-0	S07	0-2 inches bgs	130	38
120210-S07-2	S07	2-6 inches bgs	<u>900</u>	<u>200</u>
120210-S07-6	S07	6-12 inches bgs	150	60
120210-S08-0	S08	0-2 inches bgs	180	41
120210-S08-2	S08	2-6 inches bgs	270	67
120210-S08-6	S08	6-12 inches bgs	<u>1,500</u>	<u>300</u>
120210-S09-0	S09	0-2 inches bgs	<u>5,100</u>	<u>700</u>
120210-S09-2	S09	2-6 inches bgs	<u>17,000</u>	<u>3,000</u>
120210-S09-6	S09	6-12 inches bgs	<u>36,000</u>	<u>6,600</u>
120210-P01-0	P01	0-2 inches bgs	130	44
120210-P01-2	P01	2-6 inches bgs	53	41
120210-P01-6	P01	6-12 inches bgs	52	37
120210-P02-0	P02	0-2 inches bgs	<u>780</u>	<u>160</u>
120210-P02-2	P02	2-6 inches bgs	<u>590</u>	<u>130</u>
120210-P02-6	P02	6-12 inches bgs	240	72
120210-P03-0	P03	0-2 inches bgs	<u>43,000</u>	<u>11,000</u>
120210-P03-2	P03	2-6 inches bgs	<u>36,000</u>	<u>9,600</u>
120210-P03-6	P03	6-12 inches bgs	<u>50,000</u>	<u>16,000</u>
120210-P04-0	P04	0-2 inches bgs	<u>2,300</u>	<u>290</u>
120210-P04-2	P04	2-6 inches bgs	<u>1,400</u>	<u>180</u>
120210-P04-6	P04	6-12 inches bgs	Not Sampled	Not Sampled
120210-P05-0	P05	0-2 inches bgs	<u>1,400</u>	<u>320</u>
120210-P05-2	P05	2-6 inches bgs	<u>870</u>	<u>240</u>
120210-P05-6	P05	6-12 inches bgs	150	84
120210-P06-0	P06	0-2 inches bgs	<u>14,000</u>	<u>2,400</u>
120210-P06-2	P06	2-6 inches bgs	<u>2,100</u>	<u>410</u>
120210-P06-6	P06	6-12 inches bgs	<u>800</u>	<u>210</u>
120210-P07-0	P07	0-2 inches bgs	180	25
120210-P07-2	P07	2-6 inches bgs	70	21
120210-P07-6	P07	6-12 inches bgs	51	15
120210-P08-0	P08	0-2 inches bgs	40	43
120210-P08-2	P08	2-6 inches bgs	39	28
120210-P08-6	P08	6-12 inches bgs	20	10
120210-P09-0	P09	0-2 inches bgs	<u>1,900</u>	<u>480</u>
120210-P09-2	P09	2-6 inches bgs	200	82
120210-P09-6	P09	6-12 inches bgs	90	57
120210-P10-0	P10	0-2 inches bgs	<u>46,000</u>	<u>9,800</u>
120210-P10-2	P10	2-6 inches bgs	<u>17,000</u>	<u>3,400</u>
120210-P10-6	P10	6-12 inches bgs	<u>12,000</u>	<u>2,300</u>
120210-P11-0	P11	0-2 inches bgs	<u>6,500</u>	<u>910</u>
120210-P11-2	P11	2-6 inches bgs	<u>8,400</u>	<u>1,900</u>
120210-P11-6	P11	6-12 inches bgs	<u>8,100</u>	<u>1,600</u>
120210-P12-0	P12	0-2 inches bgs	<u>4,200</u>	<u>450</u>

## ***Appendix C2:***

### ***Summary Tables for Newly Assessed Properties***

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**Table 3-5-1 through 3-5-50**

**Removal Assessment Data for New  
Eureka Properties**

**Table 3-5-1 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>Country Road 101 (APN: 001-011-06)</b>				
101106-S01-0	S01	0-2 inches bgs	<b>3,300</b>	<b>450</b>
101106-S01-2	S01	2-6 inches bgs	<b>3,400</b>	<b>460</b>
101106-S01-6	S01	6-12 inches bgs	<b>1,800</b>	<b>270</b>
101106-S02-0	S02	0-2 inches bgs	<b>2,600</b>	<b>390</b>
101106-S02-2	S02	2-6 inches bgs	<b>4,100</b>	<b>630</b>
101106-S02-6	S02	6-12 inches bgs	<b>12,000</b>	<b>2,500</b>
101106-S03-0	S03	0-2 inches bgs	<b>6,300</b>	<b>990</b>
101106-S03-2	S03	2-6 inches bgs	<b>14,000</b>	<b>2,900</b>
101106-S03-6	S03	6-12 inches bgs	<b>12,000</b>	<b>2,600</b>
101106-S04-0	S04	0-2 inches bgs	<b>7,100</b>	<b>1,200</b>
101106-S04-2	S04	2-6 inches bgs	<b>7,500</b>	<b>1,300</b>
101106-S04-6	S04	6-12 inches bgs	<b>8,100</b>	<b>1,400</b>
101106-S05-0	S05	0-2 inches bgs	<b>6,200</b>	<b>970</b>
101106-S05-2	S05	2-6 inches bgs	<b>7,800</b>	<b>1,300</b>
101106-S05-6	S05	6-12 inches bgs	<b>9,600</b>	<b>1,600</b>
101106-S06-0	S06	0-2 inches bgs	<b>7,200</b>	<b>1,300</b>
101106-P01-0	P01	0-2 inches bgs	<b>1,100</b>	<b>190</b>
101106-P02-0	P02	0-2 inches bgs	<b>1,500</b>	<b>190</b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	2939	1	109
S02	1320	1	49
S03	1248	1	46
S04	4465	1	165
S05	3257	1	121
S06	15370	1	569
P01	90	1	3
P02	100	1	4

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-2 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>Vandal Way (APN: 001-022-04)</b>				
102204-S01-0	S01	0-2 inches bgs	76	18
102204-S01-2	S01	2-6 inches bgs	55	16
102204-S01-6	S01	6-12 inches bgs	91	18
102204-S02-0	S02	0-2 inches bgs	85	8
102204-S02-2	S02	2-6 inches bgs	82	13
102204-S02-6	S02	6-12 inches bgs	33	11
102204-S03-0	S03	0-2 inches bgs	110	27
102204-S03-2	S03	2-6 inches bgs	70	28
102204-S03-6	S03	6-12 inches bgs	61	30
102204-S04-0	S04	0-2 inches bgs	47	12
102204-S04-2	S04	2-6 inches bgs	40	11
102204-S04-6	S04	6-12 inches bgs	160	17
102204-S05-0	S05	0-2 inches bgs	150	27
102204-S05-2	S05	2-6 inches bgs	98	20
102204-S05-6	S05	6-12 inches bgs	37	8

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	0	0	0
S02	0	0	0
S03	0	0	0
S04	0	0	0
S05	0	0	0

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-3 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>Eureka County Road Easement at the Intersection of Vandall and Clark (APN: 001-022-14 )</b>				
102214-S01-0	S01	0-2 inches bgs	230	30
102214-S01-2	S01	2-6 inches bgs	140	25
102214-S01-6	S01	6-12 inches bgs	190	27
102214-S02-0	S02	0-2 inches bgs	<b>570</b>	<b>97</b>
102214-S02-2	S02	2-6 inches bgs	130	30
102214-S02-6	S02	6-12 inches bgs	140	26
102214-S03-0	S03	0-2 inches bgs	240	<b>73</b>
102214-S03-2	S03	0-2 inches bgs	NA	NA
102214-S03-6	S03	0-2 inches bgs	NA	NA
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	0	0	0	
S02	2,785	0.5	52	
S03	0	0	0	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-4 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>Tank Farm Hill (APN: 001-022-18 )</b>				
102218-S01-0	S01	0 to 2 inches	<b>410</b>	48
102218-S01-2	S01	2 to 6 inches	96	16
102218-S01-6	S01	6 to 12 inches	93	20
102218-S02-0	S02	0 to 2 inches	<b>410</b>	46
102218-S02-2	S02	2 to 6 inches	64	22
102218-S02-6	S02	6 to 12 inches	200	21
102218-S03-0	S03	0 to 2 inches	<b>410</b>	51
102218-S03-2	S03	2 to 6 inches	55	19
102218-S03-6	S03	6 to 12 inches	260	17
Decision Unit or Sample Location	Square Feet of Contamination Over SSL*	Estimated Depth of Contamination (feet) **	Estimated Cubic Yards of Contamination Over SSL	
S01	3,839	0.5	71	
S02	3,950	0.5	73	
S03	6,614	0.5	122	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.



**Table 3-5-5 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>Nob Hill Ave (APN: 001-031-09)</b>				
103109-S01-0	S01	0-2 inches bgs	120	32
103109-S02-0	S02	0-2 inches bgs	180	40
103109-S02-2	S02	2-6 inches bgs	280	<b>64</b>
103109-S02-6	S02	6-12 inches bgs	190	37
103109-S03-0	S03	0-2 inches bgs	100	27
103109-S03-2	S03	2-6 inches bgs	180	33
103109-S03-6	S03	6-12 inches bgs	120	26
103109-S04-0	S04	0-2 inches bgs	90	30
103109-S04-2	S04	2-6 inches bgs	400	<b>61</b>
103109-S04-6	S04	6-12 inches bgs	350	58
103109-S05-0	S05	0-2 inches bgs	<b>560</b>	<b>100</b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	0	0	0
S02	448	1	17
S03	0	0	0
S04	470	1	17
S05	471	1	17

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-6 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>Nob Hill Ave (APN: 001-031-10)</b>				
103110-S01-0	S01	0-2 inches bgs	310	58
103110-S01-2	S01	2-6 inches bgs	160	47
103110-S01-6	S01	6-12 inches bgs	200	36
103110-S02-0	S02	0-2 inches bgs	<b>510</b>	<b>81</b>
103110-S02-2	S02	2-6 inches bgs	<b>630</b>	<b>97</b>
103110-S02-6	S02	6-12 inches bgs	63	15
103110-S03-0	S03	0-2 inches bgs	300	55
103110-S03-2	S03	2-6 inches bgs	66	35
103110-S03-6	S03	6-12 inches bgs	19	43
103110-S04-0	S04	0-2 inches bgs	<b>420</b>	<b>72</b>
103110-S04-2	S04	2-6 inches bgs	270	53
103110-S04-6	S04	6-12 inches bgs	290	60
103110-P01-0	P01	0-2 inches bgs	<b>970</b>	<b>160</b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	0	0	0
S02	874	1	32
S03	0	0	0
S04	1,038	0.5	19
P01	1,500	0.5	28

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-7 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North Main (APN: 001-033-07)</b>				
103307-S01-0	S01	0-2 inches bgs	<b><i>2,600</i></b>	<b><i>290</i></b>
103307-S01-2	S01	2-6 inches bgs	<b><i>3,900</i></b>	<b><i>500</i></b>
103307-S01-6	S01	6-12 inches bgs	<b><i>4,400</i></b>	<b><i>630</i></b>
103307-S02-0	S02	0-2 inches bgs	<b><i>3,000</i></b>	<b><i>360</i></b>
103307-S02-2	S02	2-6 inches bgs	<b><i>1,300</i></b>	<b><i>160</i></b>
103307-S02-6	S02	6-12 inches bgs	220	29
103307-S03-0	S03	0-2 inches bgs	<b><i>16,000</i></b>	<b><i>2,200</i></b>
103307-S03-2	S03	2-6 inches bgs	<b><i>12,000</i></b>	<b><i>1,600</i></b>
103307-S03-6	S03	6-12 inches bgs	<b><i>19,000</i></b>	<b><i>2,900</i></b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	4,720	1	175	
S02	2,911	1	108	
S03	2,877	1	107	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead.

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-8 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North Main (APN: 001-034-02)</b>				
S01-0	S01	0 to 2 inches	<b>640</b>	<b>79</b>
S01-2	S01	2 to 6 inches	<b>820</b>	<b>94</b>
S01-6	S01	6 to 12 inches	<b><i>2,100</i></b>	<b><i>210</i></b>
S02-0	S02	0 to 2 inches	<b><i>3,100</i></b>	<b><i>250</i></b>
S02-2	S02	2 to 6 inches	<b><i>3,200</i></b>	<b><i>250</i></b>
S02-6	S02	6 to 12 inches	<b><i>11,000</i></b>	<b><i>1,100</i></b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Contamination Over SSL*</b>	<b>Estimated Depth of Contamination (feet) **</b>	<b>Estimated Cubic Yards of Contamination Over SSL</b>	
S01	1,500	1	56	
S02	3,200	1	119	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

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**Table 3-5-9 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North O'Neil (APN: 001-034-13)</b>				
103413-S01-0	S01	0-2 inches bgs	210	37
103413-S01-2	S01	2-6 inches bgs	130	25
103413-S01-6	S01	6-12 inches bgs	200	26
103413-S02-0	S02	0-2 inches bgs	<b>820</b>	<b>110</b>
103413-S02-2	S02	2-6 inches bgs	<b>580</b>	<b>88</b>
103413-S02-6	S02	6-12 inches bgs	140	28
103413-S03-0	S03	0-2 inches bgs	<b>700</b>	<b>110</b>
103413-S03-2	S03	2-6 inches bgs	<b>980</b>	<b>120</b>
103413-S03-6	S03	6-12 inches bgs	<b>970</b>	<b>150</b>
103413-S04-0	S04	0-2 inches bgs	<b>4,300</b>	<b>350</b>
103413-S04-2	S04	2-6 inches bgs	<b>1,600</b>	<b>180</b>
103413-S04-6	S04	6-12 inches bgs	<b>2,000</b>	<b>240</b>
103413-P01-0	P01	0-2 inches bgs	180	30
103413-P01-2	P01	2-6 inches bgs	110	17
103413-P01-6	P01	6-12 inches bgs	61	<10
103413-P02-0	P02	0-2 inches bgs	57	<10

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	0	0	0
S02	2,809	1	104
S03	3,346	1	124
S04	2,132	1	79
P01	0	0	0
P02	0	0	0

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-10 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North Main (APN: 001-036-04)</b>				
103604-S1-0	S1	0 to 2 inches	160	34
103604-S1-2	S1	2 to 6 inches	270	55
103604-S1-6	S1	6 to 12 inches	380	76
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S1	0	0	0	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

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**Table 3-5-11 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>Sheridan (APN: 001-051-05)</b>				
103413-S01-0	S01	0-2 inches bgs	<b>420</b>	52
103413-S01-2	S01	2-6 inches bgs	<b>1,100</b>	<b>160</b>
103413-S01-6	S01	6-12 inches bgs	<b>450</b>	<b>63</b>
103413-S02-0	S02	0-2 inches bgs	270	43
103413-S02-2	S02	2-6 inches bgs	240	51
103413-S02-6	S02	6-12 inches bgs	Not Sampled	Not Sampled
103413-S03-0	S03	0-2 inches bgs	210	29
103413-S03-2	S03	2-6 inches bgs	340	60
103413-S03-6	S03	6-12 inches bgs	310	47
103413-S04-0	S04	0-2 inches bgs	260	42
103413-S04-2	S04	2-6 inches bgs	<b>430</b>	58
103413-S04-6	S04	6-12 inches bgs	<b>410</b>	54
103413-S05-0	S05	0-2 inches bgs	190	24
103413-S05-2	S05	2-6 inches bgs	67	15
103413-S05-6	S05	6-12 inches bgs	260	54
103413-P01-0	P01	0-2 inches bgs	<b>660</b>	<b>91</b>
103413-P01-2	P01	2-6 inches bgs	<b>530</b>	<b>73</b>
103413-P01-6	P01	6-12 inches bgs	<b>580</b>	<b>92</b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	2,154	1	80	
S02	0	0	0	
S03	0	0	0	
S04	0	0	0	
S05	0	0	0	
P01	3,000	1	111	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-12 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>County Swim Center at Sheridan (APN: 001-052-01)</b>				
105201-S01-0	S01	0-2 inches bgs	<b>500</b>	<b>61</b>
105201-S01-2	S01	2-6 inches bgs	<b>630</b>	<b>92</b>
105201-S01-6	S01	6-12 inches bgs	<b>500</b>	<b>67</b>
105201-S02-0	S02	0-2 inches bgs	54	22
105201-S02-2	S02	2-6 inches bgs	120	30
105201-S02-6	S02	6-12 inches bgs	300	<b>62</b>
105201-S03-0	S03	0-2 inches bgs	<b>1,400</b>	<b>220</b>
105201-S03-2	S03	2-6 inches bgs	<b>670</b>	<b>100</b>
105201-S03-6	S03	6-12 inches bgs	<b>1,000</b>	<b>140</b>
105201-S04-0	S04	0-2 inches bgs	<b>660</b>	<b>89</b>
105201-S04-2	S04	2-6 inches bgs	<b>650</b>	<b>89</b>
105201-S04-6	S04	6-12 inches bgs	<b>710</b>	<b>85</b>
105201-P01-0	P01	0-2 inches bgs	<b>990</b>	<b>140</b>
105201-P01-2	P01	2-6 inches bgs	<b>900</b>	<b>110</b>
105201-P01-6	P01	6-12 inches bgs	170	31
105201-P02-0	P02	0-2 inches bgs	50	18
105201-P02-2	P02	2-6 inches bgs	93	33
105201-P02-6	P02	6-12 inches bgs	63	30
105201-P03-0	P03	0-2 inches bgs	140	26
105201-P03-2	P03	2-6 inches bgs	350	45
105201-P03-6	P03	6-12 inches bgs	<b>510</b>	<b>79</b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	1,432	1	53
S02	0	0	0
S03	402	1	15
S04	1,564	1	58
P01	200	1	7
P02	0	0	0
P03	0	0	0

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.



**Table3-5-13 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>Egan (APN: 001-053-06)</b>				
105306-S01-0	S01	0-2 inches bgs	140	18
105306-S01-2	S01	2-6 inches bgs	310	40
105306-S01-6	S01	6-12 inches bgs	360	60
105306-S02-0	S02	0-2 inches bgs	70	36
105306-S02-2	S02	2-6 inches bgs	89	47
105306-S02-6	S02	6-12 inches bgs	110	35
105306-S03-0	S03	0-2 inches bgs	140	25
105306-S03-2	S03	2-6 inches bgs	87	26
105306-S03-6	S03	6-12 inches bgs	68	24

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	0	0	0
S02	0	0	0
S03	0	0	0

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-14 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>West Robins (APN: 001-061-01)</b>				
106101-S01-0	S01	0-2 inches bgs	<b>500</b>	<b>71</b>
106101-S01-2	S01	2-6 inches bgs	<b>620</b>	<b>73</b>
106101-S01-6	S01	6-12 inches bgs	<b>470</b>	<b>65</b>
106101-S02-0	S02	0-2 inches bgs	230	55
106101-S02-2	S02	2-6 inches bgs	Not Sampled	Not Sampled
106101-S02-6	S02	6-12 inches bgs	Not Sampled	Not Sampled
106101-P01-0	P01	0-2 inches bgs	<b>870</b>	<b>81</b>
106101-P02-0	P02	0-2 inches bgs	<b>540</b>	<b>81</b>
106101-P02-2	P02	2-6 inches bgs	<b>480</b>	<b>61</b>
106101-P02-6	P02	6-12 inches bgs	<b>470</b>	<b>72</b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	2,906	1	108
S02	0	0	0
P01	500	1	19
P02	500	1	19

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-15 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North Edwards (APN:001-067-01)</b>				
106701-S01-0	S01	0-2 inches bgs	<b>480</b>	<b>71</b>
106701-S01-2	S01	2-6 inches bgs	<b>430</b>	<b>46</b>
106701-S01-6	S01	6-12 inches bgs	<b>450</b>	<b>57</b>
106701-S02-0	S02	0-2 inches bgs	<b>620</b>	<b>79</b>
106701-S02-2	S02	2-6 inches bgs	Not Sampled	Not Sampled
106701-S02-6	S02	6-12 inches bgs	Not Sampled	Not Sampled
106701-S03-0	S03	0-2 inches bgs	<b>630</b>	<b>74</b>
106701-S03-2	S03	2-6 inches bgs	<b>670</b>	<b>97</b>
106701-S03-6	S03	6-12 inches bgs	<b>1,600</b>	<b>230</b>
106701-S04-0	S04	0-2 inches bgs	<b>600</b>	<b>75</b>
106701-S04-2	S04	2-6 inches bgs	<b>780</b>	<b>100</b>
106701-S04-6	S04	6-12 inches bgs	230	38
106701-S05-0	S05	0-2 inches bgs	<b>550</b>	<b>92</b>
106701-S05-2	S05	2-6 inches bgs	<b>1,100</b>	<b>190</b>
106701-S05-6	S05	6-12 inches bgs	280	48
106701-P01-0	P01	0-2 inches bgs	260	41
106701-P01-2	P01	2-6 inches bgs	270	45
106701-P01-6	P01	6-12 inches bgs	240	38
106701-P02-0	P02	0-2 inches bgs	120	17
106701-P02-2	P02	2-6 inches bgs	270	41
106701-P02-6	P02	6-12 inches bgs	<b>1,200</b>	<b>160</b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	0	0	0
S02	829	0.5	15
S03	838	1	31
S04	859	1	32
S05	1,266	1	47
P01	0	0	0
P02	0	0	0

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-16 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North Main (APN: 001-071-06)</b>				
ESS-107106-S02-0	S02	0 to 2 inches	<b>1,200</b>	<b>150</b>
ESS-107106-S02-2	S02	2 to 6 inches	<b>1,700</b>	<b>200</b>
ESS-107106-S02-6	S02	6 to 12 inches	<b>1,000</b>	<b>120</b>
ESS-107106-S03-0	S03	0 to 2 inches	<b>670</b>	<b>84</b>
ESS-107106-S03-2	S03	2 to 6 inches	<b>3,100</b>	<b>350</b>
ESS-107106-S03-6	S03	6 to 12 inches	<b>2,400</b>	<b>260</b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Contamination Over SSL*</b>	<b>Estimated Depth of Contamination (feet) **</b>	<b>Estimated Cubic Yards of Contamination Over SSL</b>	
S02	5,099	1	189	
S03	6,149	1	228	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-17 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North Main (APN: 001-071-11)</b>				
107111-S01-0	S01	0-2 inches bgs	<b><i>1,900</i></b>	<b><i>240</i></b>
107111-S01-2	S01	2-6 inches bgs	<b><i>2,100</i></b>	<b><i>280</i></b>
107111-S01-6	S01	6-12 inches bgs	<b><i>2,700</i></b>	<b><i>330</i></b>
107111-S02-0	S02	0-2 inches bgs	<b><i>1,800</i></b>	<b><i>75</i></b>
107111-S02-2	S02	2-6 inches bgs	<b><i>1,900</i></b>	<b><i>89</i></b>
107111-S02-6	S02	6-12 inches bgs	<b><i>3,500</i></b>	<b><i>230</i></b>
107111-P01-0	P01	0-2 inches bgs	<b><i>520</i></b>	<b><i>90</i></b>
107111-P01-2	P01	0-2 inches bgs	<b><i>1,800</i></b>	<b><i>350</i></b>
107111-P01-6	P01	6-12 inches bgs	<b><i>2,200</i></b>	<b><i>420</i></b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	4,319	1	160
S02	1,712	1	63
P01	800	1	30

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-18 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North Buel (APN: 001-073-05)</b>				
107305-S01-0	S01	0-2 inches bgs	150	24
107305-S01-2	S01	2-6 inches bgs	120	25
107305-S01-6	S01	6-12 inches bgs	340	<b>62</b>
107305-S02-0	S02	0-2 inches bgs	<b>480</b>	<b>72</b>
107305-S02-2	S02	2-6 inches bgs	Not Sampled	Not Sampled
107305-S02-6	S02	6-12 inches bgs	Not Sampled	Not Sampled
107305-P01-0	P01	0-2 inches bgs	48	<10
107305-P01-2	P01	0-2 inches bgs	30	<10
107305-P01-6	P01	6-12 inches bgs	120	21
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	0	0	0	
S02	4,000	0.5	74	
P01	0	0	0	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-19 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North Buel (APN: 001-073-06)</b>				
ESS-107306-S01-0	S01	0 to 2 inches	<b>500</b>	<b>110</b>
ESS-107306-S01-2	S01	2 to 6 inches	<b><u>4,100</u></b>	<b>46</b>
ESS-107306-S01-6	S01	6 to 12 inches	<b><u>2,300</u></b>	<b><u>250</u></b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S1	10,680	1	396	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

Ecology and Environment Inc. 2014

**Table 3-5-20 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North Spring (APN: 001-074-13)</b>				
107413-S01-0	S02	0 to 2 inches	220	37
107413-S01-2	S02	2 to 6 inches	350	29
107413-S01-6	S02	6 to 12 inches	380	30
107413-S02-0	S03	0 to 2 inches	350	39
107413-S02-2	S03	2 to 6 inches	320	35
107413-S02-6	S03	6 to 12 inches	360	51
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Contamination Over SSL*</b>	<b>Estimated Depth of Contamination (feet) **</b>	<b>Estimated Cubic Yards of Contamination Over SSL</b>	
S01	0	0	0	
S02	0	0	0	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

Ecology and Environment Inc. 2014



**Table 3-5-21 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>Ryland Street (APN: 001-081-10)</b>				
108110-S01-0	S01	0-2 inches bgs	<b>790</b>	<b>120</b>
108110-S01-2	S01	2-6 inches bgs	<b><i>1,600</i></b>	<b><i>250</i></b>
108110-S01-6	S01	6-12 inches bgs	180	44
108110-S02-0	S02	0-2 inches bgs	72	21
108110-S02-2	S02	2-6 inches bgs	250	<b>68</b>
108110-S02-6	S02	6-12 inches bgs	290	48
108110-S03-0	S03	0-2 inches bgs	390	52
108110-S03-2	S03	2-6 inches bgs	<b>430</b>	57
108110-S03-6	S03	6-12 inches bgs	<b>820</b>	<b>98</b>
108110-S04-0	S04	0-2 inches bgs	120	21
108110-S04-2	S04	2-6 inches bgs	Not Sampled	Not Sampled
108110-S04-6	S04	6-12 inches bgs	Not Sampled	Not Sampled
108110-P1-0	P1	0-2 inches bgs	<b>690</b>	<b>100</b>
108110-P1-2	P1	2-6 inches bgs	290	57
108110-P1-6	P1	6-12 inches bgs	Not Sampled	Not Sampled
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	1,340	1	50	
S02	0	0	0	
S03	697	1	26	
S04	0	0	0	
P01	50	0.5	1	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead.

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-22 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>Railroad (APN: 001-086-02)</b>				
108602-S01-0	S01	0 to 2 inches	<b><i>2,400</i></b>	<b><i>220</i></b>
108602-S01-2	S01	2 to 6 inches	<b><i>580</i></b>	<b><i>80</i></b>
108602-S01-6	S01	6 to 12 inches	<b><i>1,000</i></b>	<b><i>150</i></b>
108602-S02-0	S02	0 to 2 inches	<b><i>1,800</i></b>	<b><i>170</i></b>
108602-S02-2	S02	2 to 6 inches	<b><i>1,400</i></b>	<b><i>160</i></b>
108602-S02-6	S02	6 to 12 inches	300	36
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Contamination Over SSL*</b>	<b>Estimated Depth of Contamination (feet) **</b>	<b>Estimated Cubic Yards of Contamination Over SSL</b>	
S01	5,450	1	202	
S02	8,900	1	330	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-23 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North Adams (APN: 001-094-08 )</b>				
109408-S01-0	S01	0 to 2 inches	<b>510</b>	<b>87</b>
109408-S01-2	S01	2 to 6 inches	<b>500</b>	<b>87</b>
109408-S01-6	S01	6 to 12 inches	<b><i>1,600</i></b>	<b><i>280</i></b>
109408-P01-0	P01	0 to 2 inches	42	12
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Contamination Over SSL*</b>	<b>Estimated Depth of Contamination (feet) **</b>	<b>Estimated Cubic Yards of Contamination Over SSL</b>	
S01	244	1	9	
P01	0	1	0	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

Ecology and Environment Inc. 2014

**Table 3-5-24 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North Buel (APN: 001-102-07)</b>				
110207-S01-0	S01	0 to 2 inches	150	44
110207-S01-2	S01	2 to 6 inches	240	46
110207-S01-6	S01	6 to 12 inches	130	32
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S1	0	0	0	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

Ecology and Environment Inc. 2014

**Table 3-5-25 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>County Park on North Buel (APN: 001-103-04)</b>				
110304-S01-0	S01	0 to 2 inches	<b>820</b>	<b>84</b>
110304-S01-2	S01	2 to 6 inches	<b>750</b>	<b>73</b>
110304-S01-6	S01	6 to 12 inches	<b>480</b>	<b>49</b>
110304-S02-0	S02	0 to 2 inches	<b>1,900</b>	<b>200</b>
110304-S02-2	S02	2 to 6 inches	<b>1,400</b>	<b>160</b>
110304-S02-6	S02	6 to 12 inches	<b>590</b>	<b>75</b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Contamination Over SSL*</b>	<b>Estimated Depth of Contamination (feet) **</b>	<b>Estimated Cubic Yards of Contamination Over SSL</b>	
S01	7,773	1	288	
S02	7,619	1	282	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

Ecology and Environment Inc. 2014

**Table 3-5-26 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>County Library at South Monroe (APN: 001-121-05)</b>				
112105-S01-0	S01	0-2 inches bgs	380	54
112105-S01-2	S01	2-6 inches bgs	<b>430</b>	56
112105-S01-6	S01	6-12 inches bgs	<b>850</b>	<b>100</b>
112105-S02-0	S02	0-2 inches bgs	<b>1,100</b>	<b>130</b>
112105-S02-2	S02	2-6 inches bgs	<b>2,100</b>	<b>290</b>
112105-S02-6	S02	6-12 inches bgs	<b>2,800</b>	<b>380</b>
112105-P01-0	P01	0-2 inches bgs	220	44
112105-P01-2	P01	2-6 inches bgs	<b>1,200</b>	<b>130</b>
112105-P01-6	P01	6-12 inches bgs	<b>1,600</b>	<b>220</b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	1,060	1	39	
S02	4,000	1	148	
P01	400	1	15	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-27 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>County Veterinary Clinic at South Main (APN :001-124-06)</b>				
112406-S01-0	S01	0-2 inches bgs	<b>800</b>	<b>140</b>
112406-S01-2	S01	2-6 inches bgs	<b>700</b>	<b>110</b>
112406-S01-6	S01	6-12 inches bgs	<b><u>3,600</u></b>	<b><u>610</u></b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	1,266	1	47	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

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**Table 3-5-28 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>South Main (APN: 001-125-02)</b>				
112502-S01	S01	0 to 2 inches	<b>620</b>	<b>89</b>
112502-S01	S01	2 to 6 inches	<b>3,000</b>	<b>550</b>
112502-S01	S01	6 to 12 inches	<b>4,500</b>	<b>670</b>
112502-S02	S02	0 to 2 inches	<b>1,400</b>	<b>150</b>
112502-S02	S02	2 to 6 inches	<b>1,300</b>	<b>150</b>
112502-S02	S02	6 to 12 inches	<b>2,400</b>	<b>330</b>
112502-S03	S03	0 to 2 inches	<b>1,500</b>	<b>170</b>
112502-S03	S03	2 to 6 inches	<b>1,600</b>	<b>180</b>
112502-S03	S03	6 to 12 inches	<b>1,800</b>	<b>260</b>
112502-S04	S04	0 to 2 inches	<b>860</b>	<b>120</b>
112502-S04	S04	2 to 6 inches	<b>980</b>	<b>130</b>
112502-S04	S04	6 to 12 inches	<b>530</b>	<b>120</b>
Decision Unit or Sample Location	Square Feet of Contamination Over SSL*	Estimated Depth of Contamination (feet)**	Estimated Cubic Yards of Contamination Over SSL	
S01	2,253	1	83	
S02	932	1	35	
S03	1,364	1	51	
S04	1,034	1	38	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.



**Table 3-5-29 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>South Main (APN: 001-125-04)</b>				
112504-S01	S01	0 to 2 inches	<b>920</b>	<b>120</b>
112504-S01	S01	2 to 6 inches	<b>1,400</b>	<b>220</b>
112504-S01	S01	6 to 12 inches	<b>1,900</b>	<b>290</b>
112504-S02	S02	0 to 2 inches	<b>1,400</b>	<b>180</b>
112504-S02	S02	2 to 6 inches	<b>1,800</b>	<b>260</b>
112504-S02	S02	6 to 12 inches	<b>2,400</b>	<b>370</b>
112504-S03	S03	0 to 2 inches	<b>1,500</b>	<b>190</b>
112504-S03	S03	2 to 6 inches	<b>1,500</b>	<b>180</b>
112504-S03	S03	6 to 12 inches	<b>2,500</b>	<b>340</b>
112504-S04	S04	0 to 2 inches	<b>1,300</b>	<b>190</b>
112504-S04	S04	2 to 6 inches	<b>2,200</b>	<b>300</b>
112504-S04	S04	6 to 12 inches	<b>4,600</b>	<b>620</b>
112504-S05	S05	0 to 2 inches	<b>1,800</b>	<b>250</b>
112504-S05	S05	2 to 6 inches	<b>2,400</b>	<b>290</b>
112504-S05	S05	6 to 12 inches	<b>3,900</b>	<b>510</b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Contamination Over SSL*</b>	<b>Estimated Depth of Contamination (feet) **</b>	<b>Estimated Cubic Yards of Contamination Over SSL</b>	
S01	722	1	27	
S02	1,261	1	47	
S03	880	1	33	
S04	1,900	1	70	
S05	1,588	1	59	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-30 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>South Paul (APN: 001-133-09)</b>				
113309-S01-0	S01	0 to 2 inches	<b><i>1,300</i></b>	<b><i>100</i></b>
113309-S01-2	S01	2 to 6 inches	<b><i>1,600</i></b>	<b><i>170</i></b>
113309-S01-6	S01	6 to 12 inches	<b><i>2,000</i></b>	<b><i>270</i></b>
113309-S02-0	S02	0 to 2 inches	<b><i>630</i></b>	<b><i>86</i></b>
113309-S02-2	S02	2 to 6 inches	<b><i>1,000</i></b>	<b><i>120</i></b>
113309-S02-6	S02	6 to 12 inches	<b><i>1,600</i></b>	<b><i>190</i></b>
113309-S03-0	S03	0 to 2 inches	<b><i>750</i></b>	<b><i>120</i></b>
113309-S03-2	S03	2 to 6 inches	<b><i>600</i></b>	<b><i>92</i></b>
113309-S03-6	S03	6 to 12 inches	<b><i>800</i></b>	<b><i>150</i></b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	2,434	1	90
S02	4,251	1	157
S03	4,028	1	49

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-31 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>South Spring (APN 001-135-02)</b>				
113502-S01-0	S01	0-2 inches bgs	<b><i>1,600</i></b>	<b><i>210</i></b>
113502-S01-2	S01	2-6 inches bgs	<b><i>2,000</i></b>	<b><i>240</i></b>
113502-S01-6	S01	6-12 inches bgs	<b><i>510</i></b>	<b><i>93</i></b>
113502-S02-0	S02	0-2 inches bgs	<b><i>540</i></b>	<b><i>78</i></b>
113502-S01-2	S02	2-6 inches bgs	<b><i>890</i></b>	<b><i>100</i></b>
113502-S01-6	S02	6-12 inches bgs	<b><i>990</i></b>	<b><i>170</i></b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	3,165	1	117	
S02	290	1	11	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

Ecology and Environment Inc. 2014

**Table 3-5-32 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>South Spring (APN 001-135-03)</b>				
113503-S01-0	S01	0-2 inches bgs	83	37
113503-S01-2	S01	2-6 inches bgs	43	35
113503-S01-6	S01	6-12 inches bgs	58	43
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	0	0	0	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

Ecology and Environment Inc. 2014

**Table 3-5-33 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>South Spring (APN: 001-136-11)</b>				
113611-S01-0	S01	0-2 inches bgs	<b><u>4,300</u></b>	<b><u>640</u></b>
113611-S01-2	S01	2-6 inches bgs	<b><u>7,400</u></b>	<b><u>990</u></b>
113611-S01-6	S01	6-12 inches bgs	<b><u>11,000</u></b>	<b><u>1,500</u></b>
113611-S02-0	S02	0-2 inches bgs	<b><u>540</u></b>	<b><u>110</u></b>
113611-S02-2	S02	2-6 inches bgs	<b><u>1,200</u></b>	<b><u>210</u></b>
113611-S02-6	S02	6-12 inches bgs	<b><u>1,000</u></b>	<b><u>180</u></b>
113611-S03-0	S03	0-2 inches bgs	<b><u>4,300</u></b>	<b><u>630</u></b>
113611-S03-2	S03	2-6 inches bgs	<b><u>5,800</u></b>	<b><u>850</u></b>
113611-S03-6	S03	6-12 inches bgs	<b><u>11,000</u></b>	<b><u>2,500</u></b>
113611-S04-0	S04	0-2 inches bgs	<b><u>950</u></b>	<b><u>140</u></b>
113611-S04-2	S04	2-6 inches bgs	Not Sampled	Not Sampled
113611-S04-6	S04	6-12 inches bgs	Not Sampled	Not Sampled
Decision Unit or Sample Location	Square Feet of Arsenic and Lead Over SSL *	Estimated Depth of Arsenic and Lead Over SSL (feet) **	Estimated Cubic Yards of Arsenic and Lead Over SSL	
S01	1,273	1	47	
S02	650	1	24	
S03	373	1	14	
S04	250	1	9	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-34 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>South Edwards (APN: 001-159-01)</b>				
115901-S01-0	S01	0 to 2 inches	<b>520</b>	<b>86</b>
115901-S01-2	S01	2 to 6 inches	<b>480</b>	<b>100</b>
115901-S01-6	S01	6 to 12 inches	380	<b>80</b>
115901-S02-0	S02	0 to 2 inches	<b>540</b>	<b>81</b>
115901-S02-2	S02	2 to 6 inches	<b>780</b>	<b>120</b>
115901-S02-6	S02	6 to 12 inches	Not Sampled	Not Sampled
115901-S03-0	S03	0 to 2 inches	<b>1,800</b>	<b>280</b>
115901-S03-2	S03	2 to 6 inches	<b>1,400</b>	<b>230</b>
115901-S03-6	S03	6 to 12 inches	190	58
115901-S04-0	S04	0 to 2 inches	<b>1,100</b>	<b>170</b>
115901-S04-2	S04	2 to 6 inches	<b>1,400</b>	<b>200</b>
115901-S04-6	S04	6 to 12 inches	<b>1,500</b>	<b>220</b>
115901-S05-0	S05	0 to 2 inches	<b>1,200</b>	<b>160</b>
115901-S05-2	S05	2 to 6 inches	<b>2,100</b>	<b>290</b>
115901-S05-6	S05	6 to 12 inches	<b>3,700</b>	<b>550</b>
115901-S06-0	S06	0 to 2 inches	<b>1,800</b>	<b>290</b>
115901-S06-2	S06	2 to 6 inches	<b>2,000</b>	<b>280</b>
115901-S06-6	S06	6 to 12 inches	<b>2,000</b>	<b>300</b>
115901-S07-0	S07	0 to 2 inches	<b>2,000</b>	<b>310</b>
115901-S07-2	S07	2 to 6 inches	<b>1,900</b>	<b>290</b>
115901-S07-6	S07	6 to 12 inches	<b>4,900</b>	<b>670</b>
115901-S08-0	S08	0 to 2 inches	<b>12,000</b>	<b>1,800</b>
115901-S08-2	S08	2 to 6 inches	<b>3,000</b>	<b>420</b>
115901-S08-6	S08	6 to 12 inches	<b>1,300</b>	<b>230</b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	1722	1	64	
S02	2712	1	100	
S03	1472	1	55	
S04	1788	1	66	
S05	1350	1	50	
S06	2542	1	94	
S07	1,205	1	45	
S08	1,465	1	54	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-35 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>West Galena (APN:001-164-01)</b>				
116401-S01-0	S01	0-2 inches bgs	<b>890</b>	<b>150</b>
116401-S01-2	S01	2-6 inches bgs	<b><i>2,000</i></b>	<b><i>320</i></b>
116401-S01-6	S01	6-12 inches bgs	<b><i>3,100</i></b>	<b><i>470</i></b>
116401-S02-0	S02	0-2 inches bgs	51	19
116401-S02-2	S02	2-6 inches bgs	<b>1,100</b>	<b>140</b>
116401-S02-6	S02	6-12 inches bgs	<b>610</b>	<b>150</b>
116401-S03-0	S03	0-2 inches bgs	<b>1,000</b>	<b>160</b>
116401-S03-2	S03	2-6 inches bgs	260	<b>120</b>
116401-S03-6	S03	6-12 inches bgs	390	<b>150</b>
116401-S04-0	S04	0-2 inches bgs	<b><i>4,900</i></b>	<b><i>780</i></b>
116401-S04-2	S04	2-6 inches bgs	<b><i>6,900</i></b>	<b><i>1,100</i></b>
116401-S04-6	S04	6-12 inches bgs	<b><i>6,200</i></b>	<b><i>1,200</i></b>

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	2,200	1	81
S02	2,570	1	95
S03	880	1	33
S04	700	1	26

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.



**Table 3-5-36 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>County Property at South Main (APN: 001-171-06)</b>				
117106-S01-0	S01	0-2 inches bgs	<b><i>1,300</i></b>	<b>160</b>
117106-S01-2	S01	2-6 inches bgs	<b><i>1,400</i></b>	<b>210</b>
117106-S01-6	S01	6-12 inches bgs	360	<b>80</b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	16,000	1	593	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

Ecology and Environment Inc. 2014

**Table 3-5-37 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>County Property Along Highway 50 (APN 001-171-10)</b>				
117110-S01-0	S01	0-2 inches bgs	<b>1,200</b>	<b>180</b>
117110-S01-2	S01	2-6 inches bgs	<b>1,400</b>	<b>200</b>
117110-S01-6	S01	6-12 inches bgs	<b>670</b>	<b>110</b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	15,000	1	556	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

Ecology and Environment Inc. 2014

**Table 3-5-38 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>County Big Ball Park (APN: 001-171-20)</b>				
117120-S01-0	S01	0 to 2 inches	220	34
117120-S01-2	S01	2 to 6 inches	<b>560</b>	<b>82</b>
117120-S01-6	S01	6 to 12 inches	140	<b>63</b>
117120-S02-0	S02	0 to 2 inches	320	51
117120-S02-2	S02	2 to 6 inches	180	44
117120-S02-6	S02	6 to 12 inches	120	28
117120-S03-0	S03	0 to 2 inches	380	59
117120-S03-2	S03	2 to 6 inches	<b>420</b>	<b>92</b>
117120-S03-6	S03	6 to 12 inches	<b>650</b>	<b>140</b>
117120-S04-0	S04	0 to 2 inches	270	39
117120-S04-2	S04	2 to 6 inches	170	35
117120-S04-6	S04	6 to 12 inches	78	19
117120-S05-0	S05	0 to 2 inches	320	<b>79</b>
117120-S05-2	S05	2 to 6 inches	<b>480</b>	<b>130</b>
117120-S05-6	S05	6 to 12 inches	<b>1,100</b>	<b>210</b>
117120-S06-0	S06	0 to 2 inches	<b>470</b>	<b>75</b>
117120-S06-2	S06	2 to 6 inches	380	<b>88</b>
117120-S06-6	S06	6 to 12 inches	<b>770</b>	<b>140</b>
117120-S07-0	S07	0 to 2 inches	380	<b>63</b>
117120-S07-2	S07	2 to 6 inches	350	<b>86</b>
117120-S07-6	S07	6 to 12 inches	380	<b>92</b>
117120-P01-0	P01	0 to 2 inches	140	13
117120-P01-2	P01	2 to 6 inches	140	19
117120-P01-6	P01	6 to 12 inches	250	40

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	35,000	1	1296
S02	0	0	0
S03	7,000	1	259
S04	0	0	0
S05	22,000	1	815
S06	14,000	1	519
S07	18,000	1	667
P01	0	0	0

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-39 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>South Main (APN: 001-173-04)</b>				
117304-S01-0	S01	0-2 inches bgs	<b>500</b>	<b>91</b>
117304-S01-2	S01	2-6 inches bgs	<b>510</b>	<b>120</b>
117304-S01-6	S01	6-12 inches bgs	360	<b>100</b>
117304-S02-0	S02	0-2 inches bgs	<b>480</b>	<b>100</b>
117304-S02-2	S02	2-6 inches bgs	400	<b>78</b>
117304-S02-6	S02	6-12 inches bgs	370	<b>68</b>
117304-S03-0	S03	0-2 inches bgs	100	33
Decision Unit or Sample Location	Square Feet of Arsenic and Lead Over SSL*	Estimated Depth of Arsenic and Lead Over SSL (feet) **	Estimated Cubic Yards of Arsenic and Lead Over SSL	
S01	10,000	1	370	
S02	1,000	1	37	
S03	0	0	0	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-40 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>County Property east of Eureka Elementary School (APN: 001-191-01)</b>				
119101-S01-0	S01	0-2 inches bgs	<b><i>28,000</i></b>	<b><i>5,900</i></b>
119101-S01-2	S01	2-6 inches bgs	<b><i>15,000</i></b>	<b><i>2,800</i></b>
119101-S01-6	S01	6-12 inches bgs	<b><i>8,600</i></b>	<b><i>1,400</i></b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	16,500	1	611	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

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**Table 3-5-41 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>County Property at Intersection of Well and Bullion (APN: 001-193-02)</b>				
119302-S01-0	S01	0-2 inches bgs	290	<b>77</b>
119302-S01-2	S01	2-6 inches bgs	Not Sampled	Not Sampled
119302-S01-6	S01	6-12 inches bgs	Not Sampled	Not Sampled
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S01	3,600	1	133	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

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**Table 3-5-42 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>South Main (APN: 008-080-01 )</b>				
808001-S01-0	S01	0-2 inches bgs	150	38
808001-S01-2	S01	2-6 inches bgs	Not Sampled	Not Sampled
808001-S01-6	S01	6-12 inches bgs	Not Sampled	Not Sampled
808001-S02-0	S02	0-2 inches bgs	160	44
808001-S02-2	S02	2-6 inches bgs	Not Sampled	Not Sampled
808001-S02-6	S02	6-12 inches bgs	Not Sampled	Not Sampled
808001-S03-0	S03	0-2 inches bgs	<b>420</b>	<b>70</b>
808001-S03-2	S03	2-6 inches bgs	<b>480</b>	<b>120</b>
808001-S03-6	S03	6-12 inches bgs	130	24

Decision Unit or Sample Location	Square Feet of Arsenic and Lead Over SSL*	Estimated Depth of Arsenic and Lead Over SSL (feet) **	Estimated Cubic Yards of Arsenic and Lead Over SSL
S01	0	0	0
S02	0	0	0
S03	2,500	1	93

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.



**Table 3-5-43 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>South Main (APN: 008-080-02)</b>				
808002-S01-0	S01	0 to 2 inches	390	56
808002-S01-2	S01	2 to 6 inches	280	58
808002-S01-6	S01	6 to 12 inches	130	41
808002-S02-0	S02	0 to 2 inches	370	<b>66</b>
808002-S02-2	S02	2 to 6 inches	120	45
808002-S02-6	S02	6 to 12 inches	35	35
808002-S03-0	S03	0 to 2 inches	120	36
808002-S03-2	S03	2 to 6 inches	130	39
808002-S03-6	S03	6 to 12 inches	<b>720</b>	<b>110</b>
808002-S04-0	S04	0 to 2 inches	120	15
808002-S04-2	S04	2 to 6 inches	120	35
808002-S04-6	S04	6 to 12 inches	110	34
Decision Unit or Sample Location	Square Feet of Arsenic and Lead Over SSL*	Estimated Depth of Arsenic and Lead Over SSL (feet) **	Estimated Cubic Yards of Arsenic and Lead Over SSL	
S01	0	0	0	
S02	0	0	0	
S03	0	0	0	
S04	0	0	0	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

Ecology and Environment Inc. 2014

**Table 3-5-44 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>County Small Ball Park (APN: 008-400-01)</b>				
840001-S01-0	S01	0 to 2 inches	81	22
840001-S01-2	S01	2 to 6 inches	70	25
840001-S01-6	S01	6 to 12 inches	99	51
840001-S02-0	S02	0 to 2 inches	170	32
840001-S02-2	S02	2 to 6 inches	290	<b>74</b>
840001-S02-6	S02	6 to 12 inches	270	<b>80</b>
840001-S03-0	S03	0 to 2 inches	42	20
840001-S03-2	S03	2 to 6 inches	Not Sampled	Not Sampled
840001-S03-6	S03	6 to 12 inches	Not Sampled	Not Sampled
840001-S04-0	S04	0 to 2 inches	36	<10
840001-S04-2	S04	2 to 6 inches	Not Sampled	Not Sampled
840001-S04-6	S04	6 to 12 inches	Not Sampled	Not Sampled
840001-S05-0	S05	0 to 2 inches	180	36
840001-S05-2	S05	2 to 6 inches	190	44
840001-S05-6	S05	6 to 12 inches	170	50
840001-S06-0	S06	0 to 2 inches	240	48
840001-S06-2	S06	2 to 6 inches	290	<b>62</b>
840001-S06-6	S06	6 to 12 inches	220	<b>63</b>
840001-S07-0	S07	0 to 2 inches	230	<b>62</b>
840001-S07-2	S07	2 to 6 inches	150	42
840001-S07-6	S07	6 to 12 inches	210	<b>72</b>
840001-S08-0	S08	0 to 2 inches	<b>570</b>	34
840001-S08-2	S08	2 to 6 inches	<b>660</b>	<b>120</b>
840001-S08-6	S08	6 to 12 inches	<b>640</b>	<b>110</b>
840001-P01-0	P01	0 to 2 inches	140	24
840001-P01-2	P01	2 to 6 inches	220	38
840001-P01-6	P01	6 to 12 inches	100	57

<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL *</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>
S01	0	0	0
S02	23,000	1	852
S03	0	0	0
S04	0	0	0
S05	0	0	0
S06	5,000	1	185
S07	3,400	1	126
S08	4,000	1	148
P01	0	0	0

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

**Table 3-5-45 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
Nevada Department of Transportation Right-of-Way along Highway 50				
NDOT-ROW-P01-0	P01	0 to 2 inches	<b><i>21,000</i></b>	<b><i>4,700</i></b>
NDOT-ROW-P01-2	P01	2 to 6 inches	<b>360</b>	<b>130</b>
NDOT-ROW-P01-6	P01	6 to 12 inches	<b>600</b>	<b>160</b>
NDOT-ROW-P02-0	P02	0 to 2 inches	<b><i>22,000</i></b>	<b><i>4,900</i></b>
NDOT-ROW-P02-2	P02	2 to 6 inches	<b><i>3,700</i></b>	<b><i>740</i></b>
NDOT-ROW-P02-6	P02	6 to 12 inches	<b><i>1,800</i></b>	<b><i>370</i></b>
NDOT-ROW-P03-0	P03	0 to 2 inches	<b><i>3,300</i></b>	<b><i>530</i></b>
NDOT-ROW-P03-2	P03	2 to 6 inches	<b>260</b>	<b>77</b>
NDOT-ROW-P03-6	P03	6 to 12 inches	<b>210</b>	<b>89</b>
NDOT-ROW-P04-0	P04	0 to 2 inches	<b><i>3,000</i></b>	<b><i>500</i></b>
NDOT-ROW-P04-2	P04	2 to 6 inches	<b><i>1,200</i></b>	<b><i>180</i></b>
NDOT-ROW-P04-6	P04	6 to 12 inches	<b>520</b>	<b>99</b>
NDOT-ROW-P05-0	P05	0 to 2 inches	<b><i>36,000</i></b>	<b><i>9,300</i></b>
NDOT-ROW-P05-2	P05	2 to 6 inches	<b><i>6,400</i></b>	<b><i>1,300</i></b>
NDOT-ROW-P05-6	P05	6 to 12 inches	<b><i>5,200</i></b>	<b><i>1,100</i></b>
NDOT-ROW-P06-0	P06	0 to 2 inches	<b><i>14,000</i></b>	<b><i>2,800</i></b>
NDOT-ROW-P06-2	P06	2 to 6 inches	<b><i>2,600</i></b>	<b><i>490</i></b>
NDOT-ROW-P06-6	P06	6 to 12 inches	<b><i>1,900</i></b>	<b><i>380</i></b>
Decision Unit or Sample Location	Square Feet of Arsenic and Lead Over SSL*	Estimated Depth of Arsenic and Lead Over SSL (feet) **	Estimated Cubic Yards of Arsenic and Lead Over SSL	
P01-P06	70,000	1	2593	
<div>Notes:</div> <div>mg/kg = milligrams per kilogram</div> <div>START = Superfund Technical Assessment and Response Team</div> <div>XRF = X-Ray Fluorescence</div> <div>APN = Assessor's Parcel Number</div> <div>SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg</div> <div>NA = Sample was not analyzed or the size of the area associated with the locations is not known.</div> <div>Bold = Above the SSL</div> <div>Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.</div> <div>Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead</div> <div>* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.</div> <div>** Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.</div>				
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**Table 3-5-46 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>Eureka School District Owned Property at North Adams (APN: 001-063-04)</b>				
ESS-106304-S01-0	S01	0 to 2 inches	360	51
ESS-106304-S01-2	S01	2 to 6 inches	<b>1,300</b>	<b>190</b>
ESS-106304-S02-0	S02	0 to 2 inches	180	33
ESS-106304-S02-2	S02	2 to 6 inches	<b>540</b>	<b>77</b>
ESS-106304-S03-0	S03	0 to 2 inches	200	30
ESS-106304-S03-2	S03	2 to 6 inches	310	42
ESS-106304-S04-0	S04	0 to 2 inches	130	26
ESS-106304-S04-2	S04	2 to 6 inches	<b>520</b>	<b>88</b>
ESS-106304-S05-0	S05	0 to 2 inches	<b>2,700</b>	<b>400</b>
ESS-106304-S05-2	S05	2 to 6 inches	<b>2,200</b>	<b>410</b>
ESS-106304-P01-0	P01	0 to 2 inches	<b>1,100</b>	<b>120</b>
ESS-106304-P01-2	P01	2-6 inches bgs	<b>530</b>	<b>71</b>
ESS-106304-P01-6	P01	6-12 inches bgs	<b>420</b>	54
ESS-106304-P02-0	P02	0 to 2 inches	<b>990</b>	<b>110</b>
ESS-106304-P02-2	P02	2-6 inches bgs	<b>870</b>	<b>130</b>
ESS-106304-P02-6	P02	6-12 inches bgs	<b>610</b>	<b>85</b>

Decision Unit or Sample Location	Square Feet of Arsenic and Lead Over SSL*	Estimated Depth of Arsenic and Lead Over SSL (feet) **	Estimated Cubic Yards of Arsenic and Lead Over SSL
S01	5,517	1	204
S02	13,165	1	488
S03	9,987	0	0
S04	4,645	1	172
S05	4,978	1	184
P01	10,000	1	370
P02	10,000	1	370

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

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**Table 3-5-47/48 Eureka Residential Property Sampling Data**  
**Eureka Smelter Sites**  
**Removal Support**  
**Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>Eureka Consolidated Slag Pile</b>				
Dark Slag A1	Dark Colored Slag	0-6 inches bgs	<b><i>15,000</i></b>	<b><i>2,600</i></b>
Med Slag A2	Medium Colored Slag	0-6 inches bgs	<b><i>16,000</i></b>	<b><i>23,000</i></b>
Light Slag A3	Light Colored Slag	0-6 inches bgs	<b><i>16,000</i></b>	<b><i>4,400</i></b>
<b>Richmond Consolidated Slag Pile</b>				
South Slag A4	Slag in Richmond CSP	0-6 inches bgs	<b><i>31,000</i></b>	<b><i>18,000</i></b>

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

Ecology and Environment Inc. 2014

**Table 3-5-49 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

<b>Sample Identification Number</b>	<b>Decision Unit or Sample Location</b>	<b>Depth Interval</b>	<b>START XRF Lead Results (mg/kg) dry weight</b>	<b>START XRF Arsenic Results (mg/kg) dry weight</b>
<b>North Main (APN: 001-071-07)</b>				
ESS-107107-S01-0	S01	0 to 2 inches	180	50
ESS-107107-S01-2	S01	2 to 6 inches	<b>970</b>	<b>120</b>
ESS-107107-S01-6	S01	6 to 12 inches	<b><i>2,200</i></b>	<b><i>340</i></b>
<b>Decision Unit or Sample Location</b>	<b>Square Feet of Arsenic and Lead Over SSL*</b>	<b>Estimated Depth of Arsenic and Lead Over SSL (feet) **</b>	<b>Estimated Cubic Yards of Arsenic and Lead Over SSL</b>	
S1	1,973	1	73	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

Bold = Above the SSL

Bold and italics = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

Bold, underlined and italics = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.

Ecology and Environment Inc. 2014

**Table 3-5-50 Eureka Residential Property Sampling Data  
Eureka Smelter Sites  
Removal Support  
Eureka, Eureka County, Nevada**

**Project No. EE-002693-2241**

**TDD No. TO2-09-14-02-0002**

Sample Identification Number	Decision Unit or Sample Location	Depth Interval	START XRF Lead Results (mg/kg) dry weight	START XRF Arsenic Results (mg/kg) dry weight
<b>West Galena (APN: 001-161-18)</b>				
116118-S04-0	S04	0-2 inches bgs	<b><u>18,000</u></b>	<b><u>3,600</u></b>
116118-S04-2	S04	2-6 inches bgs	Not Sampled	Not Sampled
116118-S04-6	S04	6-12 inches bgs	Not Sampled	Not Sampled
116118-S05-0	S05	0-2 inches bgs	<b><u>5,100</u></b>	<b><u>1,100</u></b>
116118-S05-2	S05	2-6 inches bgs	<b><u>13,000</u></b>	<b><u>3,600</u></b>
116118-S05-6	S05	6-12 inches bgs	<b><u>13,000</u></b>	<b><u>4,300</u></b>
Decision Unit or Sample Location	Square Feet of Arsenic and Lead Over SSL *	Estimated Depth of Arsenic and Lead Over SSL (feet) **	Estimated Cubic Yards of Arsenic and Lead Over SSL	
S04	2,000	1	74	
S05	2,000	1	74	

**Notes:**

mg/kg = milligrams per kilogram

START = Superfund Technical Assessment and Response Team

XRF = X-Ray Fluorescence

APN = Assessor's Parcel Number

SSL = Site Screening Level; the SSL for arsenic by XRF is 60 mg/kg and for lead by XRF is 400 mg/kg

NA = Sample was not analyzed or the size of the area associated with the locations is not known.

**Bold** = Above the SSL

**Bold and italics** = Above 180 mg/kg for arsenic by XRF and 1,200 mg/kg for lead.

**Bold, underlined and italics** = Above 600 mg/kg for arsenic by XRF and 3,000 mg/kg for lead

\* The square footage for grid sample locations of undeveloped properties are estimates based upon the square footage of the property divided by the number of sample locations.

\*\* Depth of arsenic and lead over the SSL are for a removal volume estimate which assumes the removal action level is 60 mg/kg for arsenic by XRF and 400 mg/kg for lead by XRF. Depth is based upon documented arsenic and lead concentrations over the SSL. Arsenic and lead concentrations over the SSL at 0 to 2 inches is considered contaminated to 0.5 feet. Arsenic and lead concentrations over the SSL at 2 inches or more is considered contaminated to 1 foot. If the 0 to 6 inch interval is not contaminated above the SSL then the excavation depth is 0.0 feet.



***Appendix D:***  
***Laboratory Data***

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**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 6/5/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14135C

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the Eureka Smelter Summer 2014 Sampling project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment  
Mindy Song, Ecology and Environment

**Analyses included in this report:**

---

Metals by ICP



United States Environmental Protection Agency

## Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

Phone:(510) 412-2300

Fax:(510) 412-2302

Project Manager: Thomas Dunkelman

Project Number: R14S51

Project: Eureka Smelter Summer 2014 Sampling

Emergency Response Section

75 Hawthorne Street

San Francisco CA, 94105

SDG: 14135C

Reported: 06/05/14 17:33

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
AX-10	1405020-01	Soil	05/02/14 12:01	05/13/14 15:17
AX-14	1405020-02	Soil	05/02/14 12:02	05/13/14 15:17
AX-20	1405020-03	Soil	05/02/14 12:03	05/13/14 15:17
AX-22	1405020-04	Soil	05/02/14 12:04	05/13/14 15:17
AX-25	1405020-05	Soil	05/02/14 12:05	05/13/14 15:17
AX-18	1405020-06	Soil	05/02/14 12:06	05/13/14 15:17
AX-34	1405020-07	Soil	05/02/14 12:07	05/13/14 15:17
BX-04	1405020-08	Soil	05/03/14 12:00	05/13/14 15:17
BX-17	1405020-09	Soil	05/03/14 12:01	05/13/14 15:17
BX-21	1405020-10	Soil	05/03/14 12:02	05/13/14 15:17
CX-4	1405020-11	Soil	05/05/14 12:00	05/13/14 15:17
CX-14	1405020-12	Soil	05/05/14 12:01	05/13/14 15:17
CX-26	1405020-13	Soil	05/05/14 12:02	05/13/14 15:17
CX-12	1405020-14	Soil	05/05/14 12:03	05/13/14 15:17
CX-12SP	1405020-15	Soil	05/05/14 12:04	05/13/14 15:17

SDG ID 14135C

Samples were received in XRF cups already dried and sieved. Results are reported on an "as received" basis.

Work Order(s)

1405020



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Thomas Dunkelman

Project Number: R14S51

Project: Eureka Smelter Summer 2014 Sampling

Emergency Response Section

75 Hawthorne Street

San Francisco CA, 94105

SDG: 14135C

Reported: 06/05/14 17:33

**Sample Results**

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID:	1405020-01								Soil - Sampled: 05/02/14 12:01
Sample ID:	AX-10								Metals by EPA 6000/7000 Series Methods
Arsenic		130		2	mg/kg wet	B14E081	05/22/14	05/27/14	6010C/SOP503
Lead		700		3	"	"	"	"	6010C/SOP503
Lab ID:	1405020-02								Soil - Sampled: 05/02/14 12:02
Sample ID:	AX-14								Metals by EPA 6000/7000 Series Methods
Arsenic		49		2	mg/kg wet	B14E081	05/22/14	05/27/14	6010C/SOP503
Lead		200		3	"	"	"	"	6010C/SOP503
Lab ID:	1405020-03								Soil - Sampled: 05/02/14 12:03
Sample ID:	AX-20								Metals by EPA 6000/7000 Series Methods
Arsenic		260		2	mg/kg wet	B14E081	05/22/14	05/27/14	6010C/SOP503
Lead		1,300		3	"	"	"	"	6010C/SOP503
Lab ID:	1405020-04								Soil - Sampled: 05/02/14 12:04
Sample ID:	AX-22								Metals by EPA 6000/7000 Series Methods
Arsenic		180		2	mg/kg wet	B14E081	05/22/14	05/27/14	6010C/SOP503
Lead		930		3	"	"	"	"	6010C/SOP503
Lab ID:	1405020-05								Soil - Sampled: 05/02/14 12:05
Sample ID:	AX-25								Metals by EPA 6000/7000 Series Methods
Arsenic		34		2	mg/kg wet	B14E081	05/22/14	05/28/14	6010C/SOP503
Lead		88		3	"	"	"	"	6010C/SOP503
Lab ID:	1405020-06								Soil - Sampled: 05/02/14 12:06
Sample ID:	AX-18								Metals by EPA 6000/7000 Series Methods
Arsenic		420		2	mg/kg wet	B14E081	05/22/14	05/28/14	6010C/SOP503
Lead		2,100		3	"	"	"	"	6010C/SOP503
Lab ID:	1405020-07								Soil - Sampled: 05/02/14 12:07
Sample ID:	AX-34								Metals by EPA 6000/7000 Series Methods
Arsenic		290		2	mg/kg wet	B14E081	05/22/14	05/28/14	6010C/SOP503
Lead		1,300		3	"	"	"	"	6010C/SOP503
Lab ID:	1405020-08								Soil - Sampled: 05/03/14 12:00
Sample ID:	BX-04								Metals by EPA 6000/7000 Series Methods
Arsenic		160		2	mg/kg wet	B14E081	05/22/14	05/28/14	6010C/SOP503
Lead		810		3	"	"	"	"	6010C/SOP503
Lab ID:	1405020-09								Soil - Sampled: 05/03/14 12:01
Sample ID:	BX-17								Metals by EPA 6000/7000 Series Methods
Arsenic		420		2	mg/kg wet	B14E081	05/22/14	05/28/14	6010C/SOP503
Lead		3,200		3	"	"	"	"	6010C/SOP503
Lab ID:	1405020-10								Soil - Sampled: 05/03/14 12:02
Sample ID:	BX-21								Metals by EPA 6000/7000 Series Methods
Arsenic		50		2	mg/kg wet	B14E081	05/22/14	05/28/14	6010C/SOP503
Lead		310		3	"	"	"	"	6010C/SOP503
Lab ID:	1405020-11								Soil - Sampled: 05/05/14 12:00

7114

10-1-14



## United States Environmental Protection Agency

## Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

Phone:(510) 412-2300

Fax:(510) 412-2302

Project Manager: Thomas Dunkelman

Project Number: R14S51

Project: Eureka Smelter Summer 2014 Sampling

Emergency Response Section

75 Hawthorne Street

San Francisco CA, 94105

SDG: 14135C

Reported: 06/05/14 17:33

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID:	1405020-11								Soil - Sampled: 05/05/14 12:00
Sample ID:	CX-4								Metals by EPA 6000/7000 Series Methods
Arsenic		990		2	mg/kg wet	B14E081	05/22/14	05/28/14	6010C/SOP503
Lead	RE1	6,600		15	"	"	"	05/29/14	6010C/SOP503
Lab ID:	1405020-12								Soil - Sampled: 05/05/14 12:01
Sample ID:	CX-14								Metals by EPA 6000/7000 Series Methods
Arsenic		570		2	mg/kg wet	B14E081	05/22/14	05/28/14	6010C/SOP503
Lead		2,700		3	"	"	"	"	6010C/SOP503
Lab ID:	1405020-13								Soil - Sampled: 05/05/14 12:02
Sample ID:	CX-26								Metals by EPA 6000/7000 Series Methods
Arsenic		380		2	mg/kg wet	B14E081	05/22/14	05/28/14	6010C/SOP503
Lead		2,200		3	"	"	"	"	6010C/SOP503
Lab ID:	1405020-14								Soil - Sampled: 05/05/14 12:03
Sample ID:	CX-12								Metals by EPA 6000/7000 Series Methods
Arsenic		480		2	mg/kg wet	B14E081	05/22/14	05/28/14	6010C/SOP503
Lead		2,000		3	"	"	"	"	6010C/SOP503
Lab ID:	1405020-15								Soil - Sampled: 05/05/14 12:04
Sample ID:	CX-12SP								Metals by EPA 6000/7000 Series Methods
Arsenic		480		2	mg/kg wet	B14E081	05/22/14	05/28/14	6010C/SOP503
Lead		2,000		3	"	"	"	"	6010C/SOP503

714

10/1/14



## United States Environmental Protection Agency

## Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

Phone:(510) 412-2300

Fax:(510) 412-2302

Project Manager: Thomas Dunkelman

Project Number: R14S51

Project: Eureka Smelter Summer 2014 Sampling

Emergency Response Section

75 Hawthorne Street

San Francisco CA, 94105

SDG: 14135C

Reported: 06/05/14 17:33

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B14E081 - 3050B Std Acid Dig - Metals by 6010

Prepared: 05/22/14 Analyzed: 05/27/14

Metals by EPA 6000/7000 Series Methods - Quality Control

## Blank (B14E081-BLK1)

Arsenic	ND	U		2 mg/kg wet
Barium	ND	U		5 "
Cadmium	ND	U		0.5 "
Chromium	ND	U		1 "
Lead	1.8	J		3 "
Selenium	ND	U		2 "
Silver	ND	U		1 "

## Blank (B14E081-BLK2)

Arsenic	ND	U		2 mg/kg wet
Barium	ND	U		5 "
Cadmium	ND	U		0.5 "
Chromium	ND	U		1 "
Lead	ND	U		3 "
Selenium	ND	U		2 "
Silver	ND	U		1 "

## Matrix Spike (B14E081-MS1)

Source: 1405020-07

Arsenic	670			2 mg/kg wet	400	288	96	75-125	20
Lead	1,410	Q10		3 "	100	1,260	145	75-125	20

## Matrix Spike Dup (B14E081-MSD1)

Source: 1405020-07

Arsenic	727			2 mg/kg wet	400	288	110	75-125	8	20
Lead	1,470	Q10		3 "	100	1,260	210	75-125	4	20

## Reference (B14E081-SRM1)

Arsenic	293			2 mg/kg wet	254		115	60.9-139		
Lead	58.6			3 "	57.1		103	72.8-127		

7/4 10/1/14



United States Environmental Protection Agency

**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804

Phone:(510) 412-2300

Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

75 Hawthorne Street

San Francisco CA, 94105

**SDG:** 14135C

**Reported:** 06/05/14 17:33

**Qualifiers and Comments**

**Q10** The analyte concentration in the unfortified sample is significantly greater than the concentration spiked into the matrix spike and matrix spike duplicate. The reported spike recovery is not a meaningful measure of the dataset's analytical accuracy.

**J** The reported result for this analyte should be considered an estimated value.

**U** Not Detected

**NR** Not Reported

**RE1, RE2, etc:** Result is from a sample re-analysis.





**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 6/5/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14135D

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment  
Mindy Song, Ecology and Environment

**Analyses included in this report:**

Metals by ICP



United States Environmental Protection Agency

# Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

Phone:(510) 412-2300

Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14135D

**Reported:** 06/05/14 17:27

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
BX-20	1405021-01	Soil	05/03/14 12:03	05/13/14 16:16
CX-05	1405021-02	Soil	05/05/14 12:06	05/13/14 16:16
CX-06	1405021-03	Soil	05/05/14 12:07	05/13/14 16:16
CX-07	1405021-04	Soil	05/05/14 12:08	05/13/14 16:16
CX-09	1405021-05	Soil	05/05/14 12:09	05/13/14 16:16
EX-23	1405021-06	Soil	05/07/14 12:05	05/13/14 16:16
EX-25	1405021-07	Soil	05/07/14 12:06	05/13/14 16:16
CX-27	1405022-01	Soil	05/05/14 12:05	05/13/14 16:15
DX-01	1405022-02	Soil	05/06/14 12:00	05/13/14 16:15
DX-08	1405022-03	Soil	05/06/14 12:01	05/13/14 16:15
DX-21	1405022-04	Soil	05/06/14 12:02	05/13/14 16:15
EX-03	1405022-05	Soil	05/07/14 12:00	05/13/14 16:15
EX-10	1405022-06	Soil	05/07/14 12:01	05/13/14 16:15
EX-12	1405022-07	Soil	05/07/14 12:02	05/13/14 16:15
EX-20	1405022-08	Soil	05/07/14 12:03	05/13/14 16:15
EX-20SP	1405022-09	Soil	05/07/14 12:04	05/13/14 16:15

**SDG ID 14135D**

Samples were received in XRF cups already dried and sieved. Results are reported on an "as received" basis.

### Work Order(s)

**1405021**

**1405022**



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14135D

**Reported:** 06/05/14 17:27

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
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**Lab ID:** 1405021-01

**Soil - Sampled: 05/03/14 12:03**

**Sample ID:** BX-20

**Metals by EPA 6000/7000 Series Methods**

Arsenic		16		2	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Barium		290		5	"	"	"	"	6010C/SOP503
Cadmium		0.31	C1, J	0.50	"	"	"	"	6010C/SOP503
Chromium		16		1	"	"	"	"	6010C/SOP503
Lead		6.2		3	"	"	"	"	6010C/SOP503
Selenium		ND	U	2	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503

**Lab ID:** 1405021-02

**Soil - Sampled: 05/05/14 12:06**

**Sample ID:** CX-05

**Metals by EPA 6000/7000 Series Methods**

Arsenic		18		2	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Barium		250		5	"	"	"	"	6010C/SOP503
Cadmium		0.27	C1, J	0.50	"	"	"	"	6010C/SOP503
Chromium		22		1	"	"	"	"	6010C/SOP503
Lead		15		3	"	"	"	"	6010C/SOP503
Selenium		ND	U	2	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503

**Lab ID:** 1405021-03

**Soil - Sampled: 05/05/14 12:07**

**Sample ID:** CX-06

**Metals by EPA 6000/7000 Series Methods**

Arsenic		18		2	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Barium		230		5	"	"	"	"	6010C/SOP503
Cadmium		0.28	C1, J	0.50	"	"	"	"	6010C/SOP503
Chromium		16		1	"	"	"	"	6010C/SOP503
Lead		8.2		3	"	"	"	"	6010C/SOP503
Selenium		ND	U	2	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503

**Lab ID:** 1405021-04

**Soil - Sampled: 05/05/14 12:08**

**Sample ID:** CX-07

**Metals by EPA 6000/7000 Series Methods**

Arsenic		25		2	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Barium		250		5	"	"	"	"	6010C/SOP503
Cadmium		0.41	C1, J	0.50	"	"	"	"	6010C/SOP503
Chromium		17		1	"	"	"	"	6010C/SOP503
Lead		46		3	"	"	"	"	6010C/SOP503
Selenium		ND	U	2	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503

**Lab ID:** 1405021-05

**Soil - Sampled: 05/05/14 12:09**

**Sample ID:** CX-09

**Metals by EPA 6000/7000 Series Methods**

Arsenic		21		2	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Barium		300		5	"	"	"	"	6010C/SOP503
Cadmium		0.45	C1, J	0.50	"	"	"	"	6010C/SOP503



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14135D

**Reported:** 06/05/14 17:27

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1405021-05</b>							<b>Soil - Sampled: 05/05/14 12:09</b>		
<b>Sample ID: CX-09</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Chromium		18		1	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Lead		24		3	"	"	"	"	6010C/SOP503
Selenium		ND	U	2	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
<b>Lab ID: 1405021-06</b>							<b>Soil - Sampled: 05/07/14 12:05</b>		
<b>Sample ID: EX-23</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		15		2	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Barium		330		5	"	"	"	"	6010C/SOP503
Cadmium		0.50		0.50	"	"	"	"	6010C/SOP503
Chromium		22		1	"	"	"	"	6010C/SOP503
Lead		18		3	"	"	"	"	6010C/SOP503
Selenium		ND	U	2	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
<b>Lab ID: 1405021-07</b>							<b>Soil - Sampled: 05/07/14 12:06</b>		
<b>Sample ID: EX-25</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		14		2	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Barium		330		5	"	"	"	"	6010C/SOP503
Cadmium		0.45	C1, J	0.50	"	"	"	"	6010C/SOP503
Chromium		20		1	"	"	"	"	6010C/SOP503
Lead		13		3	"	"	"	"	6010C/SOP503
Selenium		ND	U	2	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
<b>Lab ID: 1405022-01</b>							<b>Soil - Sampled: 05/05/14 12:05</b>		
<b>Sample ID: CX-27</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		540		2	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Lead		3,000		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1405022-02</b>							<b>Soil - Sampled: 05/06/14 12:00</b>		
<b>Sample ID: DX-01</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		130		2	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Lead		540		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1405022-03</b>							<b>Soil - Sampled: 05/06/14 12:01</b>		
<b>Sample ID: DX-08</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		81		2	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Lead		190		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1405022-04</b>							<b>Soil - Sampled: 05/06/14 12:02</b>		
<b>Sample ID: DX-21</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		2,100		2	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Lead	RE1	12,000		15	"	"	"	05/29/14	6010C/SOP503
<b>Lab ID: 1405022-05</b>							<b>Soil - Sampled: 05/07/14 12:00</b>		



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14135D

**Reported:** 06/05/14 17:27

**Sample Results**

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1405022-05</b>							<b>Soil - Sampled: 05/07/14 12:00</b>		
<b>Sample ID: EX-03</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		580		2	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Lead		2,800		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1405022-06</b>							<b>Soil - Sampled: 05/07/14 12:01</b>		
<b>Sample ID: EX-10</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		1,000		2	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Lead		4,600		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1405022-07</b>							<b>Soil - Sampled: 05/07/14 12:02</b>		
<b>Sample ID: EX-12</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		1,400		2	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Lead	RE1	6,800		15	"	"	"	05/29/14	6010C/SOP503
<b>Lab ID: 1405022-08</b>							<b>Soil - Sampled: 05/07/14 12:03</b>		
<b>Sample ID: EX-20</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		1,000		2	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Lead		5,000		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1405022-09</b>							<b>Soil - Sampled: 05/07/14 12:04</b>		
<b>Sample ID: EX-20SP</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		890		2	mg/kg wet	B14E082	05/22/14	05/27/14	6010C/SOP503
Lead		4,600		3	"	"	"	"	6010C/SOP503



# United States Environmental Protection Agency Region 9 Laboratory

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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14135D

**Reported:** 06/05/14 17:27

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14E082 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 05/22/14 Analyzed: 05/27/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

### Blank (B14E082-BLK1)

Arsenic	ND	U		2 mg/kg wet						
Barium	ND	U		5 "						
Cadmium	ND	U		0.5 "						
Chromium	ND	U		1 "						
Lead	ND	U		3 "						
Selenium	ND	U		2 "						
Silver	ND	U		1 "						

### Matrix Spike (B14E082-MS1)

**Source: 1405022-01**

Arsenic	1,030			2 mg/kg wet	400	540	122	75-125		20
Lead	3,120	Q10		3 "	100	3,020	104	75-125		20

### Matrix Spike (B14E082-MS2)

**Source: 1405022-08**

Arsenic	1,410			2 mg/kg wet	396	1,030	94	75-125		20
Lead	4,980	Q10		3 "	99.0	5,030	<b>NR</b>	75-125		20

### Matrix Spike Dup (B14E082-MSD1)

**Source: 1405022-01**

Arsenic	1,030			2 mg/kg wet	400	540	122	75-125	0.3	20
Lead	3,200	Q10		3 "	100	3,020	<b>177</b>	75-125	2	20

### Matrix Spike Dup (B14E082-MSD2)

**Source: 1405022-08**

Arsenic	1,400			2 mg/kg wet	396	1,030	93	75-125	0.4	20
Lead	4,920	Q10		3 "	99.0	5,030	<b>NR</b>	75-125	1	20

### Reference (B14E082-SRM1)

Arsenic	282			2 mg/kg wet	253		111	60.9-139		
Barium	ND	U		5 "	1.60			62.5-138		
Cadmium	10.7			0.5 "	10.9		98	70.6-128		
Chromium	27			1 "	27.1		100	68.3-132		
Lead	53.9			3 "	56.8		95	72.8-127		
Silver	6.22			1 "	5.89		105	45.8-154		

### Reference (B14E082-SRM2)

Selenium	6.81			2 mg/kg wet	9.99		68	41-159		
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United States Environmental Protection Agency  
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**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14135D

**Reported:** 06/05/14 17:27

**Qualifiers and Comments**

Q10 The analyte concentration in the unfortified sample is significantly greater than the concentration spiked into the matrix spike and matrix spike duplicate. The reported spike recovery is not a meaningful measure of the dataset's analytical accuracy.

J The reported result for this analyte should be considered an estimated value.

C1 The reported concentration for this analyte is below the quantitation limit.

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.



**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 7/1/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14157E

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment  
Mindy Song, Ecology and Environment

**Analyses included in this report:**

Metals by ICP





United States Environmental Protection Agency

Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

Phone:(510) 412-2300

Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157E

**Reported:** 07/01/14 14:14

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
FX-01	1406026-01	Soil	05/09/14 12:00	06/06/14 10:20
FX-02	1406026-02	Soil	05/09/14 12:00	06/06/14 10:20
FX-07	1406026-03	Soil	05/09/14 12:00	06/06/14 10:20
FX-10	1406026-04	Soil	05/09/14 12:00	06/06/14 10:20
FX-10 Split	1406026-05	Soil	05/09/14 12:00	06/06/14 10:20
FX-15	1406026-06	Soil	05/09/14 12:00	06/06/14 10:20
FX-26	1406026-07	Soil	05/09/14 12:00	06/06/14 10:20
FX-19	1406026-08	Soil	05/09/14 12:00	06/06/14 10:20
GX-13	1406026-09	Soil	05/10/14 12:00	06/06/14 10:20
GX-17	1406026-10	Soil	05/10/14 12:00	06/06/14 10:20
GX-22	1406026-11	Soil	05/10/14 12:00	06/06/14 10:20
GX-28	1406026-12	Soil	05/10/14 12:00	06/06/14 10:20
HX-03D	1406026-13	Soil	05/12/14 12:00	06/06/14 10:20
HX-03 Split	1406026-14	Soil	05/12/14 12:00	06/06/14 10:20
HX-08	1406026-15	Soil	05/12/14 12:00	06/06/14 10:20

**SDG ID 14157E**

**Work Order(s)**

**1406026**



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157E

**Reported:** 07/01/14 14:14

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1406026-01</b>							<b>Soil - Sampled: 05/09/14 12:00</b>		
<b>Sample ID: FX-01</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		140		2	mg/kg wet	B14F060	06/12/14	06/16/14	6010C/SOP503
Lead		1,100		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1406026-02</b>							<b>Soil - Sampled: 05/09/14 12:00</b>		
<b>Sample ID: FX-02</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		200		2	mg/kg wet	B14F060	06/12/14	06/16/14	6010C/SOP503
Lead		1,500		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1406026-03</b>							<b>Soil - Sampled: 05/09/14 12:00</b>		
<b>Sample ID: FX-07</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		140		2	mg/kg wet	B14F060	06/12/14	06/16/14	6010C/SOP503
Lead		720		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1406026-04</b>							<b>Soil - Sampled: 05/09/14 12:00</b>		
<b>Sample ID: FX-10</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		700		2	mg/kg wet	B14F060	06/12/14	06/16/14	6010C/SOP503
Lead		3,300		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1406026-05</b>							<b>Soil - Sampled: 05/09/14 12:00</b>		
<b>Sample ID: FX-10 Split</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		740		2	mg/kg wet	B14F060	06/12/14	06/16/14	6010C/SOP503
Lead		3,500		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1406026-06</b>							<b>Soil - Sampled: 05/09/14 12:00</b>		
<b>Sample ID: FX-15</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		3,600		2	mg/kg wet	B14F060	06/12/14	06/16/14	6010C/SOP503
Lead	RE1	23,000		150	"	"	"	06/17/14	6010C/SOP503
<b>Lab ID: 1406026-07</b>							<b>Soil - Sampled: 05/09/14 12:00</b>		
<b>Sample ID: FX-26</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		140		2	mg/kg wet	B14F060	06/12/14	06/16/14	6010C/SOP503
Lead		1,100		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1406026-08</b>							<b>Soil - Sampled: 05/09/14 12:00</b>		
<b>Sample ID: FX-19</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		440		2	mg/kg wet	B14F060	06/12/14	06/16/14	6010C/SOP503
Lead		2,000		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1406026-09</b>							<b>Soil - Sampled: 05/10/14 12:00</b>		
<b>Sample ID: GX-13</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		290		2	mg/kg wet	B14F060	06/12/14	06/16/14	6010C/SOP503
Lead		1,500		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1406026-10</b>							<b>Soil - Sampled: 05/10/14 12:00</b>		
<b>Sample ID: GX-17</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		18		2	mg/kg wet	B14F060	06/12/14	06/16/14	6010C/SOP503
Lead		67		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1406026-11</b>							<b>Soil - Sampled: 05/10/14 12:00</b>		



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157E

**Reported:** 07/01/14 14:14

**Sample Results**

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1406026-11</b>							<b>Soil - Sampled: 05/10/14 12:00</b>		
<b>Sample ID: GX-22</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		1,400		2	mg/kg wet	B14F060	06/12/14	06/16/14	6010C/SOP503
Lead		7,200		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1406026-12</b>							<b>Soil - Sampled: 05/10/14 12:00</b>		
<b>Sample ID: GX-28</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		18		2	mg/kg wet	B14F060	06/12/14	06/16/14	6010C/SOP503
Lead		56		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1406026-13</b>							<b>Soil - Sampled: 05/12/14 12:00</b>		
<b>Sample ID: HX-03D</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		750		2	mg/kg wet	B14F060	06/12/14	06/16/14	6010C/SOP503
Lead		3,400		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1406026-14</b>							<b>Soil - Sampled: 05/12/14 12:00</b>		
<b>Sample ID: HX-03 Split</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		740		2	mg/kg wet	B14F060	06/12/14	06/16/14	6010C/SOP503
Lead		3,400		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1406026-15</b>							<b>Soil - Sampled: 05/12/14 12:00</b>		
<b>Sample ID: HX-08</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		37		2	mg/kg wet	B14F060	06/12/14	06/16/14	6010C/SOP503
Lead		150		3	"	"	"	"	6010C/SOP503



# United States Environmental Protection Agency Region 9 Laboratory

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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157E

**Reported:** 07/01/14 14:14

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14F060 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 06/12/14 Analyzed: 06/16/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

### Blank (B14F060-BLK1)

Arsenic	ND	U		2 mg/kg wet						
Barium	ND	U		5 "						
Cadmium	ND	U		0.5 "						
Chromium	ND	U		1 "						
Lead	ND	U		3 "						
Selenium	ND	U		2 "						
Silver	ND	U		1 "						

### Matrix Spike (B14F060-MS1)

**Source: 1406026-02**

Arsenic	634			2 mg/kg wet	392	203	110	75-125		20
Lead	1,620	Q10		3 "	98.0	1,480	<b>144</b>	75-125		20

### Matrix Spike Dup (B14F060-MSD1)

**Source: 1406026-02**

Arsenic	628			2 mg/kg wet	396	203	107	75-125	0.9	20
Lead	1,630	Q10		3 "	99.0	1,480	<b>147</b>	75-125	0.3	20

### Reference (B14F060-SRM1)

Arsenic	271			2 mg/kg wet	253		107	60.9-139		
Lead	52			3 "	57.0		91	72.8-127		



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157E

**Reported:** 07/01/14 14:14

**Qualifiers and Comments**

Q10 The analyte concentration in the unfortified sample is significantly greater than the concentration spiked into the matrix spike and matrix spike duplicate. The reported spike recovery is not a meaningful measure of the dataset's analytical accuracy.

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.



**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 7/1/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14157F

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment  
Mindy Song, Ecology and Environment

**Analyses included in this report:**

Metals by ICP



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157F

**Reported:** 07/01/14 14:18

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
GX-03	1406027-01	Soil	05/10/14 12:00	06/06/14 10:20
HX-11	1406027-02	Soil	05/12/14 12:00	06/06/14 10:20
IX-03	1406027-03	Soil	05/13/14 12:00	06/06/14 10:20
JX-04	1406027-04	Soil	05/14/14 12:00	06/06/14 10:20
JX-08	1406027-05	Soil	05/14/14 12:00	06/06/14 10:20
JX-10	1406027-06	Soil	05/14/14 12:00	06/06/14 10:20
KX-02	1406027-07	Soil	05/17/14 12:00	06/06/14 10:20
LX-02	1406027-08	Soil	05/19/14 12:00	06/06/14 10:20
MX-02	1406027-09	Soil	05/20/14 12:00	06/06/14 10:20
MX-10	1406027-10	Soil	05/20/14 12:00	06/06/14 10:20
LX-03	1406027-11	Soil	05/19/14 12:00	06/06/14 10:20
Prep Blk	1406027-12	Soil	05/20/14 12:00	06/06/14 10:20
PX-08	1406027-13	Soil	05/30/14 12:00	06/06/14 10:20
PX-09	1406027-14	Soil	05/30/14 12:00	06/06/14 10:20
NX-01	1406027-15	Soil	05/22/14 12:00	06/06/14 10:20

**SDG ID 14157F**

**Work Order(s)**

**1406027**



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157F

**Reported:** 07/01/14 14:18

**Sample Results**

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID:</b>	<b>1406027-01</b>	<b>Soil - Sampled: 05/10/14 12:00</b>							
<b>Sample ID:</b>	<b>GX-03</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		1,300	J, Q4	2	mg/kg wet	B14F061	06/12/14	06/18/14	6010C/SOP503
Lead		6,100		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1406027-02</b>	<b>Soil - Sampled: 05/12/14 12:00</b>							
<b>Sample ID:</b>	<b>HX-11</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		56		2	mg/kg wet	B14F061	06/12/14	06/18/14	6010C/SOP503
Lead		260		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1406027-03</b>	<b>Soil - Sampled: 05/13/14 12:00</b>							
<b>Sample ID:</b>	<b>IX-03</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		410		2	mg/kg wet	B14F061	06/12/14	06/18/14	6010C/SOP503
Lead		1,800		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1406027-04</b>	<b>Soil - Sampled: 05/14/14 12:00</b>							
<b>Sample ID:</b>	<b>JX-04</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		190		2	mg/kg wet	B14F061	06/12/14	06/18/14	6010C/SOP503
Lead		1,100		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1406027-05</b>	<b>Soil - Sampled: 05/14/14 12:00</b>							
<b>Sample ID:</b>	<b>JX-08</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		210		2	mg/kg wet	B14F061	06/12/14	06/18/14	6010C/SOP503
Lead		950		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1406027-06</b>	<b>Soil - Sampled: 05/14/14 12:00</b>							
<b>Sample ID:</b>	<b>JX-10</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		540		2	mg/kg wet	B14F061	06/12/14	06/18/14	6010C/SOP503
Lead		4,400		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1406027-07</b>	<b>Soil - Sampled: 05/17/14 12:00</b>							
<b>Sample ID:</b>	<b>KX-02</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		260		2	mg/kg wet	B14F061	06/12/14	06/18/14	6010C/SOP503
Lead		1,300		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1406027-08</b>	<b>Soil - Sampled: 05/19/14 12:00</b>							
<b>Sample ID:</b>	<b>LX-02</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		220		2	mg/kg wet	B14F061	06/12/14	06/18/14	6010C/SOP503
Lead		780		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1406027-09</b>	<b>Soil - Sampled: 05/20/14 12:00</b>							
<b>Sample ID:</b>	<b>MX-02</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		51		2	mg/kg wet	B14F061	06/12/14	06/18/14	6010C/SOP503
Lead		220		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1406027-10</b>	<b>Soil - Sampled: 05/20/14 12:00</b>							
<b>Sample ID:</b>	<b>MX-10</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		19		2	mg/kg wet	B14F061	06/12/14	06/18/14	6010C/SOP503
Lead		38		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1406027-11</b>	<b>Soil - Sampled: 05/19/14 12:00</b>							





United States Environmental Protection Agency

Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

Phone:(510) 412-2300

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Project Manager: Thomas Dunkelman

Project Number: R14S51

Project: Eureka Smelter Summer 2014 Sampling

Emergency Response Section

75 Hawthorne Street

San Francisco CA, 94105

SDG: 14157F

Reported: 07/01/14 14:18

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1406027-11							Soil - Sampled: 05/19/14 12:00		
Sample ID: LX-03							Metals by EPA 6000/7000 Series Methods		
Arsenic		1,400		2	mg/kg wet	B14F061	06/12/14	06/18/14	6010C/SOP503
Lead		6,600		3	"	"	"	"	6010C/SOP503
Lab ID: 1406027-12							Soil - Sampled: 05/20/14 12:00		
Sample ID: Prep Blk							Metals by EPA 6000/7000 Series Methods		
Arsenic	RE1	ND	U	2	mg/kg wet	B14F061	06/12/14	06/19/14	6010C/SOP503
Lead	RE1	ND	U	3	"	"	"	"	6010C/SOP503
Lab ID: 1406027-13							Soil - Sampled: 05/30/14 12:00		
Sample ID: PX-08							Metals by EPA 6000/7000 Series Methods		
Arsenic		350		2	mg/kg wet	B14F061	06/12/14	06/18/14	6010C/SOP503
Lead		1,400		3	"	"	"	"	6010C/SOP503
Lab ID: 1406027-14							Soil - Sampled: 05/30/14 12:00		
Sample ID: PX-09							Metals by EPA 6000/7000 Series Methods		
Arsenic		560		2	mg/kg wet	B14F061	06/12/14	06/18/14	6010C/SOP503
Lead		2,100		3	"	"	"	"	6010C/SOP503
Lab ID: 1406027-15							Soil - Sampled: 05/22/14 12:00		
Sample ID: NX-01							Metals by EPA 6000/7000 Series Methods		
Arsenic		96		2	mg/kg wet	B14F061	06/12/14	06/18/14	6010C/SOP503
Lead		170		3	"	"	"	"	6010C/SOP503



# United States Environmental Protection Agency Region 9 Laboratory

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**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157F

**Reported:** 07/01/14 14:18

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14F061 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 06/12/14 Analyzed: 06/18/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

### Blank (B14F061-BLK1)

Arsenic	ND	U		2 mg/kg wet
Barium	ND	U		5 "
Cadmium	ND	U	0.5	"
Chromium	ND	U	1	"
Lead	ND	U	3	"
Selenium	ND	U	2	"
Silver	ND	U	1	"

### Matrix Spike (B14F061-MS1)

**Source: 1406027-01**

Arsenic	1,760			2 mg/kg wet	400	1,290	119	75-125		20
Lead	6,310	Q10		3 "	100	6,130	<b>180</b>	75-125		20

### Matrix Spike Dup (B14F061-MSD1)

**Source: 1406027-01**

Arsenic	1,820			2 mg/kg wet	400	1,290	<b>134</b>	75-125	3	20
Lead	6,390	Q10		3 "	100	6,130	<b>261</b>	75-125	1	20

### Reference (B14F061-SRM1)

Arsenic	296			2 mg/kg wet	254		117	60.9-139		
Lead	56.2			3 "	57.0		99	72.8-127		



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**Qualifiers and Comments**

Q4 The matrix spike and/or matrix spike duplicate associated with this sample did not meet recovery criteria for this analyte (see MS/MSD results for this batch in QC summary)

Q10 The analyte concentration in the unfortified sample is significantly greater than the concentration spiked into the matrix spike and matrix spike duplicate. The reported spike recovery is not a meaningful measure of the dataset's analytical accuracy.

J The reported result for this analyte should be considered an estimated value.

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.



**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 7/1/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14157G

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment  
Mindy Song, Ecology and Environment

**Analyses included in this report:**

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Metals by ICP



United States Environmental Protection Agency

Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

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**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157G

**Reported:** 07/01/14 14:21

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
PX-16(a+b)	1406028-01	Soil	05/30/14 12:00	06/06/14 10:20
PX-02	1406028-02	Soil	05/30/14 12:00	06/06/14 10:20
PX-12	1406028-03	Soil	05/30/14 12:00	06/06/14 10:20
PX-19	1406028-04	Soil	05/30/14 12:00	06/06/14 10:20
NX-05	1406028-05	Soil	05/22/14 12:00	06/06/14 10:20
OX-02	1406028-06	Soil	05/28/14 12:00	06/06/14 10:20
OX-07	1406028-07	Soil	05/28/14 12:00	06/06/14 10:20
QX-10	1406028-08	Soil	05/31/14 12:00	06/06/14 10:20
QX-05	1406028-09	Soil	05/31/14 12:00	06/06/14 10:20
QX-21	1406028-10	Soil	05/31/14 12:00	06/06/14 10:20
PX-05	1406028-11	Soil	05/30/14 12:00	06/06/14 10:20
PX-04	1406028-12	Soil	05/30/14 12:00	06/06/14 10:20
PX-06	1406028-13	Soil	05/30/14 12:00	06/06/14 10:20
PX-07	1406028-14	Soil	05/30/14 12:00	06/06/14 10:20
PX-27	1406028-15	Soil	05/30/14 12:00	06/06/14 10:20

**SDG ID 14157G**

**Work Order(s)**

**1406028**



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157G

**Reported:** 07/01/14 14:21

**Sample Results**

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID:</b>	<b>1406028-01</b>	<b>Soil - Sampled: 05/30/14 12:00</b>							
<b>Sample ID:</b>	<b>PX-16(a+b)</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		190		2	mg/kg wet	B14F062	06/12/14	06/19/14	6010C/SOP503
Lead		790		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1406028-02</b>	<b>Soil - Sampled: 05/30/14 12:00</b>							
<b>Sample ID:</b>	<b>PX-02</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		280		2	mg/kg wet	B14F062	06/12/14	06/19/14	6010C/SOP503
Lead		1,600		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1406028-03</b>	<b>Soil - Sampled: 05/30/14 12:00</b>							
<b>Sample ID:</b>	<b>PX-12</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		630		2	mg/kg wet	B14F062	06/12/14	06/19/14	6010C/SOP503
Lead		3,000		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1406028-04</b>	<b>Soil - Sampled: 05/30/14 12:00</b>							
<b>Sample ID:</b>	<b>PX-19</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		180		2	mg/kg wet	B14F062	06/12/14	06/19/14	6010C/SOP503
Lead		800		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1406028-05</b>	<b>Soil - Sampled: 05/22/14 12:00</b>							
<b>Sample ID:</b>	<b>NX-05</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		850		2	mg/kg wet	B14F062	06/12/14	06/19/14	6010C/SOP503
Lead		4,400		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1406028-06</b>	<b>Soil - Sampled: 05/28/14 12:00</b>							
<b>Sample ID:</b>	<b>OX-02</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		91		2	mg/kg wet	B14F062	06/12/14	06/19/14	6010C/SOP503
Lead	RE1	320		3	"	"	"	06/20/14	6010C/SOP503
<b>Lab ID:</b>	<b>1406028-07</b>	<b>Soil - Sampled: 05/28/14 12:00</b>							
<b>Sample ID:</b>	<b>OX-07</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		3,300		2	mg/kg wet	B14F062	06/12/14	06/19/14	6010C/SOP503
Lead	RE2	17,000		30	"	"	"	06/20/14	6010C/SOP503
<b>Lab ID:</b>	<b>1406028-08</b>	<b>Soil - Sampled: 05/31/14 12:00</b>							
<b>Sample ID:</b>	<b>QX-10</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		330		2	mg/kg wet	B14F062	06/12/14	06/19/14	6010C/SOP503
Lead	RE1	1,500		3	"	"	"	06/20/14	6010C/SOP503
<b>Lab ID:</b>	<b>1406028-09</b>	<b>Soil - Sampled: 05/31/14 12:00</b>							
<b>Sample ID:</b>	<b>QX-05</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		120		2	mg/kg wet	B14F062	06/12/14	06/19/14	6010C/SOP503
Lead	RE1	480		3	"	"	"	06/20/14	6010C/SOP503
<b>Lab ID:</b>	<b>1406028-10</b>	<b>Soil - Sampled: 05/31/14 12:00</b>							
<b>Sample ID:</b>	<b>QX-21</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		1,100		2	mg/kg wet	B14F062	06/12/14	06/19/14	6010C/SOP503
Lead	RE1	6,600		30	"	"	"	06/20/14	6010C/SOP503
<b>Lab ID:</b>	<b>1406028-11</b>	<b>Soil - Sampled: 05/30/14 12:00</b>							



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157G

**Reported:** 07/01/14 14:21

**Sample Results**

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1406028-11</b>							<b>Soil - Sampled: 05/30/14 12:00</b>		
<b>Sample ID: PX-05</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		18		2	mg/kg wet	B14F062	06/12/14	06/19/14	6010C/SOP503
Lead	RE1	13		3	"	"	"	06/20/14	6010C/SOP503
<b>Lab ID: 1406028-12</b>							<b>Soil - Sampled: 05/30/14 12:00</b>		
<b>Sample ID: PX-04</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		13		2	mg/kg wet	B14F062	06/12/14	06/19/14	6010C/SOP503
Lead	RE1	17		3	"	"	"	06/20/14	6010C/SOP503
<b>Lab ID: 1406028-13</b>							<b>Soil - Sampled: 05/30/14 12:00</b>		
<b>Sample ID: PX-06</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		16		2	mg/kg wet	B14F062	06/12/14	06/19/14	6010C/SOP503
Lead	RE1	14		3	"	"	"	06/20/14	6010C/SOP503
<b>Lab ID: 1406028-14</b>							<b>Soil - Sampled: 05/30/14 12:00</b>		
<b>Sample ID: PX-07</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		15		2	mg/kg wet	B14F062	06/12/14	06/19/14	6010C/SOP503
Lead	RE1	13		3	"	"	"	06/20/14	6010C/SOP503
<b>Lab ID: 1406028-15</b>							<b>Soil - Sampled: 05/30/14 12:00</b>		
<b>Sample ID: PX-27</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		14		2	mg/kg wet	B14F062	06/12/14	06/19/14	6010C/SOP503
Lead	RE1	15		3	"	"	"	06/20/14	6010C/SOP503



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**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157G

**Reported:** 07/01/14 14:21

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14F062 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 06/12/14 Analyzed: 06/19/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

### Blank (B14F062-BLK1)

Arsenic	ND	U		2 mg/kg wet						
Barium	ND	U		5 "						
Cadmium	ND	U		0.5 "						
Chromium	ND	U		1 "						
Lead	ND	U		3 "						
Selenium	ND	U		2 "						
Silver	ND	U		1 "						

### Matrix Spike (B14F062-MS1)

**Source: 1406028-01**

Arsenic	628			2 mg/kg wet	400	193	109	75-125		20
Lead	952	Q10		3 "	100	793	<b>159</b>	75-125		20

### Matrix Spike Dup (B14F062-MSD1)

**Source: 1406028-01**

Arsenic	627			2 mg/kg wet	381	193	114	75-125	0.2	20
Lead	959	Q10		3 "	95.2	793	<b>174</b>	75-125	0.8	20

### Reference (B14F062-SRM1)

Arsenic	270			2 mg/kg wet	253		107	60.9-139		
Lead	51.2			3 "	56.8		90	72.8-127		





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**Region 9 Laboratory**

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**SDG:** 14157G

**Reported:** 07/01/14 14:21

**Qualifiers and Comments**

Q10 The analyte concentration in the unfortified sample is significantly greater than the concentration spiked into the matrix spike and matrix spike duplicate. The reported spike recovery is not a meaningful measure of the dataset's analytical accuracy.

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.



**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 7/1/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14157H

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment  
Mindy Song, Ecology and Environment

**Analyses included in this report:**

Mercury by EPA method 7473  
Percent Solids

Metals by ICP



United States Environmental Protection Agency

# Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

Phone:(510) 412-2300

Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157H

**Reported:** 07/01/14 13:16

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
52914-Top Soil	1406029-01	Soil	05/29/14 14:00	06/06/14 10:20
52914-Sand	1406029-02	Soil	05/29/14 14:10	06/06/14 10:20
52914-Base	1406029-03	Soil	05/29/14 14:13	06/06/14 10:20
52914-Pit Run	1406029-04	Soil	05/29/14 14:15	06/06/14 10:20
53014-Top Soil	1406029-05	Soil	05/30/14 15:30	06/06/14 10:20

**SDG ID** 14157H

### Work Order(s)

**1406029**

Samples were received at 17° C which is above the recommended temperature range of 16° C for mercury analysis. Mercury results are flagged as estimates



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157H

**Reported:** 07/01/14 13:16

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID:	1406029-01	Soil - Sampled: 05/29/14 14:00							
Sample ID:	52914-Top Soil	Metals by EPA 6000/7000 Series Methods							
Mercury	RE1	0.014	A2, C1, J	0.026	mg/kg dry	B14F099	06/17/14	06/17/14	7473/SOP535
Arsenic		17		2.1	"	B14F072	06/12/14	06/16/14	6010C/SOP503
Barium		250		5.1	"	"	"	06/17/14	6010C/SOP503
Cadmium		0.40	C1, J	0.51	"	"	"	06/16/14	6010C/SOP503
Chromium		19		1	"	"	"	"	6010C/SOP503
Lead		13		3.1	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
Sample ID:	52914-Top Soil	Conventional Chemistry Parameters by APHA/EPA Methods							
% Solids		97		1	%	B14F112	06/19/14	06/20/14	3550C/SOP460
Lab ID:	1406029-02	Soil - Sampled: 05/29/14 14:10							
Sample ID:	52914-Sand	Metals by EPA 6000/7000 Series Methods							
Mercury	RE1	0.014	A2, C1, J	0.025	mg/kg dry	B14F099	06/17/14	06/17/14	7473/SOP535
Arsenic		25		2	"	B14F072	06/12/14	06/16/14	6010C/SOP503
Barium		210		5.1	"	"	"	06/17/14	6010C/SOP503
Cadmium		ND	U	0.51	"	"	"	06/16/14	6010C/SOP503
Chromium		17		1	"	"	"	"	6010C/SOP503
Lead		7.3		3.1	"	"	"	"	6010C/SOP503
Selenium		ND	U	2	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
Sample ID:	52914-Sand	Conventional Chemistry Parameters by APHA/EPA Methods							
% Solids		98		1	%	B14F112	06/19/14	06/20/14	3550C/SOP460
Lab ID:	1406029-03	Soil - Sampled: 05/29/14 14:13							
Sample ID:	52914-Base	Metals by EPA 6000/7000 Series Methods							
Mercury	RE1	ND	A2, J, U	0.027	mg/kg dry	B14F099	06/17/14	06/17/14	7473/SOP535
Arsenic		19		2.1	"	B14F072	06/12/14	06/16/14	6010C/SOP503
Barium		210		5.3	"	"	"	06/17/14	6010C/SOP503
Cadmium		ND	U	0.53	"	"	"	06/16/14	6010C/SOP503
Chromium		23		1.1	"	"	"	"	6010C/SOP503
Lead		7.3		3.2	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	"	6010C/SOP503
Silver		ND	U	1.1	"	"	"	"	6010C/SOP503
Sample ID:	52914-Base	Conventional Chemistry Parameters by APHA/EPA Methods							
% Solids		94		1	%	B14F112	06/19/14	06/20/14	3550C/SOP460
Lab ID:	1406029-04	Soil - Sampled: 05/29/14 14:15							
Sample ID:	52914-Pit Run	Metals by EPA 6000/7000 Series Methods							
Mercury	RE1	0.016	A2, C1, J	0.026	mg/kg dry	B14F099	06/17/14	06/17/14	7473/SOP535
Arsenic		21		2.1	"	B14F072	06/12/14	06/16/14	6010C/SOP503
Barium		210		5.2	"	"	"	06/17/14	6010C/SOP503



# United States Environmental Protection Agency Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157H

**Reported:** 07/01/14 13:16

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1406029-04</b>		<b>Soil - Sampled: 05/29/14 14:15</b>							
<b>Sample ID: 52914-Pit Run</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Cadmium		ND	U	0.52	mg/kg dry	B14F072	06/12/14	06/16/14	6010C/SOP503
Chromium		22		1	"	"	"	"	6010C/SOP503
Lead		7.4		3.1	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
<b>Sample ID: 52914-Pit Run</b>		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		96		1	%	B14F112	06/19/14	06/20/14	3550C/SOP460
<b>Lab ID: 1406029-05</b>		<b>Soil - Sampled: 05/30/14 15:30</b>							
<b>Sample ID: 53014-Top Soil</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		0.031	A2, J	0.027	mg/kg dry	B14F099	06/17/14	06/17/14	7473/SOP535
Arsenic		16		2.2	"	B14F072	06/12/14	06/16/14	6010C/SOP503
Barium	RE1	290		5.4	"	"	"	06/17/14	6010C/SOP503
Cadmium		0.28	C1, J	0.54	"	"	"	06/16/14	6010C/SOP503
Chromium		19		1.1	"	"	"	"	6010C/SOP503
Lead		11		3.2	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.2	"	"	"	"	6010C/SOP503
Silver		ND	U	1.1	"	"	"	"	6010C/SOP503
<b>Sample ID: 53014-Top Soil</b>		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		93		1	%	B14F112	06/19/14	06/20/14	3550C/SOP460



# United States Environmental Protection Agency Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804  
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<b>Project Manager:</b> Thomas Dunkelman	<b>Emergency Response Section</b>	<b>SDG:</b> 14157H
<b>Project Number:</b> R14S51	<b>75 Hawthorne Street</b>	<b>Reported:</b> 07/01/14 13:16
<b>Project:</b> Eureka Smelter Summer 2014 Sampling	<b>San Francisco CA, 94105</b>	

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B14F072 - 3050B Sld Acid Dig - Metals by 6010

Prepared: 06/12/14 Analyzed: 06/16/14

Metals by EPA 6000/7000 Series Methods - Quality Control

### Blank (B14F072-BLK1)

Arsenic	ND	U		2 mg/kg wet						
Barium	ND	U		5 "						
Cadmium	ND	U		0.5 "						
Chromium	ND	U		1 "						
Lead	ND	U		3 "						
Selenium	ND	U		2 "						
Silver	ND	U		1 "						

### Blank (B14F072-BLK2)

Arsenic	ND	U		2 mg/kg wet						
Barium	ND	U		5 "						
Cadmium	ND	U		0.5 "						
Chromium	ND	U		1 "						
Lead	ND	U		3 "						
Selenium	ND	U		2 "						
Silver	ND	U		1 "						

### Matrix Spike (B14F072-MS1)

Source: 1406029-01

Arsenic	456			2.1 mg/kg dry	403	17.1	109	75-125		20
Cadmium	10.5			0.51 "	10.1	0.402	100	75-125		20
Chromium	61.1			1 "	40.3	18.5	106	75-125		20
Lead	114			3.1 "	101	13.3	100	75-125		20
Selenium	414			2.1 "	403	ND	103	75-125		20
Silver	10.9			1 "	10.1	ND	108	75-125		20

### Matrix Spike (B14F072-MS2)

Source: 1406029-01RE1

Barium	686			5.1 mg/kg dry	403	251	108	75-125		20
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### Matrix Spike Dup (B14F072-MSD1)

Source: 1406029-01

Arsenic	468			2.1 mg/kg dry	403	17.1	112	75-125	3	20
Cadmium	10.7			0.51 "	10.1	0.402	102	75-125	2	20
Chromium	63.5			1 "	40.3	18.5	112	75-125	4	20
Lead	117			3.1 "	101	13.3	103	75-125	3	20
Selenium	426			2.1 "	403	ND	106	75-125	3	20
Silver	11.1			1 "	10.1	ND	111	75-125	2	20

### Matrix Spike Dup (B14F072-MSD2)

Source: 1406029-01RE1

Barium	695			5.1 mg/kg dry	403	251	110	75-125	1	20
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### Reference (B14F072-SRM1)

Arsenic	266			2 mg/kg wet	252		105	60.9-139		
Cadmium	10.3			0.5 "	10.9		94	70.6-128		
Chromium	25.9			1 "	27.0		96	68.3-132		



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157H

**Reported:** 07/01/14 13:16

**Quality Control**

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B14F072 - 3050B Sld Acid Dig - Metals by 6010						Prepared: 06/12/14 Analyzed: 06/16/14				
Reference (B14F072-SRM1)						Metals by EPA 6000/7000 Series Methods - Quality Control				
Lead	52.3			3 "	56.8		92	72.8-127		
Silver	6.02			1 "	5.89		102	45.8-154		
Reference (B14F072-SRM2)										
Barium	ND	U		5 mg/kg wet	1.60			62.5-138		
Reference (B14F072-SRM3)										
Selenium	7.31			2 mg/kg wet	9.98		73	41-159		
Batch B14F099 - 7473 Hg Prep - Mercury by 7473						Prepared & Analyzed: 06/17/14				
Blank (B14F099-BLK1)						Metals by EPA 6000/7000 Series Methods - Quality Control				
Mercury	ND	U		0.025 mg/kg wet						
Matrix Spike (B14F099-MS1)		Source: 1406029-02								
Mercury	0.505			0.025 mg/kg dry	0.470	0.0135	105	80-120		20
Matrix Spike Dup (B14F099-MSD1)		Source: 1406029-02								
Mercury	0.514			0.025 mg/kg dry	0.472	0.0135	106	80-120	1	20
Reference (B14F099-SRM1)										
Mercury	1.14			0.025 mg/kg wet	1.10		104	80-120		
Batch B14F112 - Solids, Dry Weight (Prep) - Solids, Dry Weight						Prepared: 06/19/14 Analyzed: 06/20/14				
						Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control				
Blank (B14F112-BLK1)										
% Solids	ND	U		1 %						
Duplicate (B14F112-DUP1)		Source: 1406029-02								
% Solids	98			1 %		98			0.05	20



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**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157H

**Reported:** 07/01/14 13:16

**Qualifiers and Comments**

J The reported result for this analyte should be considered an estimated value.

C1 The reported concentration for this analyte is below the quantitation limit.

A2 The sample was received above the recommended temperature range.

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.





**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 8/6/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14183A

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment  
Mindy Song, Ecology and Environment

**Analyses included in this report:**

Mercury by EPA method 7473  
Percent Solids

Metals by ICP



United States Environmental Protection Agency

## Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

Phone:(510) 412-2300

Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183A

**Reported:** 08/06/14 08:55

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
60414-Pit Run	1407003-01	Soil	06/04/14 16:30	07/01/14 16:53
60414-Sand	1407003-02	Soil	06/04/14 14:25	07/01/14 16:53
60414-Base	1407003-03	Soil	06/04/14 14:35	07/01/14 16:53
60514-Top Soil	1407003-04	Soil	06/05/14 09:00	07/01/14 16:53
61814-Top Soil	1407003-05	Soil	06/18/14 16:45	07/01/14 16:53
61814-Pit Run	1407003-06	Soil	06/18/14 17:00	07/01/14 16:53
61814-Sand	1407003-07	Soil	06/18/14 16:50	07/01/14 16:53
61814-Road Base	1407003-08	Soil	06/18/14 16:55	07/01/14 16:53
62814-Top Soil	1407003-09	Soil	06/28/14 17:00	07/01/14 16:53
62814-Road Base	1407003-10	Soil	06/28/14 17:05	07/01/14 16:53
62814-Sand	1407003-11	Soil	06/28/14 17:10	07/01/14 16:53
62814-Pit Run	1407003-12	Soil	06/28/14 17:15	07/01/14 16:53

**SDG ID 14183A**

The samples were received at 24 degrees C. The recommended temperature range for transportation and storage is >0 to 6 degrees C. The mercury results are flagged as estimates. No significant impact is expected on results for other metals and they are not flagged.

### Work Order(s)

**1407003**



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183A

**Reported:** 08/06/14 08:55

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1407003-01</b>		<b>Soil - Sampled: 06/04/14 16:30</b>							
<b>Sample ID: 60414-Pit Run</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		0.017	A2, C1, J	0.026	mg/kg dry	B14G010	07/02/14	07/02/14	7473/SOP535
Arsenic		22		2.1	"	B14G029	07/09/14	07/15/14	6010C/SOP503
Barium		220		5.2	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.52	"	"	"	"	6010C/SOP503
Chromium		17		1	"	"	"	"	6010C/SOP503
Lead		8.3		3.1	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
<b>Sample ID: 60414-Pit Run</b>		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		96		1	%	B14G061	07/16/14	07/17/14	3550C/SOP460
<b>Lab ID: 1407003-02</b>		<b>Soil - Sampled: 06/04/14 14:25</b>							
<b>Sample ID: 60414-Sand</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		0.013	A2, C1, J	0.026	mg/kg dry	B14G010	07/02/14	07/02/14	7473/SOP535
Arsenic		19		2.1	"	B14G029	07/09/14	07/15/14	6010C/SOP503
Barium		210		5.1	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.51	"	"	"	"	6010C/SOP503
Chromium		17		1	"	"	"	"	6010C/SOP503
Lead		7.3		3.1	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
<b>Sample ID: 60414-Sand</b>		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		97		1	%	B14G061	07/16/14	07/17/14	3550C/SOP460
<b>Lab ID: 1407003-03</b>		<b>Soil - Sampled: 06/04/14 14:35</b>							
<b>Sample ID: 60414-Base</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		0.014	A2, C1, J	0.026	mg/kg dry	B14G010	07/02/14	07/02/14	7473/SOP535
Arsenic		23		2.1	"	B14G029	07/09/14	07/15/14	6010C/SOP503
Barium		210		5.2	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.52	"	"	"	"	6010C/SOP503
Chromium		18		1	"	"	"	"	6010C/SOP503
Lead		7.4		3.1	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
<b>Sample ID: 60414-Base</b>		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		97		1	%	B14G061	07/16/14	07/17/14	3550C/SOP460
<b>Lab ID: 1407003-04</b>		<b>Soil - Sampled: 06/05/14 09:00</b>							
<b>Sample ID: 60514-Top Soil</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		0.023	A2, C1, J	0.027	mg/kg dry	B14G010	07/02/14	07/02/14	7473/SOP535
Arsenic		19		2.1	"	B14G029	07/09/14	07/15/14	6010C/SOP503
Barium		240		5.3	"	"	"	"	6010C/SOP503



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183A

**Reported:** 08/06/14 08:55

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID:</b> 1407003-04		<b>Soil - Sampled: 06/05/14 09:00</b>							
<b>Sample ID:</b> 60514-Top Soil		<b>Metals by EPA 6000/7000 Series Methods</b>							
Cadmium		ND	U	0.53	mg/kg dry	B14G029	07/09/14	07/15/14	6010C/SOP503
Chromium		19		1.1	"	"	"	"	6010C/SOP503
Lead		12		3.2	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	"	6010C/SOP503
Silver		ND	U	1.1	"	"	"	"	6010C/SOP503
<b>Sample ID:</b> 60514-Top Soil		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		94		1	%	B14G061	07/16/14	07/17/14	3550C/SOP460
<b>Lab ID:</b> 1407003-05		<b>Soil - Sampled: 06/18/14 16:45</b>							
<b>Sample ID:</b> 61814-Top Soil		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		0.023	A2, C1, J	0.027	mg/kg dry	B14G018	07/07/14	07/07/14	7473/SOP535
Arsenic		17		2.1	"	B14G029	07/09/14	07/15/14	6010C/SOP503
Barium		280		5.3	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.53	"	"	"	"	6010C/SOP503
Chromium		21		1.1	"	"	"	"	6010C/SOP503
Lead		11		3.2	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	"	6010C/SOP503
Silver		ND	U	1.1	"	"	"	"	6010C/SOP503
<b>Sample ID:</b> 61814-Top Soil		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		94		1	%	B14G061	07/16/14	07/17/14	3550C/SOP460
<b>Lab ID:</b> 1407003-06		<b>Soil - Sampled: 06/18/14 17:00</b>							
<b>Sample ID:</b> 61814-Pit Run		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		0.013	A2, C1, J	0.026	mg/kg dry	B14G018	07/07/14	07/07/14	7473/SOP535
Arsenic		19		2.1	"	B14G029	07/09/14	07/15/14	6010C/SOP503
Barium		210		5.2	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.52	"	"	"	"	6010C/SOP503
Chromium		17		1	"	"	"	"	6010C/SOP503
Lead		7.3		3.1	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
<b>Sample ID:</b> 61814-Pit Run		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		97		1	%	B14G061	07/16/14	07/17/14	3550C/SOP460
<b>Lab ID:</b> 1407003-07		<b>Soil - Sampled: 06/18/14 16:50</b>							
<b>Sample ID:</b> 61814-Sand		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		ND	A2, J, U	0.026	mg/kg dry	B14G018	07/07/14	07/07/14	7473/SOP535
Arsenic		22		2.1	"	B14G029	07/09/14	07/15/14	6010C/SOP503
Barium		200		5.1	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.51	"	"	"	"	6010C/SOP503
Chromium		18		1	"	"	"	"	6010C/SOP503
Lead		7.0		3.1	"	"	"	"	6010C/SOP503



# United States Environmental Protection Agency Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

Phone:(510) 412-2300

Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183A

**Reported:** 08/06/14 08:55

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID:</b> 1407003-07		<b>Soil - Sampled: 06/18/14 16:50</b>							
<b>Sample ID:</b> 61814-Sand		<b>Metals by EPA 6000/7000 Series Methods</b>							
Selenium		ND	U	2.1	mg/kg dry	B14G029	07/09/14	07/15/14	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
<b>Sample ID:</b> 61814-Sand		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		97		1	%	B14G061	07/16/14	07/17/14	3550C/SOP460
<b>Lab ID:</b> 1407003-08		<b>Soil - Sampled: 06/18/14 16:55</b>							
<b>Sample ID:</b> 61814-Road Base		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		ND	A2, J, U	0.026	mg/kg dry	B14G018	07/07/14	07/07/14	7473/SOP535
Arsenic		22		2.1	"	B14G029	07/09/14	07/15/14	6010C/SOP503
Barium		210		5.1	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.51	"	"	"	"	6010C/SOP503
Chromium		18		1	"	"	"	"	6010C/SOP503
Lead		6.6		3.1	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
<b>Sample ID:</b> 61814-Road Base		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		97		1	%	B14G061	07/16/14	07/17/14	3550C/SOP460
<b>Lab ID:</b> 1407003-09		<b>Soil - Sampled: 06/28/14 17:00</b>							
<b>Sample ID:</b> 62814-Top Soil		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		0.018	A2, C1, J	0.027	mg/kg dry	B14G018	07/07/14	07/07/14	7473/SOP535
Arsenic		16		2.2	"	B14G029	07/09/14	07/15/14	6010C/SOP503
Barium		260		5.4	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.54	"	"	"	"	6010C/SOP503
Chromium		20		1.1	"	"	"	"	6010C/SOP503
Lead		10		3.2	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.2	"	"	"	"	6010C/SOP503
Silver		ND	U	1.1	"	"	"	"	6010C/SOP503
<b>Sample ID:</b> 62814-Top Soil		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		93		1	%	B14G061	07/16/14	07/17/14	3550C/SOP460
<b>Lab ID:</b> 1407003-10		<b>Soil - Sampled: 06/28/14 17:05</b>							
<b>Sample ID:</b> 62814-Road Base		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		0.016	A2, C1, J	0.026	mg/kg dry	B14G018	07/07/14	07/07/14	7473/SOP535
Arsenic		21		2.1	"	B14G029	07/09/14	07/15/14	6010C/SOP503
Barium		190		5.3	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.53	"	"	"	"	6010C/SOP503
Chromium		16		1.1	"	"	"	"	6010C/SOP503
Lead		8.0		3.2	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	"	6010C/SOP503
Silver		ND	U	1.1	"	"	"	"	6010C/SOP503
<b>Sample ID:</b> 62814-Road Base		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							



# United States Environmental Protection Agency

## Region 9 Laboratory

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**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183A

**Reported:** 08/06/14 08:55

### Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1407003-10</b>									
<b>Sample ID: 62814-Road Base</b>									
% Solids		95		1	%	B14G061	07/16/14	07/17/14	3550C/SOP460
<b>Lab ID: 1407003-11</b>									
<b>Sample ID: 62814-Sand</b>									
Mercury		ND	A2, J, U	0.026	mg/kg dry	B14G018	07/07/14	07/07/14	7473/SOP535
Arsenic		24		2.1	"	B14G029	07/09/14	07/15/14	6010C/SOP503
Barium		190		5.2	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.52	"	"	"	"	6010C/SOP503
Chromium		18		1	"	"	"	"	6010C/SOP503
Lead		7.9		3.1	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
<b>Sample ID: 62814-Sand</b>									
% Solids		96		1	%	B14G061	07/16/14	07/17/14	3550C/SOP460
<b>Lab ID: 1407003-12</b>									
<b>Sample ID: 62814-Pit Run</b>									
Mercury		ND	A2, J, U	0.026	mg/kg dry	B14G018	07/07/14	07/07/14	7473/SOP535
Arsenic		17		2.1	"	B14G029	07/09/14	07/15/14	6010C/SOP503
Barium		180		5.2	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.52	"	"	"	"	6010C/SOP503
Chromium		17		1	"	"	"	"	6010C/SOP503
Lead		7.9		3.1	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
<b>Sample ID: 62814-Pit Run</b>									
% Solids		96		1	%	B14G061	07/16/14	07/17/14	3550C/SOP460



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**Reported:** 08/06/14 08:55

**Quality Control**

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14G010 - 7473 Hg Prep - Mercury by 7473**

**Prepared & Analyzed: 07/02/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14G010-BLK1)**

Mercury	ND	U	0.025	mg/kg wet						
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**Matrix Spike (B14G010-MS1)**

**Source: 1407003-02**

Mercury	0.448		0.026	mg/kg dry	0.408	ND	110	80-120		20
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**Matrix Spike Dup (B14G010-MSD1)**

**Source: 1407003-02**

Mercury	0.492		0.026	mg/kg dry	0.452	ND	109	80-120	1	20
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**Reference (B14G010-SRM1)**

Mercury	1.14		0.025	mg/kg wet	1.10		103	80-120		
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**Batch B14G018 - 7473 Hg Prep - Mercury by 7473**

**Prepared & Analyzed: 07/07/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14G018-BLK1)**

Mercury	ND	U	0.025	mg/kg wet						
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**Matrix Spike (B14G018-MS1)**

**Source: 1407003-06**

Mercury	0.537		0.026	mg/kg dry	0.499	0.0134	105	80-120		20
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**Matrix Spike Dup (B14G018-MSD1)**

**Source: 1407003-06**

Mercury	0.488		0.026	mg/kg dry	0.452	0.0134	105	80-120	0.1	20
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**Reference (B14G018-SRM1)**

Mercury	1.14		0.025	mg/kg wet	1.10		104	80-120		
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**Batch B14G029 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 07/09/14 Analyzed: 07/15/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14G029-BLK1)**

Arsenic	ND	U	2	mg/kg wet						
Barium	ND	U	5	"						
Cadmium	ND	U	0.5	"						
Chromium	ND	U	1	"						
Lead	ND	U	3	"						
Selenium	ND	U	2	"						
Silver	ND	U	1	"						

**Matrix Spike (B14G029-MS1)**

**Source: 1407003-03**

Arsenic	418		2.1	mg/kg dry	398	22.9	99	75-125		20
Barium	562		5.2	"	398	209	89	75-125		20
Cadmium	9.23		0.52	"	9.94	ND	93	75-125		20
Chromium	55.4		1	"	39.8	18.4	93	75-125		20
Lead	98.5		3.1	"	99.4	7.45	92	75-125		20
Selenium	373		2.1	"	398	ND	94	75-125		20
Silver	9.81		1	"	9.94	ND	99	75-125		20



United States Environmental Protection Agency  
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**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183A

**Reported:** 08/06/14 08:55

**Quality Control**

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B14G029 - 3050B Sld Acid Dig - Metals by 6010						Prepared: 07/09/14 Analyzed: 07/15/14				
Matrix Spike Dup (B14G029-MSD1)			Source: 1407003-03			Metals by EPA 6000/7000 Series Methods - Quality Control				
Arsenic	433			2.1 mg/kg dry	405	22.9	101	75-125	4	20
Barium	634			5.2 "	405	209	105	75-125	12	20
Cadmium	9.43			0.52 "	10.1	ND	93	75-125	2	20
Chromium	57.7			1 "	40.5	18.4	97	75-125	4	20
Lead	100			3.1 "	101	7.45	92	75-125	2	20
Selenium	383			2.1 "	405	ND	95	75-125	3	20
Silver	10.3			1 "	10.1	ND	102	75-125	5	20
Reference (B14G029-SRM1)										
Arsenic	274			2 mg/kg wet	254		108	60.9-139		
Barium	ND	U		5 "	1.61			62.5-138		
Cadmium	10.4			0.5 "	10.9		95	70.6-128		
Chromium	27.6			1 "	27.2		101	68.3-132		
Lead	53.8			3 "	57.1		94	72.8-127		
Selenium	7.9			2 "	10.0		79	41-159		
Silver	6.87			1 "	5.93		116	45.8-154		
Batch B14G061 - Solids, Dry Weight (Prep) - Solids, Dry Weight						Prepared: 07/16/14 Analyzed: 07/17/14				
Blank (B14G061-BLK1)						Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control				
% Solids	ND	U		1 %						
Duplicate (B14G061-DUP1)										
% Solids	97			1 %		97			0.1	20





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**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183A

**Reported:** 08/06/14 08:55

**Qualifiers and Comments**

J The reported result for this analyte should be considered an estimated value.

C1 The reported concentration for this analyte is below the quantitation limit.

A2 The sample was received above the recommended temperature range.

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.



**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 8/6/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14183B

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment  
Mindy Song, Ecology and Environment

**Analyses included in this report:**

---

Metals by ICP

Percent Solids



United States Environmental Protection Agency

# Region 9 Laboratory

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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183B

**Reported:** 08/06/14 13:01

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
RX-01	1407004-01	Soil	06/03/14 12:00	07/01/14 16:53
RX-02	1407004-02	Soil	06/03/14 12:00	07/01/14 16:53
RX-15	1407004-03	Soil	06/03/14 12:00	07/01/14 16:53
SX-07	1407004-04	Soil	06/06/14 12:00	07/01/14 16:53
SX-02	1407004-05	Soil	06/06/14 12:00	07/01/14 16:53
SX-10	1407004-06	Soil	06/06/14 12:00	07/01/14 16:53
SX-10 Dup	1407004-07	Soil	06/06/14 12:00	07/01/14 16:53
SX-18	1407004-08	Soil	06/06/14 12:00	07/01/14 16:53
TX-02	1407004-09	Soil	06/18/14 12:00	07/01/14 16:53
UX-04	1407004-10	Soil	06/18/14 12:00	07/01/14 16:53
WX-04	1407004-11	Soil	06/18/14 12:00	07/01/14 16:53
WX-01	1407004-12	Soil	06/18/14 12:00	07/01/14 16:53
WX-05	1407004-13	Soil	06/18/14 12:00	07/01/14 16:53
WX-12	1407004-14	Soil	06/18/14 12:00	07/01/14 16:53
YX-01	1407004-15	Soil	06/18/14 12:00	07/01/14 16:53

**SDG ID 14183B**

These samples were received in XRF cups and are reported on an "as received" (wet weight) basis.

**Work Order(s)**

**1407004**



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183B

**Reported:** 08/06/14 13:01

**Sample Results**

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID:</b>	<b>1407004-01</b>	<b>Soil - Sampled: 06/03/14 12:00</b>							
<b>Sample ID:</b>	<b>RX-01</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		140		2	mg/kg wet	B14G030	07/09/14	07/15/14	6010C/SOP503
Lead		750		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407004-02</b>	<b>Soil - Sampled: 06/03/14 12:00</b>							
<b>Sample ID:</b>	<b>RX-02</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		130		2	mg/kg wet	B14G030	07/09/14	07/15/14	6010C/SOP503
Lead		760		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407004-03</b>	<b>Soil - Sampled: 06/03/14 12:00</b>							
<b>Sample ID:</b>	<b>RX-15</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		1,200		2	mg/kg wet	B14G030	07/09/14	07/15/14	6010C/SOP503
Lead		5,800		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407004-04</b>	<b>Soil - Sampled: 06/06/14 12:00</b>							
<b>Sample ID:</b>	<b>SX-07</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		370		2	mg/kg wet	B14G030	07/09/14	07/15/14	6010C/SOP503
Lead		2,100		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407004-05</b>	<b>Soil - Sampled: 06/06/14 12:00</b>							
<b>Sample ID:</b>	<b>SX-02</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		860		2	mg/kg wet	B14G030	07/09/14	07/15/14	6010C/SOP503
Lead		3,000		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407004-06</b>	<b>Soil - Sampled: 06/06/14 12:00</b>							
<b>Sample ID:</b>	<b>SX-10</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		980		2	mg/kg wet	B14G030	07/09/14	07/15/14	6010C/SOP503
Lead		5,100		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407004-07</b>	<b>Soil - Sampled: 06/06/14 12:00</b>							
<b>Sample ID:</b>	<b>SX-10 Dup</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		980		2	mg/kg wet	B14G030	07/09/14	07/15/14	6010C/SOP503
Lead		5,000		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407004-08</b>	<b>Soil - Sampled: 06/06/14 12:00</b>							
<b>Sample ID:</b>	<b>SX-18</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		77		2	mg/kg wet	B14G030	07/09/14	07/15/14	6010C/SOP503
Lead		270		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407004-09</b>	<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID:</b>	<b>TX-02</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		470		2	mg/kg wet	B14G030	07/09/14	07/15/14	6010C/SOP503
Lead		2,400		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407004-10</b>	<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID:</b>	<b>UX-04</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		610		2	mg/kg wet	B14G030	07/09/14	07/15/14	6010C/SOP503
Lead		2,800		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407004-11</b>	<b>Soil - Sampled: 06/18/14 12:00</b>							



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183B

**Reported:** 08/06/14 13:01

**Sample Results**

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1407004-11</b>		<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID: WX-04</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		85		2	mg/kg wet	B14G030	07/09/14	07/15/14	6010C/SOP503
Lead		470		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407004-12</b>		<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID: WX-01</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		190		2	mg/kg wet	B14G030	07/09/14	07/15/14	6010C/SOP503
Lead		750		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407004-13</b>		<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID: WX-05</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		1,100		2	mg/kg wet	B14G030	07/09/14	07/15/14	6010C/SOP503
Lead		5,100		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407004-14</b>		<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID: WX-12</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		440		2	mg/kg wet	B14G030	07/09/14	07/15/14	6010C/SOP503
Lead		2,000		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407004-15</b>		<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID: YX-01</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		170		2	mg/kg wet	B14G030	07/09/14	07/15/14	6010C/SOP503
Lead		780		3	"	"	"	"	6010C/SOP503



# United States Environmental Protection Agency Region 9 Laboratory

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**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183B

**Reported:** 08/06/14 13:01

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14G030 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 07/09/14 Analyzed: 07/15/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

### Blank (B14G030-BLK1)

Arsenic	ND	U		2 mg/kg wet						
Barium	ND	U		5 "						
Cadmium	ND	U		0.5 "						
Chromium	ND	U		1 "						
Lead	ND	U		3 "						
Selenium	ND	U		2 "						
Silver	ND	U		1 "						

### Matrix Spike (B14G030-MS1)

**Source: 1407004-11**

Arsenic	454			2 mg/kg wet	392	85.4	94	75-125		20
Lead	541	Q10		3 "	98.0	474	<b>68</b>	75-125		20

### Matrix Spike Dup (B14G030-MSD1)

**Source: 1407004-11**

Arsenic	461			2 mg/kg wet	396	85.4	95	75-125	1	20
Lead	533	Q10		3 "	99.0	474	<b>60</b>	75-125	1	20

### Reference (B14G030-SRM1)

Arsenic	257			2 mg/kg wet	254		101	60.9-139		
Lead	51.1			3 "	57.2		89	72.8-127		



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183B

**Reported:** 08/06/14 13:01

**Qualifiers and Comments**

Q10 The analyte concentration in the unfortified sample is significantly greater than the concentration spiked into the matrix spike and matrix spike duplicate. The reported spike recovery is not a meaningful measure of the dataset's analytical accuracy.

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.



**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 8/6/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14183C

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment  
Mindy Song, Ecology and Environment

**Analyses included in this report:**

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Metals by ICP

Percent Solids





United States Environmental Protection Agency

Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

Phone:(510) 412-2300

Fax:(510) 412-2302

Project Manager: Thomas Dunkelman

Project Number: R14S51

Project: Eureka Smelter Summer 2014 Sampling

Emergency Response Section

75 Hawthorne Street

San Francisco CA, 94105

SDG: 14183C

Reported: 08/06/14 13:10

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
VX-01	1407005-01	Soil	06/18/14 12:00	07/01/14 16:53
WX-08	1407005-02	Soil	06/18/14 12:00	07/01/14 16:53
WX-09 FD	1407005-03	Soil	06/18/14 12:00	07/01/14 16:53
WX-21	1407005-04	Soil	06/18/14 12:00	07/01/14 16:53
VX-13	1407005-05	Soil	06/18/14 12:00	07/01/14 16:53
VX-06	1407005-06	Soil	06/18/14 12:00	07/01/14 16:53
VX-10	1407005-07	Soil	06/18/14 12:00	07/01/14 16:53
VX-19	1407005-08	Soil	06/18/14 12:00	07/01/14 16:53
XX-03	1407005-09	Soil	06/18/14 12:00	07/01/14 16:53
XX-05	1407005-10	Soil	06/18/14 12:00	07/01/14 16:53
XX-10	1407005-11	Soil	06/18/14 12:00	07/01/14 16:53
XX-17	1407005-12	Soil	06/18/14 12:00	07/01/14 16:53
XX-33	1407005-13	Soil	06/18/14 12:00	07/01/14 16:53
XX-24	1407005-14	Soil	06/18/14 12:00	07/01/14 16:53
XX-44	1407005-15	Soil	06/18/14 12:00	07/01/14 16:53
XX-46	1407005-16	Soil	06/18/14 12:00	07/01/14 16:53
XX-49	1407005-17	Soil	06/18/14 12:00	07/01/14 16:53
XX-51	1407005-18	Soil	06/18/14 12:00	07/01/14 16:53
XX-59	1407005-19	Soil	06/18/14 12:00	07/01/14 16:53

SDG ID 14183C

These samples were received in XRF cups and are reported on an "as received" (wet weight) basis.

Work Order(s)

1407005



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183C

**Reported:** 08/06/14 13:10

**Sample Results**

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID:</b>	<b>1407005-01</b>	<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID:</b>	<b>VX-01</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		230		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead		1,000		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407005-02</b>	<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID:</b>	<b>WX-08</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		230		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead		1,100		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407005-03</b>	<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID:</b>	<b>WX-09 FD</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		220		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead		1,100		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407005-04</b>	<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID:</b>	<b>WX-21</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		70		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead		280		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407005-05</b>	<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID:</b>	<b>VX-13</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		160		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead		940		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407005-06</b>	<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID:</b>	<b>VX-06</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		490		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead	RE1	2,600		3	"	"	"	07/16/14	6010C/SOP503
<b>Lab ID:</b>	<b>1407005-07</b>	<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID:</b>	<b>VX-10</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		64		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead	RE1	320		3	"	"	"	07/16/14	6010C/SOP503
<b>Lab ID:</b>	<b>1407005-08</b>	<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID:</b>	<b>VX-19</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		360		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead	RE1	2,100		3	"	"	"	07/16/14	6010C/SOP503
<b>Lab ID:</b>	<b>1407005-09</b>	<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID:</b>	<b>XX-03</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		87		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead	RE1	430		3	"	"	"	07/16/14	6010C/SOP503
<b>Lab ID:</b>	<b>1407005-10</b>	<b>Soil - Sampled: 06/18/14 12:00</b>							
<b>Sample ID:</b>	<b>XX-05</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		16		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead	RE1	28		3	"	"	"	07/16/14	6010C/SOP503
<b>Lab ID:</b>	<b>1407005-11</b>	<b>Soil - Sampled: 06/18/14 12:00</b>							



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183C

**Reported:** 08/06/14 13:10

**Sample Results**

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1407005-11</b>							<b>Soil - Sampled: 06/18/14 12:00</b>		
<b>Sample ID: XX-10</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		840		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead	RE1	4,700		3	"	"	"	07/16/14	6010C/SOP503
<b>Lab ID: 1407005-12</b>							<b>Soil - Sampled: 06/18/14 12:00</b>		
<b>Sample ID: XX-17</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		280		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead	RE1	1,800		3	"	"	"	07/16/14	6010C/SOP503
<b>Lab ID: 1407005-13</b>							<b>Soil - Sampled: 06/18/14 12:00</b>		
<b>Sample ID: XX-33</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		340		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead	RE1	1,600		3	"	"	"	07/16/14	6010C/SOP503
<b>Lab ID: 1407005-14</b>							<b>Soil - Sampled: 06/18/14 12:00</b>		
<b>Sample ID: XX-24</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		26		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead	RE1	95		3	"	"	"	07/16/14	6010C/SOP503
<b>Lab ID: 1407005-15</b>							<b>Soil - Sampled: 06/18/14 12:00</b>		
<b>Sample ID: XX-44</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		73		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead	RE1	330		3	"	"	"	07/16/14	6010C/SOP503
<b>Lab ID: 1407005-16</b>							<b>Soil - Sampled: 06/18/14 12:00</b>		
<b>Sample ID: XX-46</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		78		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead	RE1	360		3	"	"	"	07/16/14	6010C/SOP503
<b>Lab ID: 1407005-17</b>							<b>Soil - Sampled: 06/18/14 12:00</b>		
<b>Sample ID: XX-49</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		310		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead	RE1	1,600		3	"	"	"	07/16/14	6010C/SOP503
<b>Lab ID: 1407005-18</b>							<b>Soil - Sampled: 06/18/14 12:00</b>		
<b>Sample ID: XX-51</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		160		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead	RE1	960		3	"	"	"	07/16/14	6010C/SOP503
<b>Lab ID: 1407005-19</b>							<b>Soil - Sampled: 06/18/14 12:00</b>		
<b>Sample ID: XX-59</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		40		2	mg/kg wet	B14G033	07/10/14	07/15/14	6010C/SOP503
Lead	RE1	27		3	"	"	"	07/16/14	6010C/SOP503



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183C

**Reported:** 08/06/14 13:10

**Quality Control**

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14G033 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 07/10/14 Analyzed: 07/15/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14G033-BLK1)**

Arsenic	ND	U		2 mg/kg wet						
Barium	ND	U		5 "						
Cadmium	ND	U		0.5 "						
Chromium	ND	U		1 "						
Lead	ND	U		3 "						
Selenium	ND	U		2 "						
Silver	ND	U		1 "						

**Matrix Spike (B14G033-MS1)**

**Source: 1407005-04**

Arsenic	430			2 mg/kg wet	396	70.4	91	75-125		20
Lead	379			3 "	99.0	284	96	75-125		20

**Matrix Spike Dup (B14G033-MSD1)**

**Source: 1407005-04**

Arsenic	423			2 mg/kg wet	392	70.4	90	75-125	2	20
Lead	359			3 "	98.0	284	77	75-125	5	20

**Reference (B14G033-SRM1)**

Arsenic	275			2 mg/kg wet	254		108	60.9-139		
Lead	53.8			3 "	57.2		94	72.8-127		



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**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

75 Hawthorne Street

San Francisco CA, 94105

**SDG:** 14183C

**Reported:** 08/06/14 13:10

**Qualifiers and Comments**

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.



**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 8/6/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14183D

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment  
Mindy Song, Ecology and Environment

**Analyses included in this report:**

Metals by ICP/MS



United States Environmental Protection Agency

## Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

Phone:(510) 412-2300

Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183D

**Reported:** 08/06/14 13:21

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
RB-062814	1407006-01	Water	06/28/14 17:30	07/01/14 16:53
RB-061814	1407006-02	Water	06/28/14 17:30	07/01/14 16:53

**SDG ID 14183D**

**Work Order(s)**

**1407006**



# United States Environmental Protection Agency Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14183D

**Reported:** 08/06/14 13:21

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
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**Lab ID:** 1407006-01

**Water - Sampled: 06/28/14 17:30**

**Sample ID:** RB-062814

**Metals by EPA 200 Series Methods**

Arsenic ND U 0.50 ug/L B14G025 07/08/14 07/15/14 200.8/SOP507

Lead ND U 1 " " " " 200.8/SOP507

**Lab ID:** 1407006-02

**Water - Sampled: 06/28/14 17:30**

**Sample ID:** RB-061814

**Metals by EPA 200 Series Methods**

Arsenic ND U 0.50 ug/L B14G025 07/08/14 07/15/14 200.8/SOP507

Lead ND U 1 " " " " 200.8/SOP507

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14G025 - 200 Series Digest - Metals, ICP/MS**

**Prepared: 07/08/14 Analyzed: 07/15/14**

**Metals by EPA 200 Series Methods - Quality Control**

**Blank (B14G025-BLK1)**

Arsenic ND U 0.5 ug/L

Lead ND U 1 "

**LCS (B14G025-BS1)**

Arsenic 38.1 0.5 ug/L 40.0 95 85-115 200

Lead 42.8 1 " 40.0 107 85-115 200

**Matrix Spike (B14G025-MS1)**

**Source: 1407006-02**

Arsenic 40.4 0.5 ug/L 40.0 ND 101 70-130 20

Lead 42.7 1 " 40.0 ND 107 70-130 20

**Matrix Spike Dup (B14G025-MSD1)**

**Source: 1407006-02**

Arsenic 39 0.5 ug/L 40.0 ND 97 70-130 4 20

Lead 42.7 1 " 40.0 ND 107 70-130 0.1 20





United States Environmental Protection Agency  
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75 Hawthorne Street

San Francisco CA, 94105

**SDG:** 14183D

**Reported:** 08/06/14 13:21

**Qualifiers and Comments**

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.



**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 8/22/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14198C

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment  
Mindy Song, Ecology and Environment

**Analyses included in this report:**

---

Metals by ICP



United States Environmental Protection Agency

Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

Phone:(510) 412-2300

Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14198C

**Reported:** 08/22/14 09:22

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
ADX05	1407029-01	Soil	06/18/14 09:00	07/17/14 10:00
AAX12	1407029-02	Soil	06/20/14 09:30	07/17/14 10:00
ABX02	1407029-03	Soil	06/20/14 10:00	07/17/14 10:00
ADX10	1407029-04	Soil	06/18/14 10:30	07/17/14 10:00
ABX12	1407029-05	Soil	06/19/14 11:00	07/17/14 10:00
AAX23	1407029-06	Soil	06/20/14 11:30	07/17/14 10:00
ABX23	1407029-07	Soil	06/19/14 12:00	07/17/14 10:00
ABX15	1407029-08	Soil	06/25/14 12:30	07/17/14 10:00
AAX17	1407029-09	Soil	06/20/14 13:00	07/17/14 10:00
AAX10	1407029-10	Soil	06/20/14 13:30	07/17/14 10:00
ABX36	1407029-11	Soil	06/18/14 14:00	07/17/14 10:00
ABX36SP	1407029-12	Soil	06/18/14 14:30	07/17/14 10:00
AEX05	1407029-13	Soil	06/18/14 15:00	07/17/14 10:00
ZX05	1407029-14	Soil	06/20/14 15:30	07/17/14 10:00
AAX07	1407029-15	Soil	06/20/14 16:00	07/17/14 10:00
AAX14	1407029-16	Soil	06/20/14 16:30	07/17/14 10:00
AAX14SP	1407029-17	Soil	06/20/14 17:00	07/17/14 10:00

**SDG ID 14198C**

These samples were received in XRF cups and are reported on an "as received" (wet weight) basis.

**Work Order(s)**

**1407029**



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14198C

**Reported:** 08/22/14 09:22

**Sample Results**

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID:</b>	<b>1407029-01</b>	<b>Soil - Sampled: 06/18/14 09:00</b>							
<b>Sample ID:</b>	<b>ADX05</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		22		2	mg/kg wet	B14G076	07/21/14	07/29/14	6010C/SOP503
Lead		30		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407029-02</b>	<b>Soil - Sampled: 06/20/14 09:30</b>							
<b>Sample ID:</b>	<b>AAX12</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		93		2	mg/kg wet	B14G076	07/21/14	07/29/14	6010C/SOP503
Lead		300		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407029-03</b>	<b>Soil - Sampled: 06/20/14 10:00</b>							
<b>Sample ID:</b>	<b>ABX02</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		88		2	mg/kg wet	B14G076	07/21/14	07/29/14	6010C/SOP503
Lead		350		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407029-04</b>	<b>Soil - Sampled: 06/18/14 10:30</b>							
<b>Sample ID:</b>	<b>ADX10</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		85		2	mg/kg wet	B14G076	07/21/14	07/29/14	6010C/SOP503
Lead		430		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407029-05</b>	<b>Soil - Sampled: 06/19/14 11:00</b>							
<b>Sample ID:</b>	<b>ABX12</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		140		2	mg/kg wet	B14G076	07/21/14	07/29/14	6010C/SOP503
Lead		550		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407029-06</b>	<b>Soil - Sampled: 06/20/14 11:30</b>							
<b>Sample ID:</b>	<b>AAX23</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		290		2	mg/kg wet	B14G076	07/21/14	07/29/14	6010C/SOP503
Lead		1,200		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407029-07</b>	<b>Soil - Sampled: 06/19/14 12:00</b>							
<b>Sample ID:</b>	<b>ABX23</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		260		2	mg/kg wet	B14G076	07/21/14	07/29/14	6010C/SOP503
Lead		1,100		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407029-08</b>	<b>Soil - Sampled: 06/25/14 12:30</b>							
<b>Sample ID:</b>	<b>ABX15</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		230		2	mg/kg wet	B14G076	07/21/14	07/29/14	6010C/SOP503
Lead		1,100		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407029-09</b>	<b>Soil - Sampled: 06/20/14 13:00</b>							
<b>Sample ID:</b>	<b>AAX17</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		250		2	mg/kg wet	B14G076	07/21/14	07/29/14	6010C/SOP503
Lead		1,300		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407029-10</b>	<b>Soil - Sampled: 06/20/14 13:30</b>							
<b>Sample ID:</b>	<b>AAX10</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE2	290		2	mg/kg wet	B14H014	08/04/14	08/05/14	6010C/SOP503
Lead	RE2	1,400		3	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407029-11</b>	<b>Soil - Sampled: 06/18/14 14:00</b>							



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14198C

**Reported:** 08/22/14 09:22

**Sample Results**

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1407029-11</b>							<b>Soil - Sampled: 06/18/14 14:00</b>		
<b>Sample ID: ABX36</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic	RE2	600		2	mg/kg wet	B14H014	08/04/14	08/05/14	6010C/SOP503
Lead	RE2	2,300		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407029-12</b>							<b>Soil - Sampled: 06/18/14 14:30</b>		
<b>Sample ID: ABX36SP</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		580		2	mg/kg wet	B14G076	07/21/14	07/29/14	6010C/SOP503
Lead		2,300		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407029-13</b>							<b>Soil - Sampled: 06/18/14 15:00</b>		
<b>Sample ID: AEX05</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		690		2	mg/kg wet	B14G076	07/21/14	07/29/14	6010C/SOP503
Lead		2,800		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407029-14</b>							<b>Soil - Sampled: 06/20/14 15:30</b>		
<b>Sample ID: ZX05</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		730		2	mg/kg wet	B14G076	07/21/14	07/29/14	6010C/SOP503
Lead		2,900		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407029-15</b>							<b>Soil - Sampled: 06/20/14 16:00</b>		
<b>Sample ID: AAX07</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		1,400		2	mg/kg wet	B14G076	07/21/14	07/29/14	6010C/SOP503
Lead		5,400		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407029-16</b>							<b>Soil - Sampled: 06/20/14 16:30</b>		
<b>Sample ID: AAX14</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		2,100		2	mg/kg wet	B14G076	07/21/14	07/29/14	6010C/SOP503
Lead	RE1	10,000		30	"	"	"	07/29/14	6010C/SOP503
<b>Lab ID: 1407029-17</b>							<b>Soil - Sampled: 06/20/14 17:00</b>		
<b>Sample ID: AAX14SP</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic		2,200		2	mg/kg wet	B14G076	07/21/14	07/29/14	6010C/SOP503
Lead	RE1	9,900		30	"	"	"	07/29/14	6010C/SOP503



# United States Environmental Protection Agency Region 9 Laboratory

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**Project Manager:** Thomas Dunkelman

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**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14198C

**Reported:** 08/22/14 09:22

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14G076 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 07/21/14 Analyzed: 07/29/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

### Blank (B14G076-BLK1)

Arsenic	ND	U		2 mg/kg wet
Barium	ND	U		5 "
Cadmium	ND	U	0.5	"
Chromium	ND	U	1	"
Lead	ND	U	3	"
Selenium	ND	U	2	"
Silver	ND	U	1	"

### Matrix Spike (B14G076-MS1)

**Source: 1407029-01**

Arsenic	433			2 mg/kg wet	400	21.5	103	75-125		20
Lead	114			3 "	100	30	84	75-125		20

### Matrix Spike Dup (B14G076-MSD1)

**Source: 1407029-01**

Arsenic	423			2 mg/kg wet	400	21.5	100	75-125	2	20
Lead	115			3 "	100	30	85	75-125	0.9	20

### Reference (B14G076-SRM1)

Arsenic	260			2 mg/kg wet	254		103	60.9-139		
Lead	53.8			3 "	57.0		94	72.8-127		

**Batch B14H014 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/04/14 Analyzed: 08/05/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

### Blank (B14H014-BLK1)

Arsenic	ND	U		2 mg/kg wet
Barium	ND	U		5 "
Cadmium	ND	U	0.5	"
Chromium	ND	U	1	"
Lead	ND	U	3	"
Selenium	ND	U	2	"
Silver	ND	U	1	"

### Reference (B14H014-SRM1)

Arsenic	270			2 mg/kg wet	254		106	60.9-139		
Lead	51.2			3 "	57.1		90	72.8-127		



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

75 Hawthorne Street

San Francisco CA, 94105

**SDG:** 14198C

**Reported:** 08/22/14 09:22

**Qualifiers and Comments**

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.



**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 8/14/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14210D

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

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If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment  
Mindy Song, Ecology and Environment

**Analyses included in this report:**

Metals by ICP





United States Environmental Protection Agency  
**Region 9 Laboratory**

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Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210D

**Reported:** 08/14/14 15:09

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
72614-EB	1407053-01	Water	07/26/14 11:00	07/29/14 09:30
Store-ESS	1407053-02	Water	07/28/14 11:30	07/29/14 09:30

**SDG ID 14210D**

**Work Order(s)**

**1407053**



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210D

**Reported:** 08/14/14 15:09

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
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**Lab ID:** 1407053-01

**Water - Sampled: 07/26/14 11:00**

**Sample ID:** 72614-EB

**Metals by EPA 200 Series Methods**

Arsenic 47 20 ug/L B14H029 08/05/14 08/08/14 200.7/SOP505

Lead 96 20 " " " 200.7/SOP505

**Lab ID:** 1407053-02

**Water - Sampled: 07/28/14 11:30**

**Sample ID:** Store-ESS

**Metals by EPA 200 Series Methods**

Arsenic ND U 20 ug/L B14H029 08/05/14 08/08/14 200.7/SOP505

Lead 23 20 " " " 200.7/SOP505

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H029 - 200 Series Digest - Metals by 200.7**

**Prepared: 08/05/14 Analyzed: 08/08/14**

**Metals by EPA 200 Series Methods - Quality Control**

**Blank (B14H029-BLK1)**

Arsenic ND U 20 ug/L

Lead ND U 20 "

**LCS (B14H029-BS1)**

Arsenic 912 20 ug/L 800 114 85-115 200

Lead 1,080 20 " 1000 108 85-115 200

**Matrix Spike (B14H029-MS1)**

**Source: 1407053-02**

Arsenic 907 20 ug/L 800 ND 113 70-130 20

Lead 1,090 20 " 1000 22.6 106 70-130 20

**Matrix Spike Dup (B14H029-MSD1)**

**Source: 1407053-02**

Arsenic 905 20 ug/L 800 ND 113 70-130 0.2 20

Lead 1,080 20 " 1000 22.6 106 70-130 0.3 20



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**Emergency Response Section**

75 Hawthorne Street

San Francisco CA, 94105

**SDG:** 14210D

**Reported:** 08/14/14 15:09

**Qualifiers and Comments**

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.



**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 9/10/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14210E

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

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If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment

**Analyses included in this report:**

Mercury by EPA method 7473	Metals by ICP
SPLP Metals by ICP	SPLP Mercury
TCLP Metals by ICP	TCLP Mercury
Percent Solids	SPLP Extraction by Method 1312
TCLP Extraction by 1311	



United States Environmental Protection Agency

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Project Manager: Thomas Dunkelman

Project Number: R14S51

Project: Eureka Smelter Summer 2014 Sampling

Emergency Response Section

75 Hawthorne Street

San Francisco CA, 94105

SDG: 14210E

Reported: 09/10/14 12:40

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
71814-SAND	1407054-01	Soil	07/18/14 15:30	07/29/14 09:30
71614-SAND	1407054-02	Soil	07/16/14 07:38	07/29/14 09:30
71614-Base	1407054-03	Soil	07/16/14 07:45	07/29/14 09:30
71114-Pit Run	1407054-04	Soil	07/11/14 14:10	07/29/14 09:30
71114-Top Soil	1407054-05	Soil	07/11/14 14:00	07/29/14 09:30
72214-Top Soil	1407054-06	Soil	07/22/14 09:10	07/29/14 09:30
A1 Dark Slag	1407055-01	Soil	07/25/14 08:50	07/29/14 09:30
A2 Med Slag	1407055-02	Soil	07/25/14 09:00	07/29/14 09:30
A3a Light Slag	1407055-03	Soil	07/25/14 09:10	07/29/14 09:30
A3b Light Slag	1407055-04	Soil	07/25/14 09:10	07/29/14 09:30
A4a South Slag	1407055-05	Soil	07/25/14 10:30	07/29/14 09:30
A4b South Slag	1407055-06	Soil	07/25/14 10:35	07/29/14 09:30

SDG ID 14210E

Metals: Samples were received at 21 degrees C which is above the recommended temperature range of 0 to 6 degrees C for mercury preservation. Mercury results are qualified as estimated.

Work Order(s)

1407054

1407055



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210E

**Reported:** 09/10/14 12:40

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1407054-01</b>		<b>Soil - Sampled: 07/18/14 15:30</b>							
<b>Sample ID: 71814-SAND</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		ND	A2, J, U	0.027	mg/kg dry	B14H011	08/04/14	08/04/14	7473/SOP535
Arsenic	RE1	23		2.1	"	B14H022	08/06/14	08/15/14	6010C/SOP503
Barium		190		5.3	"	"	"	08/11/14	6010C/SOP503
Cadmium		0.32	C1, J	0.53	"	"	"	"	6010C/SOP503
Chromium		18		1.1	"	"	"	"	6010C/SOP503
Lead	RE1	7.4		3.2	"	"	"	08/15/14	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	08/11/14	6010C/SOP503
Silver		ND	U	1.1	"	"	"	"	6010C/SOP503
<b>Sample ID: 71814-SAND</b>		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		94		1	%	B14H062	08/13/14	08/14/14	3550C/SOP460
<b>Lab ID: 1407054-02</b>		<b>Soil - Sampled: 07/16/14 07:38</b>							
<b>Sample ID: 71614-SAND</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		ND	A2, J, U	0.028	mg/kg dry	B14H011	08/04/14	08/04/14	7473/SOP535
Arsenic	RE1	28		2.1	"	B14H022	08/06/14	08/15/14	6010C/SOP503
Barium		180		5.2	"	"	"	08/11/14	6010C/SOP503
Cadmium		0.37	C1, J	0.52	"	"	"	"	6010C/SOP503
Chromium		19		1	"	"	"	"	6010C/SOP503
Lead	RE1	8.9		3.1	"	"	"	08/15/14	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	08/11/14	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
<b>Sample ID: 71614-SAND</b>		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		96		1	%	B14H062	08/13/14	08/14/14	3550C/SOP460
<b>Lab ID: 1407054-03</b>		<b>Soil - Sampled: 07/16/14 07:45</b>							
<b>Sample ID: 71614-Base</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		ND	A2, J, U	0.030	mg/kg dry	B14H011	08/04/14	08/04/14	7473/SOP535
Arsenic	RE1	18		2.1	"	B14H022	08/06/14	08/15/14	6010C/SOP503
Barium		200		5.2	"	"	"	08/11/14	6010C/SOP503
Cadmium		0.29	C1, J	0.52	"	"	"	"	6010C/SOP503
Chromium		16		1	"	"	"	"	6010C/SOP503
Lead	RE1	8.4		3.1	"	"	"	08/15/14	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	08/11/14	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
<b>Sample ID: 71614-Base</b>		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		97		1	%	B14H062	08/13/14	08/14/14	3550C/SOP460
<b>Lab ID: 1407054-04</b>		<b>Soil - Sampled: 07/11/14 14:10</b>							
<b>Sample ID: 71114-Pit Run</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		ND	A2, J, U	0.032	mg/kg dry	B14H011	08/04/14	08/04/14	7473/SOP535
Arsenic	RE1	20		2.1	"	B14H022	08/06/14	08/15/14	6010C/SOP503
Barium		190		5.2	"	"	"	08/11/14	6010C/SOP503



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210E

**Reported:** 09/10/14 12:40

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID:	1407054-04	Soil - Sampled: 07/11/14 14:10							
Sample ID:	71114-Pit Run	Metals by EPA 6000/7000 Series Methods							
Cadmium	RE1	0.30	C1, J	0.52	mg/kg dry	B14H022	08/06/14	08/11/14	6010C/SOP503
Chromium		16		1	"	"	"	"	6010C/SOP503
Lead		8.9		3.1	"	"	"	08/15/14	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	08/11/14	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
Sample ID:	71114-Pit Run	Conventional Chemistry Parameters by APHA/EPA Methods							
% Solids		97		1	%	B14H062	08/13/14	08/14/14	3550C/SOP460
Lab ID:	1407054-05	Soil - Sampled: 07/11/14 14:00							
Sample ID:	71114-Top Soil	Metals by EPA 6000/7000 Series Methods							
Mercury	RE1	0.035	A2, J	0.030	mg/kg dry	B14H011	08/04/14	08/04/14	7473/SOP535
Arsenic		18		2.2	"	B14H022	08/06/14	08/15/14	6010C/SOP503
Barium		240		5.5	"	"	"	08/11/14	6010C/SOP503
Cadmium		0.45	C1, J	0.55	"	"	"	"	6010C/SOP503
Chromium		18		1.1	"	"	"	"	6010C/SOP503
Lead	RE1	11		3.3	"	"	"	08/15/14	6010C/SOP503
Selenium		ND	U	2.2	"	"	"	08/11/14	6010C/SOP503
Silver		ND	U	1.1	"	"	"	"	6010C/SOP503
Sample ID:		71114-Top Soil	Conventional Chemistry Parameters by APHA/EPA Methods						
% Solids		91		1	%	B14H062	08/13/14	08/14/14	3550C/SOP460
Lab ID:	1407054-06	Soil - Sampled: 07/22/14 09:10							
Sample ID:	72214-Top Soil	Metals by EPA 6000/7000 Series Methods							
Mercury	RE1	0.021	A2, C1, J	0.027	mg/kg dry	B14H011	08/04/14	08/04/14	7473/SOP535
Arsenic		17		2.2	"	B14H022	08/06/14	08/15/14	6010C/SOP503
Barium		260		5.5	"	"	"	08/11/14	6010C/SOP503
Cadmium		0.44	C1, J	0.55	"	"	"	"	6010C/SOP503
Chromium		20		1.1	"	"	"	"	6010C/SOP503
Lead	RE1	12		3.3	"	"	"	08/15/14	6010C/SOP503
Selenium		ND	U	2.2	"	"	"	08/11/14	6010C/SOP503
Silver		ND	U	1.1	"	"	"	"	6010C/SOP503
Sample ID:		72214-Top Soil	Conventional Chemistry Parameters by APHA/EPA Methods						
% Solids		91		1	%	B14H062	08/13/14	08/14/14	3550C/SOP460
Lab ID:	1407055-01	Soil - Sampled: 07/25/14 08:50							
Sample ID:	A1 Dark Slag	Analysis of Toxicity Characteristic Leaching Procedure (TCLP) Extracts							
Arsenic		1.4		0.20	mg/L	B14H044	08/08/14	08/14/14	6010C/SOP503
Barium		4.0		0.50	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.050	"	"	"	"	6010C/SOP503
Chromium		ND	U	0.10	"	"	"	"	6010C/SOP503
Lead		17		0.30	"	"	"	"	6010C/SOP503
Selenium		ND	U	0.20	"	"	"	"	6010C/SOP503



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210E

**Reported:** 09/10/14 12:40

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
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**Lab ID:** 1407055-01

**Soil - Sampled: 07/25/14 08:50**

**Sample ID:** A1 Dark Slag

Analysis of Toxicity Characteristic Leaching Procedure (TCLP) Extracts									
Silver		ND	U	0.10	mg/L	B14H044	08/08/14	08/14/14	6010C/SOP503
Mercury		ND	A2, J, U	0.00030	"	B14H126	08/21/14	08/21/14	245.1/SOP515
TCLP Extraction		Performed			N/A	B14G142	07/31/14	08/01/14	1311/SOP250

**Sample ID:** A1 Dark Slag

Analysis of Synthetic Precipitation Leaching Procedure (SPLP) Extracts									
Arsenic		0.22	J, Q5	0.20	mg/L	B14H045	08/08/14	08/14/14	6010C/SOP503
Barium		ND	U	0.50	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.050	"	"	"	"	6010C/SOP503
Chromium		ND	U	0.10	"	"	"	"	6010C/SOP503
Lead		0.89	J, Q5	0.30	"	"	"	"	6010C/SOP503
Selenium		ND	U	0.20	"	"	"	"	6010C/SOP503
Silver		ND	U	0.10	"	"	"	"	6010C/SOP503
Mercury		0.00004	A2, J, Q5	0.00003	"	B14H128	08/21/14	08/21/14	245.1/SOP515
SPLP Extraction		Performed		1	N/A	B14G141	07/31/14	08/01/14	EPA 1312

**Sample ID:** A1 Dark Slag

Metals by EPA 6000/7000 Series Methods									
Mercury		0.17	A2, J	0.030	mg/kg dry	B14H011	08/04/14	08/04/14	7473/SOP535
Aluminum	RE2	8,900		100	"	B14H022	08/06/14	08/11/14	6010C/SOP503
Antimony	RE2	330		2	"	"	"	"	6010C/SOP503
Arsenic	RE3	1,700		10	"	"	"	08/14/14	6010C/SOP503
Barium	RE2	1,800		5	"	"	"	08/11/14	6010C/SOP503
Beryllium	RE3	1.2		0.50	"	"	"	08/14/14	6010C/SOP503
Cadmium	RE3	10		2.5	"	"	"	"	6010C/SOP503
Calcium	RE2	71,000		100	"	"	"	08/11/14	6010C/SOP503
Chromium	RE3	12		5	"	"	"	08/14/14	6010C/SOP503
Cobalt	RE3	ND	U	10	"	"	"	"	6010C/SOP503
Copper	RE2	710		4	"	"	"	08/11/14	6010C/SOP503
Iron	RE3	250,000		500	"	"	"	08/14/14	6010C/SOP503
Lead	RE3	15,000		15	"	"	"	"	6010C/SOP503
Magnesium	RE2	9,400		50	"	"	"	08/11/14	6010C/SOP503
Manganese	RE2	2,100		5	"	"	"	"	6010C/SOP503
Molybdenum	RE2	190		5	"	"	"	"	6010C/SOP503
Nickel	RE2	ND	U	5	"	"	"	"	6010C/SOP503
Potassium	RE2	2,400		500	"	"	"	"	6010C/SOP503
Selenium	RE3	ND	U	10	"	"	"	08/14/14	6010C/SOP503
Silver	RE2	28		1	"	"	"	08/11/14	6010C/SOP503
Sodium	RE2	710		50	"	"	"	"	6010C/SOP503
Thallium	RE2	ND	U	5	"	"	"	"	6010C/SOP503
Vanadium	RE2	110		2	"	"	"	"	6010C/SOP503
Zinc	RE4	51,000		400	"	"	"	08/14/14	6010C/SOP503

**Sample ID:** A1 Dark Slag

**Conventional Chemistry Parameters by APHA/EPA Methods**





United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210E

**Reported:** 09/10/14 12:40

**Sample Results**

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
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**Lab ID:** 1407055-01

**Soil - Sampled: 07/25/14 08:50**

**Sample ID:** A1 Dark Slag

% Solids	100	1	%	Conventional Chemistry Parameters by APHA/EPA Methods					
				B14H062	08/13/14	08/14/14	3550C/SOP460		

**Lab ID:** 1407055-02

**Soil - Sampled: 07/25/14 09:00**

**Sample ID:** A2 Med Slag

Analysis of Toxicity Characteristic Leaching Procedure (TCLP) Extracts									
Arsenic	36	0.20	mg/L	B14H044	08/08/14	08/14/14	6010C/SOP503		
Barium	1.4	0.50	"	"	"	"	6010C/SOP503		
Cadmium	ND U	0.050	"	"	"	"	6010C/SOP503		
Chromium	ND U	0.10	"	"	"	"	6010C/SOP503		
Lead	37	0.30	"	"	"	"	6010C/SOP503		
Selenium	ND U	0.20	"	"	"	"	6010C/SOP503		
Silver	ND U	0.10	"	"	"	"	6010C/SOP503		
Mercury	ND A2, J, U	0.00030	"	B14H126	08/21/14	08/21/14	245.1/SOP515		
TCLP Extraction	Performed		N/A	B14G142	07/31/14	08/01/14	1311/SOP250		

**Sample ID:** A2 Med Slag

Analysis of Synthetic Precipitation Leaching Procedure (SPLP) Extracts									
Arsenic	1.8	0.20	mg/L	B14H045	08/08/14	08/14/14	6010C/SOP503		
Barium	ND U	0.50	"	"	"	"	6010C/SOP503		
Cadmium	ND U	0.050	"	"	"	"	6010C/SOP503		
Chromium	ND U	0.10	"	"	"	"	6010C/SOP503		
Lead	1.4	0.30	"	"	"	"	6010C/SOP503		
Selenium	ND U	0.20	"	"	"	"	6010C/SOP503		
Silver	ND U	0.10	"	"	"	"	6010C/SOP503		
Mercury	0.00005 A2, J	0.00003	"	B14H128	08/21/14	08/21/14	245.1/SOP515		
SPLP Extraction	Performed	1	N/A	B14G141	07/31/14	08/01/14	EPA 1312		

**Sample ID:** A2 Med Slag

Metals by EPA 6000/7000 Series Methods									
Mercury	RE2	0.065	A2, J	0.025	mg/kg dry	B14H028	08/04/14	08/05/14	7473/SOP535
Aluminum	RE1	4,700		100	"	B14H022	08/06/14	08/11/14	6010C/SOP503
Antimony	RE1	300		2	"	"	"	"	6010C/SOP503
Arsenic	RE2	8,100		10	"	"	"	08/14/14	6010C/SOP503
Barium	RE1	970		5	"	"	"	08/11/14	6010C/SOP503
Beryllium	RE2	0.81		0.50	"	"	"	08/14/14	6010C/SOP503
Cadmium	RE2	2.8		2.5	"	"	"	"	6010C/SOP503
Calcium	RE1	15,000		100	"	"	"	08/11/14	6010C/SOP503
Chromium	RE2	9.1		5	"	"	"	08/14/14	6010C/SOP503
Cobalt	RE2	ND U		10	"	"	"	"	6010C/SOP503
Copper	RE1	870		4	"	"	"	08/11/14	6010C/SOP503
Iron	RE2	220,000		500	"	"	"	08/14/14	6010C/SOP503
Lead	RE2	11,000		15	"	"	"	"	6010C/SOP503
Magnesium	RE1	3,800		50	"	"	"	08/11/14	6010C/SOP503
Manganese	RE1	610		5	"	"	"	"	6010C/SOP503
Molybdenum	RE1	1,200		5	"	"	"	"	6010C/SOP503



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210E

**Reported:** 09/10/14 12:40

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
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**Lab ID:** 1407055-02

**Soil - Sampled: 07/25/14 09:00**

**Sample ID:** A2 Med Slag

**Metals by EPA 6000/7000 Series Methods**

Nickel	RE1	ND	U	5	mg/kg dry	B14H022	08/06/14	08/11/14	6010C/SOP503
Potassium	RE1	1,700		500	"	"	"	"	6010C/SOP503
Selenium	RE2	ND	U	10	"	"	"	08/14/14	6010C/SOP503
Silver	RE1	18		1	"	"	"	08/11/14	6010C/SOP503
Silver	RE2	20		5	"	"	"	08/14/14	6010C/SOP503
Sodium	RE1	540		50	"	"	"	08/11/14	6010C/SOP503
Thallium	RE1	ND	U	5	"	"	"	"	6010C/SOP503
Vanadium	RE1	88		2	"	"	"	"	6010C/SOP503
Zinc	RE2	24,000		40	"	"	"	08/14/14	6010C/SOP503

**Sample ID:** A2 Med Slag

**Conventional Chemistry Parameters by APHA/EPA Methods**

% Solids		100		1	%	B14H062	08/13/14	08/14/14	3550C/SOP460
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**Lab ID:** 1407055-03

**Soil - Sampled: 07/25/14 09:10**

**Sample ID:** A3a Light Slag

**Analysis of Toxicity Characteristic Leaching Procedure (TCLP) Extracts**

Arsenic		5.0		0.20	mg/L	B14H044	08/08/14	08/14/14	6010C/SOP503
Barium		2.0		0.50	"	"	"	"	6010C/SOP503
Cadmium		0.44		0.050	"	"	"	"	6010C/SOP503
Chromium		ND	U	0.10	"	"	"	"	6010C/SOP503
Lead		53		0.30	"	"	"	"	6010C/SOP503
Selenium		ND	U	0.20	"	"	"	"	6010C/SOP503
Silver		ND	U	0.10	"	"	"	"	6010C/SOP503
Mercury		ND	A2, J, U	0.00030	"	B14H126	08/21/14	08/21/14	245.1/SOP515
TCLP Extraction		Performed			N/A	B14G142	07/31/14	08/01/14	1311/SOP250

**Sample ID:** A3a Light Slag

**Analysis of Synthetic Precipitation Leaching Procedure (SPLP) Extracts**

Arsenic		0.70		0.20	mg/L	B14H045	08/08/14	08/14/14	6010C/SOP503
Barium		ND	U	0.50	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.050	"	"	"	"	6010C/SOP503
Chromium		ND	U	0.10	"	"	"	"	6010C/SOP503
Lead		1.1		0.30	"	"	"	"	6010C/SOP503
Selenium		ND	U	0.20	"	"	"	"	6010C/SOP503
Silver		ND	U	0.10	"	"	"	"	6010C/SOP503
Mercury		0.00005	A2, J	0.00003	"	B14H128	08/21/14	08/21/14	245.1/SOP515
SPLP Extraction		Performed		1	N/A	B14G141	07/31/14	08/01/14	EPA 1312

**Sample ID:** A3a Light Slag

**Metals by EPA 6000/7000 Series Methods**

Mercury		1.1	A2, J	0.025	mg/kg dry	B14H011	08/04/14	08/04/14	7473/SOP535
Aluminum	RE1	9,100		100	"	B14H022	08/06/14	08/11/14	6010C/SOP503
Antimony	RE1	180		2	"	"	"	"	6010C/SOP503
Arsenic	RE2	6,100		10	"	"	"	08/14/14	6010C/SOP503
Barium	RE1	1,300		5	"	"	"	08/11/14	6010C/SOP503
Beryllium	RE2	1.5		0.50	"	"	"	08/14/14	6010C/SOP503



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210E

**Reported:** 09/10/14 12:40

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
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**Lab ID:** 1407055-03

**Soil - Sampled: 07/25/14 09:10**

**Sample ID:** A3a Light Slag

**Metals by EPA 6000/7000 Series Methods**

Cadmium	RE2	69		2.5	mg/kg dry	B14H022	08/06/14	08/14/14	6010C/SOP503
Calcium	RE1	37,000		100	"	"	"	08/11/14	6010C/SOP503
Chromium	RE2	12		5	"	"	"	08/14/14	6010C/SOP503
Cobalt	RE2	ND	U	10	"	"	"	"	6010C/SOP503
Copper	RE1	660		4	"	"	"	08/11/14	6010C/SOP503
Iron	RE2	200,000		500	"	"	"	08/14/14	6010C/SOP503
Lead	RE2	23,000		15	"	"	"	"	6010C/SOP503
Magnesium	RE1	9,800		50	"	"	"	08/11/14	6010C/SOP503
Manganese	RE1	880		5	"	"	"	"	6010C/SOP503
Molybdenum	RE1	1,000		5	"	"	"	"	6010C/SOP503
Nickel	RE1	5.5		5	"	"	"	"	6010C/SOP503
Potassium	RE1	2,300		500	"	"	"	"	6010C/SOP503
Selenium	RE2	ND	U	10	"	"	"	08/14/14	6010C/SOP503
Silver	RE1	48		1	"	"	"	08/11/14	6010C/SOP503
Sodium	RE1	410		50	"	"	"	"	6010C/SOP503
Thallium	RE1	ND	U	5	"	"	"	"	6010C/SOP503
Vanadium	RE1	100		2	"	"	"	"	6010C/SOP503
Zinc	RE2	21,000		40	"	"	"	08/14/14	6010C/SOP503

**Sample ID:** A3a Light Slag

**Conventional Chemistry Parameters by APHA/EPA Methods**

% Solids		99		1	%	B14H062	08/13/14	08/14/14	3550C/SOP460
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**Lab ID:** 1407055-04

**Soil - Sampled: 07/25/14 09:10**

**Sample ID:** A3b Light Slag

**Analysis of Toxicity Characteristic Leaching Procedure (TCLP) Extracts**

Arsenic		6.5		0.20	mg/L	B14H044	08/08/14	08/14/14	6010C/SOP503
Barium		1.9		0.50	"	"	"	"	6010C/SOP503
Cadmium		0.55		0.050	"	"	"	"	6010C/SOP503
Chromium		ND	U	0.10	"	"	"	"	6010C/SOP503
Lead		47		0.30	"	"	"	"	6010C/SOP503
Selenium		ND	U	0.20	"	"	"	"	6010C/SOP503
Silver		ND	U	0.10	"	"	"	"	6010C/SOP503
Mercury		ND	A2, J, U	0.00030	"	B14H126	08/21/14	08/21/14	245.1/SOP515
TCLP Extraction		Performed			N/A	B14G142	07/31/14	08/01/14	1311/SOP250

**Sample ID:** A3b Light Slag

**Analysis of Synthetic Precipitation Leaching Procedure (SPLP) Extracts**

Arsenic		0.95		0.20	mg/L	B14H045	08/08/14	08/14/14	6010C/SOP503
Barium		ND	U	0.50	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.050	"	"	"	"	6010C/SOP503
Chromium		ND	U	0.10	"	"	"	"	6010C/SOP503
Lead		1.4		0.30	"	"	"	"	6010C/SOP503
Selenium		ND	U	0.20	"	"	"	"	6010C/SOP503
Silver		ND	U	0.10	"	"	"	"	6010C/SOP503



# United States Environmental Protection Agency Region 9 Laboratory

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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210E

**Reported:** 09/10/14 12:40

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
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**Lab ID:** 1407055-04

**Soil - Sampled: 07/25/14 09:10**

**Sample ID:** A3b Light Slag

<b>Analysis of Synthetic Precipitation Leaching Procedure (SPLP) Extracts</b>									
Mercury		0.00012	A2, J	0.00003	mg/L	B14H128	08/21/14	08/21/14	245.1/SOP515
SPLP Extraction		Performed		1	N/A	B14G141	07/31/14	08/01/14	EPA 1312

**Sample ID:** A3b Light Slag

<b>Metals by EPA 6000/7000 Series Methods</b>									
Mercury		1.4	A2, J	0.030	mg/kg dry	B14H011	08/04/14	08/04/14	7473/SOP535
Aluminum	RE1	8,400		100	"	B14H022	08/06/14	08/11/14	6010C/SOP503
Antimony	RE1	180		2	"	"	"	"	6010C/SOP503
Arsenic	RE2	6,600		10	"	"	"	08/14/14	6010C/SOP503
Barium	RE1	1,500		5	"	"	"	08/11/14	6010C/SOP503
Beryllium	RE2	1.7		0.50	"	"	"	08/14/14	6010C/SOP503
Cadmium	RE2	70		2.5	"	"	"	"	6010C/SOP503
Calcium	RE1	31,000		100	"	"	"	08/11/14	6010C/SOP503
Chromium	RE2	13		5	"	"	"	08/14/14	6010C/SOP503
Cobalt	RE2	ND	U	10	"	"	"	"	6010C/SOP503
Copper	RE1	720		4	"	"	"	08/11/14	6010C/SOP503
Iron	RE2	240,000		500	"	"	"	08/14/14	6010C/SOP503
Lead	RE2	22,000		15	"	"	"	"	6010C/SOP503
Magnesium	RE1	9,500		50	"	"	"	08/11/14	6010C/SOP503
Manganese	RE1	760		5	"	"	"	"	6010C/SOP503
Molybdenum	RE1	1,100		5	"	"	"	"	6010C/SOP503
Nickel	RE1	4.7	C1, J	5	"	"	"	"	6010C/SOP503
Potassium	RE1	2,300		500	"	"	"	"	6010C/SOP503
Selenium	RE2	ND	U	10	"	"	"	08/14/14	6010C/SOP503
Silver	RE1	39		1	"	"	"	08/11/14	6010C/SOP503
Sodium	RE1	360		50	"	"	"	"	6010C/SOP503
Thallium	RE1	ND	U	5	"	"	"	"	6010C/SOP503
Vanadium	RE1	120		2	"	"	"	"	6010C/SOP503
Zinc	RE2	21,000		40	"	"	"	08/14/14	6010C/SOP503

**Sample ID:** A3b Light Slag

<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>									
% Solids		100		1	%	B14H062	08/13/14	08/14/14	3550C/SOP460

**Lab ID:** 1407055-05

**Soil - Sampled: 07/25/14 10:30**

**Sample ID:** A4a South Slag

<b>Analysis of Toxicity Characteristic Leaching Procedure (TCLP) Extracts</b>									
Arsenic		26		0.20	mg/L	B14H044	08/08/14	08/14/14	6010C/SOP503
Barium		1.3		0.50	"	"	"	"	6010C/SOP503
Cadmium		0.22		0.050	"	"	"	"	6010C/SOP503
Chromium		ND	U	0.10	"	"	"	"	6010C/SOP503
Lead		270		0.30	"	"	"	"	6010C/SOP503
Selenium		ND	U	0.20	"	"	"	"	6010C/SOP503
Silver		ND	U	0.10	"	"	"	"	6010C/SOP503
Mercury		ND	A2, J, U	0.00030	"	B14H126	08/21/14	08/21/14	245.1/SOP515



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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210E

**Reported:** 09/10/14 12:40

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
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**Lab ID:** 1407055-05

**Soil - Sampled: 07/25/14 10:30**

**Sample ID:** A4a South Slag

TCLP Extraction

Performed

**Analysis of Toxicity Characteristic Leaching Procedure (TCLP) Extracts**

N/A B14G142 07/31/14 08/01/14 1311/SOP250

**Sample ID:** A4a South Slag

**Analysis of Synthetic Precipitation Leaching Procedure (SPLP) Extracts**

Arsenic		0.75		0.20	mg/L	B14H045	08/08/14	08/14/14	6010C/SOP503
Barium		ND	U	0.50	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.050	"	"	"	"	6010C/SOP503
Chromium		ND	U	0.10	"	"	"	"	6010C/SOP503
Lead		1.8		0.30	"	"	"	"	6010C/SOP503
Selenium		ND	U	0.20	"	"	"	"	6010C/SOP503
Silver		ND	U	0.10	"	"	"	"	6010C/SOP503
Mercury		0.00019	A2, J	0.00003	"	B14H128	08/21/14	08/21/14	245.1/SOP515
SPLP Extraction		Performed		1	N/A	B14G141	07/31/14	08/01/14	EPA 1312

**Sample ID:** A4a South Slag

**Metals by EPA 6000/7000 Series Methods**

Mercury		1.6	A2, J	0.026	mg/kg dry	B14H011	08/04/14	08/04/14	7473/SOP535
Aluminum	RE1	3,900		100	"	B14H022	08/06/14	08/11/14	6010C/SOP503
Antimony	RE1	2,200		2.1	"	"	"	"	6010C/SOP503
Arsenic	RE2	19,000		10	"	"	"	08/14/14	6010C/SOP503
Barium	RE1	510		5.2	"	"	"	08/11/14	6010C/SOP503
Beryllium	RE2	0.51	C1, J	0.52	"	"	"	08/14/14	6010C/SOP503
Cadmium	RE2	24		2.6	"	"	"	"	6010C/SOP503
Calcium	RE1	14,000		100	"	"	"	08/11/14	6010C/SOP503
Chromium	RE2	4.7	C1, J	5.2	"	"	"	08/14/14	6010C/SOP503
Cobalt	RE2	ND	U	10	"	"	"	"	6010C/SOP503
Copper	RE1	1,800		4.1	"	"	"	08/11/14	6010C/SOP503
Iron	RE2	170,000		520	"	"	"	08/14/14	6010C/SOP503
Lead	RE2	34,000		16	"	"	"	"	6010C/SOP503
Magnesium	RE1	3,200		52	"	"	"	08/11/14	6010C/SOP503
Manganese	RE1	360		5.2	"	"	"	"	6010C/SOP503
Molybdenum	RE1	660		5.2	"	"	"	"	6010C/SOP503
Nickel	RE1	4.6	C1, J	5.2	"	"	"	"	6010C/SOP503
Potassium	RE1	1,400		520	"	"	"	"	6010C/SOP503
Selenium	RE2	ND	U	10	"	"	"	08/14/14	6010C/SOP503
Silver	RE1	43		1	"	"	"	08/11/14	6010C/SOP503
Sodium	RE1	350		52	"	"	"	"	6010C/SOP503
Thallium	RE1	ND	U	5.2	"	"	"	"	6010C/SOP503
Vanadium	RE1	45		2.1	"	"	"	"	6010C/SOP503
Zinc	RE2	12,000		41	"	"	"	08/14/14	6010C/SOP503

**Sample ID:** A4a South Slag

**Conventional Chemistry Parameters by APHA/EPA Methods**

% Solids		96		1	%	B14H062	08/13/14	08/14/14	3550C/SOP460
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**Lab ID:** 1407055-06

**Soil - Sampled: 07/25/14 10:35**



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210E

**Reported:** 09/10/14 12:40

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
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**Lab ID:** 1407055-06

**Soil - Sampled: 07/25/14 10:35**

**Sample ID:** A4b South Slag

**Analysis of Toxicity Characteristic Leaching Procedure (TCLP) Extracts**

Arsenic		10		0.20	mg/L	B14H044	08/08/14	08/14/14	6010C/SOP503
Barium		1.6		0.50	"	"	"	"	6010C/SOP503
Cadmium		0.25		0.050	"	"	"	"	6010C/SOP503
Chromium		ND	U	0.10	"	"	"	"	6010C/SOP503
Lead		450		0.30	"	"	"	"	6010C/SOP503
Selenium		ND	U	0.20	"	"	"	"	6010C/SOP503
Silver		ND	U	0.10	"	"	"	"	6010C/SOP503
Mercury		ND	A2, J, U	0.00030	"	B14H126	08/21/14	08/21/14	245.1/SOP515
TCLP Extraction		Performed			N/A	B14G142	07/31/14	08/01/14	1311/SOP250

**Sample ID:** A4b South Slag

**Analysis of Synthetic Precipitation Leaching Procedure (SPLP) Extracts**

Arsenic		0.74		0.20	mg/L	B14H045	08/08/14	08/14/14	6010C/SOP503
Barium		ND	U	0.50	"	"	"	"	6010C/SOP503
Cadmium		ND	U	0.050	"	"	"	"	6010C/SOP503
Chromium		ND	U	0.10	"	"	"	"	6010C/SOP503
Lead		2.0		0.30	"	"	"	"	6010C/SOP503
Selenium		ND	U	0.20	"	"	"	"	6010C/SOP503
Silver		ND	U	0.10	"	"	"	"	6010C/SOP503
Mercury		0.00010	A2, J	0.00003	"	B14H128	08/21/14	08/21/14	245.1/SOP515
SPLP Extraction		Performed		1	N/A	B14G141	07/31/14	08/01/14	EPA 1312

**Sample ID:** A4b South Slag

**Metals by EPA 6000/7000 Series Methods**

Mercury		1.3	A2, J	0.032	mg/kg dry	B14H011	08/04/14	08/04/14	7473/SOP535
Aluminum	RE1	6,200		100	"	B14H022	08/06/14	08/11/14	6010C/SOP503
Antimony	RE1	3,900		2.1	"	"	"	"	6010C/SOP503
Arsenic	RE2	36,000		10	"	"	"	08/14/14	6010C/SOP503
Barium	RE1	820		5.2	"	"	"	08/11/14	6010C/SOP503
Beryllium	RE2	0.76		0.52	"	"	"	08/14/14	6010C/SOP503
Cadmium	RE2	32		2.6	"	"	"	"	6010C/SOP503
Calcium	RE1	20,000		100	"	"	"	08/11/14	6010C/SOP503
Chromium	RE2	7.7		5.2	"	"	"	08/14/14	6010C/SOP503
Cobalt	RE2	ND	U	10	"	"	"	"	6010C/SOP503
Copper	RE1	3,400		4.1	"	"	"	08/11/14	6010C/SOP503
Iron	RE2	220,000		520	"	"	"	08/14/14	6010C/SOP503
Lead	RE2	44,000		15	"	"	"	"	6010C/SOP503
Magnesium	RE1	4,200		52	"	"	"	08/11/14	6010C/SOP503
Manganese	RE1	450		5.2	"	"	"	"	6010C/SOP503
Molybdenum	RE1	1,100		5.2	"	"	"	"	6010C/SOP503
Nickel	RE1	9.8		5.2	"	"	"	"	6010C/SOP503
Potassium	RE1	2,300		520	"	"	"	"	6010C/SOP503
Selenium	RE2	ND	U	10	"	"	"	08/14/14	6010C/SOP503



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**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210E

**Reported:** 09/10/14 12:40

### Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID:</b> 1407055-06		<b>Soil - Sampled: 07/25/14 10:35</b>							
<b>Sample ID:</b> A4b South Slag		<b>Metals by EPA 6000/7000 Series Methods</b>							
Silver	RE1	57		1	mg/kg dry	B14H022	08/06/14	08/11/14	6010C/SOP503
Sodium	RE1	580		52	"	"	"	"	6010C/SOP503
Thallium	RE1	ND	U	5.2	"	"	"	"	6010C/SOP503
Vanadium	RE1	65		2.1	"	"	"	"	6010C/SOP503
Zinc	RE2	15,000		41	"	"	"	08/14/14	6010C/SOP503
<b>Sample ID:</b> A4b South Slag		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		97		1	%	B14H062	08/13/14	08/14/14	3550C/SOP460



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**SDG:** 14210E

**Reported:** 09/10/14 12:40

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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### Batch B14G141 - 1312 SPLP - SPLP Extraction

Prepared: 07/31/14 Analyzed: 08/01/14

#### Analysis of Synthetic Precipitation Leaching Procedure (SPLP) Extracts - Quality Control

##### Blank (B14G141-BLK1)

SPLP Extraction	Performed			1	N/A					
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##### Duplicate (B14G141-DUP1)

Source: 1407055-01

SPLP Extraction	Performed			1	N/A	Performed				200
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### Batch B14G142 - 1311 TCLP - TCLP extraction

Prepared: 07/31/14 Analyzed: 08/01/14

#### Analysis of Toxicity Characteristic Leaching Procedure (TCLP) Extracts - Quality Control

##### Blank (B14G142-BLK1)

TCLP Extraction	Performed				N/A					
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##### Duplicate (B14G142-DUP1)

Source: 1407055-01

TCLP Extraction	Performed				N/A	Performed				200
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### Batch B14H011 - 7473 Hg Prep - Mercury by 7473

Prepared & Analyzed: 08/04/14

#### Metals by EPA 6000/7000 Series Methods - Quality Control

##### Blank (B14H011-BLK1)

Mercury	ND	U		0.023	mg/kg wet					
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##### Matrix Spike (B14H011-MS1)

Source: 1407054-06

Mercury	0.526			0.027	mg/kg dry	0.467	0.0207	108	80-120	20
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##### Matrix Spike Dup (B14H011-MSD1)

Source: 1407054-06

Mercury	0.604			0.033	mg/kg dry	0.542	0.0207	108	80-120	0.4 20
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##### Reference (B14H011-SRM1)

Mercury	1.22			0.035	mg/kg wet	1.10		111	80-120	
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### Batch B14H022 - 3050B Sld Acid Dig - Metals by 6010

Prepared: 08/06/14 Analyzed: 08/11/14

#### Metals by EPA 6000/7000 Series Methods - Quality Control

##### Blank (B14H022-BLK1)

Aluminum	140			100	mg/kg wet					
Antimony	ND	U		2	"					
Arsenic	ND	U		2	"					
Barium	ND	U		5	"					
Beryllium	0.05	J		0.1	"					
Cadmium	ND	U		0.5	"					
Calcium	230			100	"					
Chromium	ND	U		1	"					
Cobalt	ND	U		2	"					
Copper	ND	U		4	"					
Iron	ND	U		100	"					
Lead	ND	U		3	"					
Magnesium	ND	U		50	"					
Manganese	ND	U		5	"					
Molybdenum	ND	U		5	"					
Nickel	ND	U		5	"					





# United States Environmental Protection Agency Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

Phone:(510) 412-2300

Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210E

**Reported:** 09/10/14 12:40

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H022 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/06/14 Analyzed: 08/11/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

### Blank (B14H022-BLK1)

Potassium	ND	U	500	"
Selenium	ND	U	2	"
Silver	ND	U	1	"
Sodium	ND	U	50	"
Thallium	ND	U	5	"
Vanadium	1.2	J	2	"
Zinc	ND	U	8	"

### Blank (B14H022-BLK2)

Aluminum	150		100	mg/kg wet
Antimony	ND	U	2	"
Arsenic	ND	U	2	"
Barium	ND	U	5	"
Beryllium	ND	U	0.1	"
Cadmium	ND	U	0.5	"
Calcium	250		100	"
Chromium	ND	U	1	"
Cobalt	ND	U	2	"
Copper	ND	U	4	"
Iron	ND	U	100	"
Lead	ND	U	3	"
Magnesium	ND	U	50	"
Manganese	ND	U	5	"
Molybdenum	ND	U	5	"
Nickel	ND	U	5	"
Potassium	ND	U	500	"
Selenium	ND	U	2	"
Silver	ND	U	1	"
Sodium	ND	U	50	"
Thallium	ND	U	5	"
Vanadium	ND	U	2	"
Zinc	ND	U	8	"

### Matrix Spike (B14H022-MS1)

**Source: 1407054-01**

Barium	574		5	mg/kg dry	402	195	94	75-125	20
Cadmium	9.82		0.5	"	10.1	0.316	95	75-125	20
Chromium	58.4		1	"	40.2	18	100	75-125	20
Selenium	392		2	"	402	ND	97	75-125	20
Silver	9.96		1	"	10.1	ND	99	75-125	20

### Matrix Spike (B14H022-MS2)

**Source: 1407054-01RE1**

Arsenic	440		2	mg/kg dry	402	23	104	75-125	20
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## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H022 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/06/14 Analyzed: 08/15/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Matrix Spike (B14H022-MS2)**

**Source: 1407054-01RE1**

Lead	105		3	"	101	7.42	97	75-125		20
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**Matrix Spike Dup (B14H022-MSD1)**

**Source: 1407054-01**

Barium	631		5.3	mg/kg dry	418	195	105	75-125	10	20
Cadmium	10.1		0.53	"	10.4	0.316	94	75-125	3	20
Chromium	57.9		1.1	"	41.8	18	95	75-125	0.8	20
Selenium	411		2.1	"	418	ND	98	75-125	5	20
Silver	10.6		1.1	"	10.4	ND	101	75-125	6	20

**Matrix Spike Dup (B14H022-MSD2)**

**Source: 1407054-01RE1**

Arsenic	463		2.1	mg/kg dry	418	23	105	75-125	5	20
Lead	107		3.2	"	104	7.42	96	75-125	2	20

**Reference (B14H022-SRM1)**

Aluminum	144		100	mg/kg wet	115		126	47.6-152		
Antimony	59.3		2	"	65.8		90	41.2-158		
Barium	ND	U	5	"	1.60			62.5-138		
Cadmium	10.3		0.5	"	10.9		95	70.6-128		
Calcium	44,400		100	"	44100		101	68.6-132		
Chromium	26.4		1	"	27.0		98	68.3-132		
Cobalt	34.7		2	"	37.3		93	64.7-135		
Copper	1,530		4	"	1760		87	74.6-126		
Iron	6,420		100	"	6450		100	66.2-134		
Magnesium	25,500		50	"	29100		88	70.2-130		
Manganese	57.2		5	"	60.8		94	68.2-132		
Nickel	15		5	"	16.3		92	55.2-145		
Potassium	ND	U	500	"	39.6			0-215		
Selenium	7.29		2	"	9.97		73	41-159		
Silver	6.54		1	"	5.88		111	45.8-154		
Sodium	ND	U	50	"	72.3			0-298		
Thallium	5.44		5	"	9.47		57	30.5-169		
Vanadium	16.8		2	"	17.5		96	65.9-135		

**Reference (B14H022-SRM2)**

Arsenic	274		2	mg/kg wet	252		108	60.9-139		
Beryllium	5.19		0.1	"	4.89		106	61.2-139		
Lead	55		3	"	56.7		97	72.8-127		
Zinc	49.3		8	"	47.4		104	43.2-157		

**Batch B14H028 - 7473 Hg Prep - Mercury by 7473**

**Prepared & Analyzed: 08/05/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14H028-BLK1)**

Mercury	ND	U	0.027	mg/kg wet						
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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210E

**Reported:** 09/10/14 12:40

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H028 - 7473 Hg Prep - Mercury by 7473**

**Prepared & Analyzed: 08/05/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14H028-BLK2)**

Mercury	ND	U	0.027	mg/kg wet						
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**Reference (B14H028-SRM1)**

Mercury	1.14		0.034	mg/kg wet	1.10		104	80-120		
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**Reference (B14H028-SRM2)**

Mercury	0.416		0.029	mg/kg wet	0.433		96	80-120		
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**Batch B14H044 - Leachate Digest - Metals, TCLP, ICP**

**Prepared: 08/08/14 Analyzed: 08/14/14**

**Analysis of Toxicity Characteristic Leaching Procedure (TCLP) Extracts - Quality Control**

**Blank (B14H044-BLK1)**

Arsenic	ND	U	0.2	mg/L						
Barium	ND	U	0.5	"						
Cadmium	ND	U	0.05	"						
Chromium	ND	U	0.1	"						
Lead	ND	U	0.3	"						
Selenium	ND	U	0.2	"						
Silver	ND	U	0.1	"						

**LCS (B14H044-BS1)**

Arsenic	21.9		0.2	mg/L	20.0		109	80-120		200
Barium	20.6		0.5	"	20.0		103	80-120		200
Cadmium	0.515		0.05	"	0.500		103	80-120		200
Chromium	2.16		0.1	"	2.00		108	80-120		200
Lead	5.12		0.3	"	5.00		102	80-120		200
Selenium	21		0.2	"	20.0		105	80-120		200
Silver	0.517		0.1	"	0.500		103	80-120		200

**Duplicate (B14H044-DUP1)**

**Source: 1407055-01**

Arsenic	1.42		0.2	mg/L		1.43			0.6	20
Barium	4.1		0.5	"		4.05			1	20
Cadmium	ND	U	0.05	"		ND				20
Chromium	ND	U	0.1	"		ND				20
Lead	20.1		0.3	"		17.1			16	20
Selenium	ND	U	0.2	"		ND				20
Silver	ND	U	0.1	"		ND				20

**Matrix Spike (B14H044-MS1)**

**Source: 1407055-01**

Arsenic	23.5		0.2	mg/L	20.0	1.43	110	75-125		20
Barium	24.3		0.5	"	20.0	4.05	101	75-125		20
Cadmium	0.533		0.05	"	0.500	ND	107	75-125		20
Chromium	2.15		0.1	"	2.00	ND	108	75-125		20
Lead	21.7		0.3	"	5.00	17.1	91	75-125		20
Selenium	21.8		0.2	"	20.0	ND	109	75-125		20
Silver	0.521		0.1	"	0.500	ND	104	75-125		20



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**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210E

**Reported:** 09/10/14 12:40

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H044 - Leachate Digest - Metals, TCLP, ICP**

**Prepared: 08/08/14 Analyzed: 08/14/14**

**Matrix Spike Dup (B14H044-MSD1)**

**Source: 1407055-01**

**Analysis of Toxicity Characteristic Leaching Procedure (TCLP) Extracts - Quality Control**

Arsenic	23.2		0.2	mg/L	20.0	1.43	109	75-125	2	20
Barium	24.6		0.5	"	20.0	4.05	103	75-125	1	20
Cadmium	0.53		0.05	"	0.500	ND	106	75-125	0.7	20
Chromium	2.12		0.1	"	2.00	ND	106	75-125	1	20
Lead	21.5		0.3	"	5.00	17.1	87	75-125	0.8	20
Selenium	21.4		0.2	"	20.0	ND	107	75-125	2	20
Silver	0.514		0.1	"	0.500	ND	103	75-125	1	20

**Batch B14H045 - Leachate Digest - Metals, SPLP, ICP**

**Prepared: 08/08/14 Analyzed: 08/14/14**

**Blank (B14H045-BLK1)**

**Analysis of Synthetic Precipitation Leaching Procedure (SPLP) Extracts - Quality Control**

Arsenic	ND	U	0.2	mg/L						
Barium	ND	U	0.5	"						
Cadmium	ND	U	0.05	"						
Chromium	ND	U	0.1	"						
Lead	ND	U	0.3	"						
Selenium	ND	U	0.2	"						
Silver	ND	U	0.1	"						

**LCS (B14H045-BS1)**

Arsenic	21.4		0.2	mg/L	20.0		107	80-120		200
Barium	20.6		0.5	"	20.0		103	80-120		200
Cadmium	0.513		0.05	"	0.500		103	80-120		200
Chromium	2.16		0.1	"	2.00		108	80-120		200
Lead	5.18		0.3	"	5.00		104	80-120		200
Selenium	20.6		0.2	"	20.0		103	80-120		200
Silver	0.508		0.1	"	0.500		102	80-120		200

**Duplicate (B14H045-DUP1)**

**Source: 1407055-01**

Arsenic	0.276		0.2	mg/L		0.225			21	20
Barium	ND	U	0.5	"		ND				20
Cadmium	ND	U	0.05	"		ND				20
Chromium	ND	U	0.1	"		ND				20
Lead	1.16		0.3	"		0.887			27	20
Selenium	ND	U	0.2	"		ND				20
Silver	ND	U	0.1	"		ND				20

**Matrix Spike (B14H045-MS1)**

**Source: 1407055-01**

Arsenic	21.3		0.2	mg/L	20.0	0.225	105	75-125		20
Barium	21		0.5	"	20.0	ND	105	75-125		20
Cadmium	0.509		0.05	"	0.500	ND	102	75-125		20
Chromium	2.14		0.1	"	2.00	ND	107	75-125		20
Lead	5.99		0.3	"	5.00	0.887	102	75-125		20
Selenium	20.3		0.2	"	20.0	ND	102	75-125		20
Silver	0.51		0.1	"	0.500	ND	102	70-125		20



# United States Environmental Protection Agency Region 9 Laboratory

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**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210E

**Reported:** 09/10/14 12:40

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H045 - Leachate Digest - Metals, SPLP, ICP**

**Prepared: 08/08/14 Analyzed: 08/14/14**

**Matrix Spike Dup (B14H045-MSD1)**

**Source: 1407055-01**

**Analysis of Synthetic Precipitation Leaching Procedure (SPLP) Extracts - Quality Control**

Arsenic	21.7		0.2	mg/L	20.0	0.225	107	75-125	2	20
Barium	20.8		0.5	"	20.0	ND	104	75-125	0.9	20
Cadmium	0.509		0.05	"	0.500	ND	102	75-125	0.03	20
Chromium	2.15		0.1	"	2.00	ND	107	75-125	0.5	20
Lead	6.04		0.3	"	5.00	0.887	103	75-125	0.7	20
Selenium	20.7		0.2	"	20.0	ND	104	75-125	2	20
Silver	0.51		0.1	"	0.500	ND	102	70-125	0.09	20

**Batch B14H062 - Solids, Dry Weight (Prep) - Solids, Dry Weight**

**Prepared: 08/13/14 Analyzed: 08/14/14**

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**

**Blank (B14H062-BLK1)**

% Solids	ND	U	1	%						
<b>Duplicate (B14H062-DUP1)</b>										
% Solids	91		1	%		91			0.0008	20

**Batch B14H096 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/18/14 Analyzed: 08/19/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14H096-BLK1)**

Aluminum	ND	U	100	mg/kg wet						
Antimony	ND	U	2	"						
Arsenic	ND	U	2	"						
Barium	ND	U	5	"						
Beryllium	ND	U	0.1	"						
Cadmium	ND	U	0.5	"						
Calcium	ND	U	100	"						
Chromium	ND	U	1	"						
Cobalt	ND	U	2	"						
Copper	ND	U	4	"						
Iron	ND	U	100	"						
Lead	ND	U	3	"						
Magnesium	ND	U	50	"						
Manganese	ND	U	5	"						
Molybdenum	ND	U	5	"						
Nickel	ND	U	5	"						
Potassium	ND	U	500	"						
Selenium	ND	U	2	"						
Silver	ND	U	1	"						
Sodium	ND	U	50	"						
Thallium	ND	U	5	"						
Vanadium	ND	U	2	"						
Zinc	ND	U	8	"						

**Batch B14H126 - Leachate Digest - Metals, TCLP,**

**Mercury**

**Prepared & Analyzed: 08/21/14**

**Analysis of Toxicity Characteristic Leaching Procedure (TCLP) Extracts - Quality Control**



United States Environmental Protection Agency

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San Francisco CA, 94105

SDG: 14210E

Reported: 09/10/14 12:40

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B14H126 - Leachate Digest - Metals, TCLP, Mercury						Prepared & Analyzed: 08/21/14				
Duplicate (B14H126-DUP1)						Analysis of Toxicity Characteristic Leaching Procedure (TCLP) Extracts - Quality Control				
Mercury	ND	U	0.0003	mg/L		ND				20
Matrix Spike (B14H126-MS1)						Source: 1407055-01				
Mercury	0.00212		0.0003	mg/L	0.0020	ND	106	70-130		20
Matrix Spike Dup (B14H126-MSD1)						Source: 1407055-01				
Mercury	0.00211		0.0003	mg/L	0.0020	ND	106	70-130	0.3	20
Batch B14H128 - Leachate Digest - Metals, SPLP, Mercury						Prepared & Analyzed: 08/21/14				
Blank (B14H128-BLK1)						Analysis of Synthetic Precipitation Leaching Procedure (SPLP) Extracts - Quality Control				
Mercury	ND	U	0.00003	mg/L						



United States Environmental Protection Agency

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75 Hawthorne Street

San Francisco CA, 94105

**SDG:** 14210E

**Reported:** 09/10/14 12:40

### Qualifiers and Comments

Q5 Sample duplicate precision criteria were not met for this analyte (see duplicate results for this batch in QC summary).

J The reported result for this analyte should be considered an estimated value.

C1 The reported concentration for this analyte is below the quantitation limit.

A2 The sample was received above the recommended temperature range.

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.



**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 9/5/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14210F

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment

**Analyses included in this report:**

---

Metals by ICP





United States Environmental Protection Agency

# Region 9 Laboratory

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**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210F

**Reported:** 09/05/14 15:44

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
AIX 03	1407056-01	Soil	07/09/14 12:00	07/29/14 09:30
AHX 01	1407056-02	Soil	07/08/14 12:10	07/29/14 09:30
AHX 04	1407056-03	Soil	07/08/14 12:20	07/29/14 09:30
AIX 02	1407056-04	Soil	07/09/14 12:30	07/29/14 09:30
AGX 10	1407056-05	Soil	07/07/14 12:40	07/29/14 09:30
AGX 09	1407056-06	Soil	07/07/14 12:50	07/29/14 09:30
AGX 08	1407056-07	Soil	07/07/14 13:00	07/29/14 09:30
AHX 14	1407056-08	Soil	07/10/14 13:10	07/29/14 09:30
AHX 12	1407056-09	Soil	07/10/14 13:20	07/29/14 09:30
AJX 04	1407056-10	Soil	07/11/14 13:30	07/29/14 09:30
AJX 04 SP	1407056-11	Soil	07/11/14 13:40	07/29/14 09:30
AJX 17	1407056-12	Soil	07/11/14 13:50	07/29/14 09:30
AKX 16	1407056-13	Soil	07/12/14 14:00	07/29/14 09:30
AKX 13	1407056-14	Soil	07/12/14 14:10	07/29/14 09:30
AKX 05	1407056-15	Soil	07/12/14 14:20	07/29/14 09:30

**SDG ID 14210F**

**Work Order(s)**

**1407056**



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210F

**Reported:** 09/05/14 15:44

**Sample Results**

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1407056-01</b>		<b>Soil - Sampled: 07/09/14 12:00</b>							
<b>Sample ID: AIX 03</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	69		5	mg/kg wet	B14H023	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	420		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407056-02</b>		<b>Soil - Sampled: 07/08/14 12:10</b>							
<b>Sample ID: AHX 01</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	180		5	mg/kg wet	B14H023	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	990		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407056-03</b>		<b>Soil - Sampled: 07/08/14 12:20</b>							
<b>Sample ID: AHX 04</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	69		5	mg/kg wet	B14H023	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	250		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407056-04</b>		<b>Soil - Sampled: 07/09/14 12:30</b>							
<b>Sample ID: AIX 02</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	92		5	mg/kg wet	B14H023	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	370		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407056-05</b>		<b>Soil - Sampled: 07/07/14 12:40</b>							
<b>Sample ID: AGX 10</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	61		5	mg/kg wet	B14H023	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	260		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407056-06</b>		<b>Soil - Sampled: 07/07/14 12:50</b>							
<b>Sample ID: AGX 09</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	720		5	mg/kg wet	B14H023	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	3,300		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407056-07</b>		<b>Soil - Sampled: 07/07/14 13:00</b>							
<b>Sample ID: AGX 08</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	110		5	mg/kg wet	B14H023	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	620		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407056-08</b>		<b>Soil - Sampled: 07/10/14 13:10</b>							
<b>Sample ID: AHX 14</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	37		5	mg/kg wet	B14H023	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	110		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407056-09</b>		<b>Soil - Sampled: 07/10/14 13:20</b>							
<b>Sample ID: AHX 12</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	130		5	mg/kg wet	B14H023	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	720		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407056-10</b>		<b>Soil - Sampled: 07/11/14 13:30</b>							
<b>Sample ID: AJX 04</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	47		5	mg/kg wet	B14H023	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	100		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407056-11</b>		<b>Soil - Sampled: 07/11/14 13:40</b>							



# United States Environmental Protection Agency Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

<b>Project Manager:</b> Thomas Dunkelman	<b>Emergency Response Section</b>	<b>SDG:</b> 14210F
<b>Project Number:</b> R14S51	<b>75 Hawthorne Street</b>	<b>Reported:</b> 09/05/14 15:44
<b>Project:</b> Eureka Smelter Summer 2014 Sampling	<b>San Francisco CA, 94105</b>	

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1407056-11</b>							<b>Soil - Sampled: 07/11/14 13:40</b>		
<b>Sample ID: AJX 04 SP</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic	RE1	48		5	mg/kg wet	B14H023	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	100		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407056-12</b>							<b>Soil - Sampled: 07/11/14 13:50</b>		
<b>Sample ID: AJX 17</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic	RE1	78		5	mg/kg wet	B14H023	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	340		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407056-13</b>							<b>Soil - Sampled: 07/12/14 14:00</b>		
<b>Sample ID: AKX 16</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic	RE1	21		5	mg/kg wet	B14H023	08/06/14	08/16/14	6010C/SOP503
Lead	RE2	76		7.5	"	"	"	08/18/14	6010C/SOP503
<b>Lab ID: 1407056-14</b>							<b>Soil - Sampled: 07/12/14 14:10</b>		
<b>Sample ID: AKX 13</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic	RE1	240		5	mg/kg wet	B14H023	08/06/14	08/16/14	6010C/SOP503
Lead	RE2	1,500		7.5	"	"	"	08/18/14	6010C/SOP503
<b>Lab ID: 1407056-15</b>							<b>Soil - Sampled: 07/12/14 14:20</b>		
<b>Sample ID: AKX 05</b>							<b>Metals by EPA 6000/7000 Series Methods</b>		
Arsenic	RE1	13		5	mg/kg wet	B14H023	08/06/14	08/16/14	6010C/SOP503
Lead	RE2	92		7.5	"	"	"	08/18/14	6010C/SOP503



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**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210F

**Reported:** 09/05/14 15:44

**Quality Control**

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H023 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/06/14 Analyzed: 08/11/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14H023-BLK1)**

Aluminum	ND	U	100	mg/kg wet
Antimony	ND	U	2	"
Arsenic	ND	U	2	"
Barium	ND	U	5	"
Beryllium	0.06	J	0.1	"
Cadmium	ND	U	0.5	"
Calcium	ND	U	100	"
Chromium	ND	U	1	"
Cobalt	ND	U	2	"
Copper	ND	U	4	"
Iron	ND	U	100	"
Lead	ND	U	3	"
Magnesium	ND	U	50	"
Manganese	ND	U	5	"
Molybdenum	ND	U	5	"
Nickel	ND	U	5	"
Potassium	ND	U	500	"
Selenium	ND	U	2	"
Silver	ND	U	1	"
Sodium	ND	U	50	"
Thallium	ND	U	5	"
Vanadium	ND	U	2	"
Zinc	ND	U	8	"

**Blank (B14H023-BLK2)**

Aluminum	ND	U	100	mg/kg wet
Antimony	ND	U	2	"
Arsenic	ND	U	2	"
Barium	ND	U	5	"
Beryllium	0.05	J	0.1	"
Cadmium	ND	U	0.5	"
Calcium	ND	U	100	"
Chromium	ND	U	1	"
Cobalt	ND	U	2	"
Copper	ND	U	4	"
Iron	ND	U	100	"
Lead	ND	U	3	"
Magnesium	ND	U	50	"
Manganese	ND	U	5	"
Molybdenum	ND	U	5	"
Nickel	ND	U	5	"



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**SDG:** 14210F

**Reported:** 09/05/14 15:44

**Quality Control**

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H023 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/06/14 Analyzed: 08/16/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14H023-BLK2)**

Potassium	ND	U	500	"						
Selenium	ND	U	2	"						
Silver	ND	U	1	"						
Sodium	ND	U	50	"						
Thallium	ND	U	5	"						
Vanadium	ND	U	2	"						
Zinc	ND	U	8	"						

**Matrix Spike (B14H023-MS2)**

**Source: 1407056-01RE1**

Arsenic	465		5 mg/kg wet	388	69.5	102	75-125		20
Lead	475	Q10	7.5 "	97.1	421	<b>55</b>	75-125		20

**Matrix Spike Dup (B14H023-MSD2)**

**Source: 1407056-01RE1**

Arsenic	465		5 mg/kg wet	396	69.5	100	75-125	0.04	20
Lead	421	Q10	7.5 "	99.0	421	<b>NR</b>	75-125	12	20

**Reference (B14H023-SRM2)**

Arsenic	276		2 mg/kg wet	254		109	60.9-139		
Lead	55		3 "	57.1		96	72.8-127		



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**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210F

**Reported:** 09/05/14 15:44

**Qualifiers and Comments**

Q10 The analyte concentration in the unfortified sample is significantly greater than the concentration spiked into the matrix spike and matrix spike duplicate. The reported spike recovery is not a meaningful measure of the dataset's analytical accuracy.

J The reported result for this analyte should be considered an estimated value.

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.



**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 9/5/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14210G

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment

**Analyses included in this report:**

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Metals by ICP



United States Environmental Protection Agency

Region 9 Laboratory

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Project Manager: Thomas Dunkelman

Project Number: R14S51

Project: Eureka Smelter Summer 2014 Sampling

Emergency Response Section

75 Hawthorne Street

San Francisco CA, 94105

SDG: 14210G

Reported: 09/05/14 15:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
AOX-03	1407057-01	Soil	07/17/14 09:00	07/29/14 09:30
AOX-08	1407057-02	Soil	07/17/14 09:10	07/29/14 09:30
AOX-06	1407057-03	Soil	07/17/14 09:20	07/29/14 09:30
AOX-07	1407057-04	Soil	07/17/14 09:30	07/29/14 09:30
AOX-13	1407057-05	Soil	07/17/14 09:40	07/29/14 09:30
AKX-18	1407057-06	Soil	07/11/14 10:00	07/29/14 09:30
AJX-23	1407057-07	Soil	07/11/14 10:10	07/29/14 09:30
APX-04	1407057-08	Soil	07/22/14 10:22	07/29/14 09:30
AOX-15	1407057-09	Soil	07/22/14 10:30	07/29/14 09:30
AOX-16	1407057-10	Soil	07/22/14 10:40	07/29/14 09:30
AQX-01	1407057-11	Soil	07/22/14 10:50	07/29/14 09:30
AJX-23 SP	1407057-12	Soil	07/11/14 10:10	07/29/14 09:30

SDG ID 14210G

Sample label discrepancy: Sample container reads AJX-23 SP, while COC reads AQX-23 SP, 7/22/14, time 10:10. Used sample container ID, per consistency with other sample AJX-23 and sample information on COC (7/11/14, time 10:10).

Work Order(s)

1407057





United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210G

**Reported:** 09/05/14 15:50

**Sample Results**

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID:</b> 1407057-01								<b>Soil - Sampled: 07/17/14 09:00</b>	
<b>Sample ID:</b> AOX-03								<b>Metals by EPA 6000/7000 Series Methods</b>	
Arsenic		36		5	mg/kg wet	B14H024	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	120		7.5	"	"	"	08/18/14	6010C/SOP503
<b>Lab ID:</b> 1407057-02								<b>Soil - Sampled: 07/17/14 09:10</b>	
<b>Sample ID:</b> AOX-08								<b>Metals by EPA 6000/7000 Series Methods</b>	
Arsenic		8.4		5	mg/kg wet	B14H024	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	30		7.5	"	"	"	08/18/14	6010C/SOP503
<b>Lab ID:</b> 1407057-03								<b>Soil - Sampled: 07/17/14 09:20</b>	
<b>Sample ID:</b> AOX-06								<b>Metals by EPA 6000/7000 Series Methods</b>	
Arsenic		960		5	mg/kg wet	B14H024	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	5,600		7.5	"	"	"	08/18/14	6010C/SOP503
<b>Lab ID:</b> 1407057-04								<b>Soil - Sampled: 07/17/14 09:30</b>	
<b>Sample ID:</b> AOX-07								<b>Metals by EPA 6000/7000 Series Methods</b>	
Arsenic		910		5	mg/kg wet	B14H024	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	5,100		7.5	"	"	"	08/18/14	6010C/SOP503
<b>Lab ID:</b> 1407057-05								<b>Soil - Sampled: 07/17/14 09:40</b>	
<b>Sample ID:</b> AOX-13								<b>Metals by EPA 6000/7000 Series Methods</b>	
Arsenic		96		5	mg/kg wet	B14H024	08/06/14	08/16/14	6010C/SOP503
Lead	RE1	660		7.5	"	"	"	08/18/14	6010C/SOP503
<b>Lab ID:</b> 1407057-06								<b>Soil - Sampled: 07/11/14 10:00</b>	
<b>Sample ID:</b> AKX-18								<b>Metals by EPA 6000/7000 Series Methods</b>	
Arsenic		120		5	mg/kg wet	B14H024	08/06/14	08/18/14	6010C/SOP503
Lead		500		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID:</b> 1407057-07								<b>Soil - Sampled: 07/11/14 10:10</b>	
<b>Sample ID:</b> AJX-23								<b>Metals by EPA 6000/7000 Series Methods</b>	
Arsenic		140		5	mg/kg wet	B14H024	08/06/14	08/18/14	6010C/SOP503
Lead		730		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID:</b> 1407057-08								<b>Soil - Sampled: 07/22/14 10:22</b>	
<b>Sample ID:</b> APX-04								<b>Metals by EPA 6000/7000 Series Methods</b>	
Arsenic	RE1	420		5	mg/kg wet	B14H024	08/06/14	08/19/14	6010C/SOP503
Lead		2,600		7.5	"	"	"	08/18/14	6010C/SOP503
<b>Lab ID:</b> 1407057-09								<b>Soil - Sampled: 07/22/14 10:30</b>	
<b>Sample ID:</b> AOX-15								<b>Metals by EPA 6000/7000 Series Methods</b>	
Arsenic	RE1	23		5	mg/kg wet	B14H024	08/06/14	08/19/14	6010C/SOP503
Lead		130		7.5	"	"	"	08/18/14	6010C/SOP503
<b>Lab ID:</b> 1407057-10								<b>Soil - Sampled: 07/22/14 10:40</b>	
<b>Sample ID:</b> AOX-16								<b>Metals by EPA 6000/7000 Series Methods</b>	
Arsenic	RE1	86		5	mg/kg wet	B14H024	08/06/14	08/19/14	6010C/SOP503
Lead		490		7.5	"	"	"	08/18/14	6010C/SOP503
<b>Lab ID:</b> 1407057-11								<b>Soil - Sampled: 07/22/14 10:50</b>	



United States Environmental Protection Agency

Region 9 Laboratory

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Project Manager: Thomas Dunkelman

Project Number: R14S51

Project: Eureka Smelter Summer 2014 Sampling

Emergency Response Section

75 Hawthorne Street

San Francisco CA, 94105

SDG: 14210G

Reported: 09/05/14 15:50

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1407057-11		Soil - Sampled: 07/22/14 10:50							
Sample ID: AQX-01		Metals by EPA 6000/7000 Series Methods							
Arsenic	RE1	270		5	mg/kg wet	B14H024	08/06/14	08/19/14	6010C/SOP503
Lead		1,500		7.5	"	"	"	08/18/14	6010C/SOP503
Lab ID: 1407057-12		Soil - Sampled: 07/11/14 10:10							
Sample ID: AJX-23 SP		Metals by EPA 6000/7000 Series Methods							
Arsenic	RE1	130		5	mg/kg wet	B14H024	08/06/14	08/19/14	6010C/SOP503
Lead		730		7.5	"	"	"	08/18/14	6010C/SOP503



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**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210G

**Reported:** 09/05/14 15:50

**Quality Control**

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H024 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/06/14 Analyzed: 08/16/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14H024-BLK1)**

Aluminum	ND	U	100	mg/kg wet
Antimony	ND	U	2	"
Arsenic	ND	U	2	"
Barium	ND	U	5	"
Beryllium	ND	U	0.1	"
Cadmium	ND	U	0.5	"
Calcium	ND	U	100	"
Chromium	ND	U	1	"
Cobalt	ND	U	2	"
Copper	ND	U	4	"
Iron	ND	U	100	"
Lead	ND	U	3	"
Magnesium	ND	U	50	"
Manganese	ND	U	5	"
Molybdenum	ND	U	5	"
Nickel	ND	U	5	"
Potassium	ND	U	500	"
Selenium	ND	U	2	"
Silver	ND	U	1	"
Sodium	ND	U	50	"
Thallium	ND	U	5	"
Vanadium	ND	U	2	"
Zinc	ND	U	8	"

**Blank (B14H024-BLK2)**

Aluminum	ND	U	100	mg/kg wet
Antimony	ND	U	2	"
Arsenic	ND	U	2	"
Barium	ND	U	5	"
Beryllium	ND	U	0.1	"
Cadmium	ND	U	0.5	"
Calcium	ND	U	100	"
Chromium	ND	U	1	"
Cobalt	ND	U	2	"
Copper	ND	U	4	"
Iron	ND	U	100	"
Lead	ND	U	3	"
Magnesium	ND	U	50	"
Manganese	ND	U	5	"
Molybdenum	ND	U	5	"
Nickel	ND	U	5	"



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**Reported:** 09/05/14 15:50

**Quality Control**

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H024 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/06/14 Analyzed: 08/18/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14H024-BLK2)**

Potassium	ND	U	500	"						
Selenium	ND	U	2	"						
Silver	ND	U	1	"						
Sodium	ND	U	50	"						
Thallium	ND	U	5	"						
Vanadium	ND	U	2	"						
Zinc	ND	U	8	"						

**Matrix Spike (B14H024-MS1)**

**Source: 1407057-09**

Lead	221		7.5	mg/kg wet	98.0	125	97	75-125		20
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**Matrix Spike (B14H024-MS2)**

**Source: 1407057-09RE1**

Arsenic	426		5	mg/kg wet	392	22.7	103	75-125		20
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**Matrix Spike Dup (B14H024-MSD1)**

**Source: 1407057-09**

Lead	238		7.5	mg/kg wet	99.0	125	114	75-125	8	20
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**Matrix Spike Dup (B14H024-MSD2)**

**Source: 1407057-09RE1**

Arsenic	409		5	mg/kg wet	396	22.7	98	75-125	4	20
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**Reference (B14H024-SRM1)**

Arsenic	244		2	mg/kg wet	253		97	60.9-139		
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**Reference (B14H024-SRM2)**

Lead	52.2		3	mg/kg wet	56.8		92	72.8-127		
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United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

75 Hawthorne Street

San Francisco CA, 94105

**SDG:** 14210G

**Reported:** 09/05/14 15:50

**Qualifiers and Comments**

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.



**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 9/9/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14210H

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment

**Analyses included in this report:**

Mercury by EPA method 7473

Metals by ICP



United States Environmental Protection Agency

Region 9 Laboratory

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Project Number: R14S51

Project: Eureka Smelter Summer 2014 Sampling

Emergency Response Section

75 Hawthorne Street

San Francisco CA, 94105

SDG: 14210H

Reported: 09/09/14 16:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
AEX 23	1407058-01	Soil	06/27/14 14:30	07/29/14 09:30
AEX 23 PD	1407058-02	Soil	06/27/14 14:40	07/29/14 09:30
AIX 27	1407058-03	Soil	07/09/14 14:50	07/29/14 09:30
AEX 18	1407058-04	Soil	06/27/14 16:00	07/29/14 09:30
AGX 01	1407058-05	Soil	07/07/14 16:10	07/29/14 09:30
AEX 34	1407058-06	Soil	06/28/14 16:20	07/29/14 09:30
XXX	1407058-07	Soil	07/04/14 16:30	07/29/14 09:30
AEX 09	1407058-08	Soil	06/27/14 16:40	07/29/14 09:30
AKX 06	1407058-09	Soil	07/12/14 16:50	07/29/14 09:30
ALX 01	1407058-10	Soil	07/14/14 17:00	07/29/14 09:30
ALX 03	1407058-11	Soil	07/14/14 17:10	07/29/14 09:30
ALX 05	1407058-12	Soil	07/14/14 17:20	07/29/14 09:30
AMX 02	1407058-13	Soil	07/15/14 17:30	07/29/14 09:30
ANX 17	1407058-14	Soil	07/16/14 17:40	07/29/14 09:30
ANX 10	1407058-15	Soil	07/16/14 17:50	07/29/14 09:30

SDG ID 14210H

Metals: Samples were received at 21 degrees C which is above the recommended temperature range of 0 to 6 degrees C for mercury preservation. Mercury results are qualified as estimated

For samples AIX 27 (Lab ID1407058-03) and AKX 06 (Lab ID1407058-09), the results did not match the XRF results reported from the field analysis. The samples were reprepared with comparable results. Results from the original analysis are reported.

Work Order(s)

1407058



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**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210H

**Reported:** 09/09/14 16:21

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1407058-01</b>		<b>Soil - Sampled: 06/27/14 14:30</b>							
<b>Sample ID: AEX 23</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	580		2	mg/kg wet	B14H025	08/06/14	08/15/14	6010C/SOP503
Lead	RE1	2,300		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407058-02</b>		<b>Soil - Sampled: 06/27/14 14:40</b>							
<b>Sample ID: AEX 23 PD</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	590		2	mg/kg wet	B14H025	08/06/14	08/15/14	6010C/SOP503
Lead	RE1	2,400		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407058-03</b>		<b>Soil - Sampled: 07/09/14 14:50</b>							
<b>Sample ID: AIX 27</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	770		10	mg/kg wet	B14H025	08/06/14	08/15/14	6010C/SOP503
Lead	RE1	8,000		15	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407058-04</b>		<b>Soil - Sampled: 06/27/14 16:00</b>							
<b>Sample ID: AEX 18</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	43		2	mg/kg wet	B14H025	08/06/14	08/15/14	6010C/SOP503
Lead	RE1	160		3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407058-05</b>		<b>Soil - Sampled: 07/07/14 16:10</b>							
<b>Sample ID: AGX 01</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	36		10	mg/kg wet	B14H025	08/06/14	08/15/14	6010C/SOP503
Lead	RE1	23		15	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407058-06</b>		<b>Soil - Sampled: 06/28/14 16:20</b>							
<b>Sample ID: AEX 34</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE2	290		10	mg/kg wet	B14H025	08/06/14	08/26/14	6010C/SOP503
Lead	RE2	890		15	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407058-07</b>		<b>Soil - Sampled: 07/04/14 16:30</b>							
<b>Sample ID: XXX</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	ND	U	2	mg/kg wet	B14H025	08/06/14	08/15/14	6010C/SOP503
Lead	RE1	ND	U	3	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407058-08</b>		<b>Soil - Sampled: 06/27/14 16:40</b>							
<b>Sample ID: AEX 09</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	290		10	mg/kg wet	B14H025	08/06/14	08/15/14	6010C/SOP503
Lead	RE1	1,900		15	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407058-09</b>		<b>Soil - Sampled: 07/12/14 16:50</b>							
<b>Sample ID: AKX 06</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	42		10	mg/kg wet	B14H025	08/06/14	08/15/14	6010C/SOP503
Lead	RE1	180		15	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407058-10</b>		<b>Soil - Sampled: 07/14/14 17:00</b>							
<b>Sample ID: ALX 01</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		1.3	A2, J, Q4, Q6	0.028	mg/kg wet	B14H028	08/05/14	08/05/14	7473/SOP535
Aluminum		16,000		100	"	B14H025	08/06/14	08/11/14	6010C/SOP503





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**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210H

**Reported:** 09/09/14 16:21

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
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**Lab ID:** 1407058-10

**Soil - Sampled: 07/14/14 17:00**

**Sample ID:** ALX 01

**Metals by EPA 6000/7000 Series Methods**

Antimony		14	J, Q4	2	mg/kg wet	B14H025	08/06/14	08/11/14	6010C/SOP503
Arsenic	RE1	250		2	"	"	"	08/14/14	6010C/SOP503
Barium		240		5	"	"	"	08/11/14	6010C/SOP503
Beryllium	RE1	1.0		0.10	"	"	"	08/14/14	6010C/SOP503
Cadmium		8.6		0.50	"	"	"	08/11/14	6010C/SOP503
Calcium		12,000		100	"	"	"	"	6010C/SOP503
Chromium		9.2		1	"	"	"	"	6010C/SOP503
Cobalt		1.6	C1, J	2	"	"	"	"	6010C/SOP503
Copper		36		4	"	"	"	"	6010C/SOP503
Iron		15,000		100	"	"	"	"	6010C/SOP503
Lead	RE1	2,200		3	"	"	"	08/14/14	6010C/SOP503
Magnesium		5,400		50	"	"	"	08/11/14	6010C/SOP503
Manganese		440		5	"	"	"	"	6010C/SOP503
Molybdenum		16		5	"	"	"	"	6010C/SOP503
Nickel		6.1		5	"	"	"	"	6010C/SOP503
Potassium		4,500		500	"	"	"	"	6010C/SOP503
Selenium		ND	U	2	"	"	"	"	6010C/SOP503
Silver		5.6		1	"	"	"	"	6010C/SOP503
Sodium		330		50	"	"	"	"	6010C/SOP503
Thallium		ND	U	5	"	"	"	"	6010C/SOP503
Vanadium		22		2	"	"	"	"	6010C/SOP503
Zinc	RE1	490		8	"	"	"	08/14/14	6010C/SOP503

**Lab ID:** 1407058-11

**Soil - Sampled: 07/14/14 17:10**

**Sample ID:** ALX 03

**Metals by EPA 6000/7000 Series Methods**

Mercury		1.7	A2, J	0.030	mg/kg wet	B14H028	08/05/14	08/05/14	7473/SOP535
Aluminum		13,000		100	"	B14H025	08/06/14	08/11/14	6010C/SOP503
Antimony		9.8		2	"	"	"	"	6010C/SOP503
Arsenic	RE1	220		2	"	"	"	08/14/14	6010C/SOP503
Barium		310		5	"	"	"	08/11/14	6010C/SOP503
Beryllium	RE1	0.83		0.10	"	"	"	08/14/14	6010C/SOP503
Cadmium		5.5		0.50	"	"	"	08/11/14	6010C/SOP503
Calcium		48,000		100	"	"	"	"	6010C/SOP503
Chromium		12		1	"	"	"	"	6010C/SOP503
Cobalt		2.2		2	"	"	"	"	6010C/SOP503
Copper		44		4	"	"	"	"	6010C/SOP503
Iron		15,000		100	"	"	"	"	6010C/SOP503
Lead	RE1	4,400		3	"	"	"	08/14/14	6010C/SOP503
Magnesium		13,000		50	"	"	"	08/11/14	6010C/SOP503
Manganese		470		5	"	"	"	"	6010C/SOP503
Molybdenum		11		5	"	"	"	"	6010C/SOP503



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**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210H

**Reported:** 09/09/14 16:21

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1407058-11</b>		<b>Soil - Sampled: 07/14/14 17:10</b>							
<b>Sample ID: ALX 03</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Nickel		11		5	mg/kg wet	B14H025	08/06/14	08/11/14	6010C/SOP503
Potassium		4,100		500	"	"	"	"	6010C/SOP503
Selenium		ND	U	2	"	"	"	"	6010C/SOP503
Silver		3.5		1	"	"	"	"	6010C/SOP503
Sodium		410		50	"	"	"	"	6010C/SOP503
Thallium		ND	U	5	"	"	"	"	6010C/SOP503
Vanadium		28		2	"	"	"	"	6010C/SOP503
Zinc	RE1	630		8	"	"	"	08/14/14	6010C/SOP503
<b>Lab ID: 1407058-12</b>		<b>Soil - Sampled: 07/14/14 17:20</b>							
<b>Sample ID: ALX 05</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	150		10	mg/kg wet	B14H025	08/06/14	08/15/14	6010C/SOP503
Lead	RE1	700		15	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407058-13</b>		<b>Soil - Sampled: 07/15/14 17:30</b>							
<b>Sample ID: AMX 02</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	710		10	mg/kg wet	B14H025	08/06/14	08/15/14	6010C/SOP503
Lead	RE1	2,900		15	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407058-14</b>		<b>Soil - Sampled: 07/16/14 17:40</b>							
<b>Sample ID: ANX 17</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	3,200		100	mg/kg wet	B14H025	08/06/14	08/15/14	6010C/SOP503
Lead	RE1	14,000		150	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407058-15</b>		<b>Soil - Sampled: 07/16/14 17:50</b>							
<b>Sample ID: ANX 10</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE1	500		10	mg/kg wet	B14H025	08/06/14	08/15/14	6010C/SOP503
Lead	RE1	2,900		15	"	"	"	"	6010C/SOP503



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**SDG:** 14210H

**Reported:** 09/09/14 16:21

**Quality Control**

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H025 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/06/14 Analyzed: 08/11/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14H025-BLK1)**

Aluminum	ND	U		100 mg/kg wet
Antimony	ND	U		2 "
Arsenic	2.5			2 "
Barium	ND	U		5 "
Beryllium	0.06	J		0.1 "
Cadmium	ND	U		0.5 "
Calcium	ND	U		100 "
Chromium	ND	U		1 "
Cobalt	ND	U		2 "
Copper	ND	U		4 "
Iron	ND	U		100 "
Lead	1.5	J		3 "
Magnesium	ND	U		50 "
Manganese	ND	U		5 "
Molybdenum	ND	U		5 "
Nickel	ND	U		5 "
Potassium	ND	U		500 "
Selenium	ND	U		2 "
Silver	ND	U		1 "
Sodium	ND	U		50 "
Thallium	ND	U		5 "
Vanadium	ND	U		2 "
Zinc	ND	U		8 "

**Blank (B14H025-BLK2)**

Aluminum	ND	U		100 mg/kg wet
Antimony	ND	U		2 "
Arsenic	ND	U		2 "
Barium	ND	U		5 "
Beryllium	ND	U		0.1 "
Cadmium	ND	U		0.5 "
Calcium	ND	U		100 "
Chromium	ND	U		1 "
Cobalt	ND	U		2 "
Copper	ND	U		4 "
Iron	ND	U		100 "
Lead	ND	U		3 "
Magnesium	ND	U		50 "
Manganese	ND	U		5 "
Molybdenum	ND	U		5 "
Nickel	ND	U		5 "



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## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H025 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/06/14 Analyzed: 08/14/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

### Blank (B14H025-BLK2)

Potassium	ND	U	500	"						
Selenium	ND	U	2	"						
Silver	ND	U	1	"						
Sodium	ND	U	50	"						
Thallium	ND	U	5	"						
Vanadium	ND	U	2	"						
Zinc	ND	U	8	"						

### Matrix Spike (B14H025-MS1)

**Source: 1407058-10**

Aluminum	17,500	Q10	100	mg/kg wet	396	16,500	<b>271</b>	75-125		20
Antimony	54.1		2	"	99.0	13.8	<b>41</b>	75-125		20
Barium	612		5	"	396	243	93	75-125		20
Cadmium	17.8		0.5	"	9.90	8.59	93	75-125		20
Calcium	13,900	Q10	100	"	1980	11,900	100	75-125		20
Chromium	47.6		1	"	39.6	9.16	97	75-125		20
Cobalt	89.5		2	"	99.0	1.63	89	75-125		20
Copper	75.6		4	"	49.5	35.7	81	75-125		20
Iron	15,100	Q10	100	"	198	14,500	<b>296</b>	75-125		20
Magnesium	7,290		50	"	1980	5,400	95	75-125		20
Manganese	541		5	"	99.0	441	101	75-125		20
Molybdenum	105		5	"	99.0	15.6	90	75-125		20
Nickel	98.5		5	"	99.0	6.1	93	75-125		20
Potassium	6,390		500	"	1980	4,500	96	75-125		20
Selenium	374		2	"	396	ND	94	75-125		20
Silver	14.7		1	"	9.90	5.57	92	75-125		20
Sodium	2,100		50	"	1980	328	90	75-125		20
Thallium	356		5	"	396	ND	90	75-125		20
Vanadium	113		2	"	99.0	21.8	92	75-125		20

### Matrix Spike (B14H025-MS2)

**Source: 1407058-10RE1**

Arsenic	644		2	mg/kg wet	396	248	100	75-125		20
Beryllium	11.1		0.1	"	9.90	1.02	102	75-125		20
Lead	2,130	Q10	3	"	99.0	2,150	<b>NR</b>	75-125		20
Zinc	585	Q10	8	"	99.0	489	97	75-125		20

### Matrix Spike Dup (B14H025-MSD1)

**Source: 1407058-10**

Aluminum	17,700	Q10	100	mg/kg wet	400	16,500	<b>317</b>	75-125	1	20
Antimony	56.4		2	"	100	13.8	<b>43</b>	75-125	4	20
Barium	629		5	"	400	243	96	75-125	3	20
Cadmium	18.3		0.5	"	10.0	8.59	97	75-125	2	20
Calcium	14,100	Q10	100	"	2000	11,900	109	75-125	1	20
Chromium	49.2		1	"	40.0	9.16	100	75-125	3	20



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**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210H

**Reported:** 09/09/14 16:21

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H025 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/06/14 Analyzed: 08/11/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

### Matrix Spike Dup (B14H025-MSD1)

**Source: 1407058-10**

Cobalt	90.9			2 "	100	1.63	89	75-125	2	20
Copper	76.3			4 "	50.0	35.7	81	75-125	0.9	20
Iron	15,300	Q10		100 "	200	14,500	<b>389</b>	75-125	1	20
Magnesium	7,420			50 "	2000	5,400	101	75-125	2	20
Manganese	544			5 "	100	441	103	75-125	0.6	20
Molybdenum	109			5 "	100	15.6	93	75-125	3	20
Nickel	102			5 "	100	6.1	96	75-125	3	20
Potassium	6,560			500 "	2000	4,500	103	75-125	3	20
Selenium	386			2 "	400	ND	97	75-125	3	20
Silver	15.1			1 "	10.0	5.57	95	75-125	2	20
Sodium	2,170			50 "	2000	328	92	75-125	3	20
Thallium	366			5 "	400	ND	92	75-125	3	20
Vanadium	118			2 "	100	21.8	96	75-125	4	20

### Matrix Spike Dup (B14H025-MSD2)

**Source: 1407058-10RE1**

Arsenic	651			2 mg/kg wet	400	248	101	75-125	1	20
Beryllium	11.2			0.1 "	10.0	1.02	102	75-125	0.8	20
Lead	2,220	Q10		3 "	100	2,150	<b>61</b>	75-125	4	20
Zinc	585	Q10		8 "	100	489	96	75-125	0.05	20

### Reference (B14H025-SRM1)

Aluminum	123			100 mg/kg wet	114		108	47.6-152		
Antimony	58.8			2 "	65.7		90	41.2-158		
Barium	ND	U		5 "	1.59			62.5-138		
Cadmium	10.2			0.5 "	10.8		94	70.6-128		
Calcium	45,100			100 "	44000		102	68.6-132		
Chromium	26.7			1 "	27.0		99	68.3-132		
Cobalt	34.2			2 "	37.2		92	64.7-135		
Copper	1,410			4 "	1760		80	74.6-126		
Iron	6,510			100 "	6440		101	66.2-134		
Magnesium	25,900			50 "	29100		89	70.2-130		
Manganese	57.7			5 "	60.7		95	68.2-132		
Nickel	14.9			5 "	16.2		92	55.2-145		
Potassium	ND	U		500 "	39.5			0-215		
Selenium	6.34			2 "	9.95		64	41-159		
Silver	6.12			1 "	5.87		104	45.8-154		
Sodium	ND	U		50 "	72.1			0-298		
Thallium	5.88			5 "	9.45		62	30.5-169		
Vanadium	16.6			2 "	17.5		95	65.9-135		

### Reference (B14H025-SRM2)

Arsenic	269			2 mg/kg wet	252		107	60.9-139		
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United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210H

**Reported:** 09/09/14 16:21

**Quality Control**

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H025 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/06/14 Analyzed: 08/14/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Reference (B14H025-SRM2)**

Beryllium	5.07		0.1	"	4.88		104	61.2-139		
Lead	54.4		3	"	56.6		96	72.8-127		
Zinc	47.1		8	"	47.3		100	43.2-157		

**Batch B14H028 - 7473 Hg Prep - Mercury by 7473**

**Prepared & Analyzed: 08/05/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14H028-BLK1)**

Mercury	ND	U	0.027	mg/kg wet						
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**Matrix Spike (B14H028-MS1)**

**Source: 1407058-10**

Mercury	1.81		0.025	mg/kg wet	0.415	1.31	121	80-120		20
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**Matrix Spike Dup (B14H028-MSD1)**

**Source: 1407058-10**

Mercury	2.03		0.025	mg/kg wet	0.404	1.31	178	80-120	39	20
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**Reference (B14H028-SRM1)**

Mercury	1.14		0.034	mg/kg wet	1.10		104	80-120		
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**Batch B14H157 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/27/14 Analyzed: 08/28/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14H157-BLK1)**

Aluminum	ND	U	100	mg/kg wet						
Antimony	ND	U	2	"						
Arsenic	ND	U	2	"						
Barium	ND	U	5	"						
Beryllium	ND	U	0.1	"						
Cadmium	ND	U	0.5	"						
Calcium	ND	U	100	"						
Chromium	ND	U	1	"						
Cobalt	ND	U	2	"						
Copper	ND	U	4	"						
Iron	ND	U	100	"						
Lead	ND	U	3	"						
Magnesium	ND	U	50	"						
Manganese	ND	U	5	"						
Molybdenum	ND	U	5	"						
Nickel	ND	U	5	"						
Potassium	ND	U	500	"						
Selenium	ND	U	2	"						
Silver	ND	U	1	"						
Sodium	ND	U	50	"						
Thallium	ND	U	5	"						
Vanadium	ND	U	2	"						



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**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210H

**Reported:** 09/09/14 16:21

**Quality Control**

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H157 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/27/14 Analyzed: 08/28/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14H157-BLK1)**

Zinc	ND	U	8	"						
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**Reference (B14H157-SRM1)**

Arsenic	0.269		0.002	mg/kg wet	0.251		107	60.9-139		
Lead	0.055		0.003	"	0.0564		98	72.8-127		

**Batch B14I015 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 09/03/14 Analyzed: 09/04/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14I015-BLK1)**

Aluminum	ND	U	100	mg/kg wet						
Antimony	ND	U	2	"						
Arsenic	ND	U	2	"						
Barium	ND	U	5	"						
Beryllium	0.08	J	0.1	"						
Cadmium	ND	U	0.5	"						
Calcium	ND	U	100	"						
Chromium	ND	U	1	"						
Cobalt	ND	U	2	"						
Copper	ND	U	4	"						
Iron	ND	U	100	"						
Lead	ND	U	3	"						
Magnesium	ND	U	50	"						
Manganese	ND	U	5	"						
Molybdenum	ND	U	5	"						
Nickel	ND	U	5	"						
Potassium	ND	U	500	"						
Selenium	ND	U	2	"						
Silver	ND	U	1	"						
Sodium	ND	U	50	"						
Thallium	ND	U	5	"						
Vanadium	ND	U	2	"						
Zinc	ND	U	8	"						

**Reference (B14I015-SRM1)**

Arsenic	239		2	mg/kg wet	254		94	60.9-139		
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**SDG:** 14210H

**Reported:** 09/09/14 16:21

**Qualifiers and Comments**

Q6 Matrix spike/matrix spike duplicate precision criteria were not met for this analyte (see MS/MSD results for this batch in QC summary).

Q4 The matrix spike and/or matrix spike duplicate associated with this sample did not meet recovery criteria for this analyte (see MS/MSD results for this batch in QC summary)

Q10 The analyte concentration in the unfortified sample is significantly greater than the concentration spiked into the matrix spike and matrix spike duplicate. The reported spike recovery is not a meaningful measure of the dataset's analytical accuracy.

J The reported result for this analyte should be considered an estimated value.

C1 The reported concentration for this analyte is below the quantitation limit.

A2 The sample was received above the recommended temperature range.

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.





**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 9/4/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14210J

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment

**Analyses included in this report:**

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Metals by ICP



United States Environmental Protection Agency

Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

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Project Manager: Thomas Dunkelman

Project Number: R14S51

Project: Eureka Smelter Summer 2014 Sampling

Emergency Response Section

75 Hawthorne Street

San Francisco CA, 94105

SDG: 14210J

Reported: 09/04/14 16:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
A1 Slag	1407059-01	Soil	07/25/14 08:50	07/29/14 09:30
A2 Slag	1407059-02	Soil	07/25/14 09:00	07/29/14 09:30
A3a Slag	1407059-03	Soil	07/25/14 09:10	07/29/14 09:30
A3b Slag	1407059-04	Soil	07/25/14 09:10	07/29/14 09:30
A4a Slag	1407059-05	Soil	07/25/14 10:30	07/29/14 09:30
A4b Slag	1407059-06	Soil	07/25/14 10:30	07/29/14 09:30
XA-06	1407059-07	Soil	07/24/14 00:00	07/29/14 09:30
XB-07	1407059-08	Soil	07/25/14 00:00	07/29/14 09:30
XB-10	1407059-09	Soil	07/25/14 00:00	07/29/14 09:30
XC-08	1407059-10	Soil	07/25/14 00:00	07/29/14 09:30
XC-17	1407059-11	Soil	07/25/14 00:00	07/29/14 09:30
XC-20	1407059-12	Soil	07/25/14 00:00	07/29/14 09:30

SDG ID 14210J

For sample XC-17 (Lab ID1407059-11), the results did not match the XRF results reported from the field analysis (lab result is almost double the XRF result). The sample digestate was re-analyzed with comparable results. The sample was then re-digested and re-analyzed with similar results. Results from the original analysis are reported.

Work Order(s)

1407059



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210J

**Reported:** 09/04/14 16:50

**Sample Results**

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID:</b>	<b>1407059-01</b>	<b>Soil - Sampled: 07/25/14 08:50</b>							
<b>Sample ID:</b>	<b>A1 Slag</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		2,800		100	mg/kg wet	B14H026	08/06/14	08/19/14	6010C/SOP503
Lead		15,000		150	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407059-02</b>	<b>Soil - Sampled: 07/25/14 09:00</b>							
<b>Sample ID:</b>	<b>A2 Slag</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE2	23,000		100	mg/kg wet	B14H157	08/27/14	08/28/14	6010C/SOP503
Lead	RE2	19,000		150	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407059-03</b>	<b>Soil - Sampled: 07/25/14 09:10</b>							
<b>Sample ID:</b>	<b>A3a Slag</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic	RE2	5,100		100	mg/kg wet	B14H157	08/27/14	08/28/14	6010C/SOP503
Lead	RE2	18,000		150	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407059-04</b>	<b>Soil - Sampled: 07/25/14 09:10</b>							
<b>Sample ID:</b>	<b>A3b Slag</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		5,800		100	mg/kg wet	B14H026	08/06/14	08/19/14	6010C/SOP503
Lead		20,000		150	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407059-05</b>	<b>Soil - Sampled: 07/25/14 10:30</b>							
<b>Sample ID:</b>	<b>A4a Slag</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		22,000		100	mg/kg wet	B14H026	08/06/14	08/19/14	6010C/SOP503
Lead		35,000		150	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407059-06</b>	<b>Soil - Sampled: 07/25/14 10:30</b>							
<b>Sample ID:</b>	<b>A4b Slag</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		21,000		100	mg/kg wet	B14H026	08/06/14	08/19/14	6010C/SOP503
Lead		36,000		150	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407059-07</b>	<b>Soil - Sampled: 07/24/14 00:00</b>							
<b>Sample ID:</b>	<b>XA-06</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		88		5	mg/kg wet	B14H026	08/06/14	08/19/14	6010C/SOP503
Lead		340		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407059-08</b>	<b>Soil - Sampled: 07/25/14 00:00</b>							
<b>Sample ID:</b>	<b>XB-07</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		77		5	mg/kg wet	B14H026	08/06/14	08/19/14	6010C/SOP503
Lead		340		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407059-09</b>	<b>Soil - Sampled: 07/25/14 00:00</b>							
<b>Sample ID:</b>	<b>XB-10</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		82		5	mg/kg wet	B14H026	08/06/14	08/19/14	6010C/SOP503
Lead		420		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407059-10</b>	<b>Soil - Sampled: 07/25/14 00:00</b>							
<b>Sample ID:</b>	<b>XC-08</b>	<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		270		5	mg/kg wet	B14H026	08/06/14	08/19/14	6010C/SOP503
Lead		1,400		7.5	"	"	"	"	6010C/SOP503
<b>Lab ID:</b>	<b>1407059-11</b>	<b>Soil - Sampled: 07/25/14 00:00</b>							



United States Environmental Protection Agency  
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**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210J

**Reported:** 09/04/14 16:50

### Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1407059-11</b>		<b>Soil - Sampled: 07/25/14 00:00</b>							
<b>Sample ID: XC-17</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		3,200		100	mg/kg wet	B14H026	08/06/14	08/19/14	6010C/SOP503
Lead		21,000		150	"	"	"	"	6010C/SOP503
<b>Lab ID: 1407059-12</b>		<b>Soil - Sampled: 07/25/14 00:00</b>							
<b>Sample ID: XC-20</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Arsenic		710		10	mg/kg wet	B14H026	08/06/14	08/19/14	6010C/SOP503
Lead		4,400		15	"	"	"	"	6010C/SOP503



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**SDG:** 14210J

**Reported:** 09/04/14 16:50

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H026 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/06/14 Analyzed: 08/19/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

### Blank (B14H026-BLK1)

Aluminum	ND	U	500	mg/kg wet
Antimony	ND	U	10	"
Arsenic	ND	U	10	"
Barium	ND	U	25	"
Beryllium	ND	U	0.5	"
Cadmium	ND	U	2.5	"
Calcium	ND	U	500	"
Chromium	ND	U	5	"
Cobalt	ND	U	10	"
Copper	ND	U	20	"
Iron	ND	U	500	"
Lead	ND	U	15	"
Magnesium	ND	U	250	"
Manganese	ND	U	25	"
Molybdenum	ND	U	25	"
Nickel	ND	U	25	"
Potassium	ND	U	2,500	"
Selenium	ND	U	10	"
Silver	ND	U	5	"
Sodium	ND	U	250	"
Thallium	ND	U	25	"
Vanadium	ND	U	10	"
Zinc	ND	U	40	"

### Blank (B14H026-BLK2)

Aluminum	ND	U	100	mg/kg wet
Antimony	ND	U	2	"
Arsenic	ND	U	2	"
Barium	ND	U	5	"
Beryllium	ND	U	0.1	"
Cadmium	ND	U	0.5	"
Calcium	ND	U	100	"
Chromium	ND	U	1	"
Cobalt	ND	U	2	"
Copper	ND	U	4	"
Iron	ND	U	100	"
Lead	ND	U	3	"
Magnesium	ND	U	50	"
Manganese	ND	U	5	"
Molybdenum	ND	U	5	"
Nickel	ND	U	5	"



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**SDG:** 14210J

**Reported:** 09/04/14 16:50

**Quality Control**

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H026 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/06/14 Analyzed: 08/19/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14H026-BLK2)**

Potassium	ND	U	500	"						
Selenium	ND	U	2	"						
Silver	ND	U	1	"						
Sodium	ND	U	50	"						
Thallium	ND	U	5	"						
Vanadium	ND	U	2	"						
Zinc	ND	U	8	"						

**Matrix Spike (B14H026-MS2)**

**Source: 1407059-12**

Arsenic	1,130		10	mg/kg wet	400	710	105	75-125		20
Lead	4,510	Q10	15	"	100	4,400	112	75-125		20

**Matrix Spike Dup (B14H026-MSD2)**

**Source: 1407059-12**

Arsenic	1,070		10	mg/kg wet	396	710	91	75-125	5	20
Lead	4,160	Q10	15	"	99.0	4,400	NR	75-125	8	20

**Reference (B14H026-SRM2)**

Arsenic	237		2	mg/kg wet	253		94	60.9-139		
Lead	47.9		3	"	57.0		84	72.8-127		

**Batch B14H157 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/27/14 Analyzed: 08/28/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14H157-BLK1)**

Aluminum	ND	U	100	mg/kg wet						
Antimony	ND	U	2	"						
Arsenic	ND	U	2	"						
Barium	ND	U	5	"						
Beryllium	ND	U	0.1	"						
Cadmium	ND	U	0.5	"						
Calcium	ND	U	100	"						
Chromium	ND	U	1	"						
Cobalt	ND	U	2	"						
Copper	ND	U	4	"						
Iron	ND	U	100	"						
Lead	ND	U	3	"						
Magnesium	ND	U	50	"						
Manganese	ND	U	5	"						
Molybdenum	ND	U	5	"						
Nickel	ND	U	5	"						
Potassium	ND	U	500	"						
Selenium	ND	U	2	"						
Silver	ND	U	1	"						
Sodium	ND	U	50	"						



United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210J

**Reported:** 09/04/14 16:50

**Quality Control**

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H157 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 08/27/14 Analyzed: 08/28/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Blank (B14H157-BLK1)**

Thallium	ND	U	5	"						
Vanadium	ND	U	2	"						
Zinc	ND	U	8	"						

**Matrix Spike (B14H157-MS1)**

**Source: 1407059-03RE2**

Arsenic	5,320	Q10	100	mg/kg wet	400	5,060	<b>66</b>	75-125		20
Lead	17,800	Q10	150	"	100	17,900	<b>NR</b>	75-125		20

**Matrix Spike Dup (B14H157-MSD1)**

**Source: 1407059-03RE2**

Arsenic	5,460	Q10	100	mg/kg wet	396	5,060	101	75-125	2	20
Lead	17,900	Q10	150	"	99.0	17,900	<b>NR</b>	75-125	0.6	20

**Reference (B14H157-SRM1)**

Arsenic	0.269		0.002	mg/kg wet	0.251		107	60.9-139		
Lead	0.055		0.003	"	0.0564		98	72.8-127		



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**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210J

**Reported:** 09/04/14 16:50

**Qualifiers and Comments**

Q10 The analyte concentration in the unfortified sample is significantly greater than the concentration spiked into the matrix spike and matrix spike duplicate. The reported spike recovery is not a meaningful measure of the dataset's analytical accuracy.

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.





**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 7/1/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14157H

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment  
Mindy Song, Ecology and Environment

**Analyses included in this report:**

Mercury by EPA method 7473  
Percent Solids

Metals by ICP



United States Environmental Protection Agency

# Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

Phone:(510) 412-2300

Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157H

**Reported:** 07/01/14 13:16

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
52914-Top Soil	1406029-01	Soil	05/29/14 14:00	06/06/14 10:20
52914-Sand	1406029-02	Soil	05/29/14 14:10	06/06/14 10:20
52914-Base	1406029-03	Soil	05/29/14 14:13	06/06/14 10:20
52914-Pit Run	1406029-04	Soil	05/29/14 14:15	06/06/14 10:20
53014-Top Soil	1406029-05	Soil	05/30/14 15:30	06/06/14 10:20

**SDG ID** 14157H

### Work Order(s)

**1406029**

Samples were received at 17° C which is above the recommended temperature range of 16° C for mercury analysis. Mercury results are flagged as estimates



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157H

**Reported:** 07/01/14 13:16

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID:	1406029-01	Soil - Sampled: 05/29/14 14:00							
Sample ID:	52914-Top Soil	Metals by EPA 6000/7000 Series Methods							
Mercury	RE1	0.014	A2, C1, J	0.026	mg/kg dry	B14F099	06/17/14	06/17/14	7473/SOP535
Arsenic		17		2.1	"	B14F072	06/12/14	06/16/14	6010C/SOP503
Barium		250		5.1	"	"	"	06/17/14	6010C/SOP503
Cadmium		0.40	C1, J	0.51	"	"	"	06/16/14	6010C/SOP503
Chromium		19		1	"	"	"	"	6010C/SOP503
Lead		13		3.1	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
Sample ID:	52914-Top Soil	Conventional Chemistry Parameters by APHA/EPA Methods							
% Solids		97		1	%	B14F112	06/19/14	06/20/14	3550C/SOP460
Lab ID:	1406029-02	Soil - Sampled: 05/29/14 14:10							
Sample ID:	52914-Sand	Metals by EPA 6000/7000 Series Methods							
Mercury	RE1	0.014	A2, C1, J	0.025	mg/kg dry	B14F099	06/17/14	06/17/14	7473/SOP535
Arsenic		25		2	"	B14F072	06/12/14	06/16/14	6010C/SOP503
Barium		210		5.1	"	"	"	06/17/14	6010C/SOP503
Cadmium		ND	U	0.51	"	"	"	06/16/14	6010C/SOP503
Chromium		17		1	"	"	"	"	6010C/SOP503
Lead		7.3		3.1	"	"	"	"	6010C/SOP503
Selenium		ND	U	2	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
Sample ID:	52914-Sand	Conventional Chemistry Parameters by APHA/EPA Methods							
% Solids		98		1	%	B14F112	06/19/14	06/20/14	3550C/SOP460
Lab ID:	1406029-03	Soil - Sampled: 05/29/14 14:13							
Sample ID:	52914-Base	Metals by EPA 6000/7000 Series Methods							
Mercury	RE1	ND	A2, J, U	0.027	mg/kg dry	B14F099	06/17/14	06/17/14	7473/SOP535
Arsenic		19		2.1	"	B14F072	06/12/14	06/16/14	6010C/SOP503
Barium		210		5.3	"	"	"	06/17/14	6010C/SOP503
Cadmium		ND	U	0.53	"	"	"	06/16/14	6010C/SOP503
Chromium		23		1.1	"	"	"	"	6010C/SOP503
Lead		7.3		3.2	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	"	6010C/SOP503
Silver		ND	U	1.1	"	"	"	"	6010C/SOP503
Sample ID:	52914-Base	Conventional Chemistry Parameters by APHA/EPA Methods							
% Solids		94		1	%	B14F112	06/19/14	06/20/14	3550C/SOP460
Lab ID:	1406029-04	Soil - Sampled: 05/29/14 14:15							
Sample ID:	52914-Pit Run	Metals by EPA 6000/7000 Series Methods							
Mercury	RE1	0.016	A2, C1, J	0.026	mg/kg dry	B14F099	06/17/14	06/17/14	7473/SOP535
Arsenic		21		2.1	"	B14F072	06/12/14	06/16/14	6010C/SOP503
Barium		210		5.2	"	"	"	06/17/14	6010C/SOP503



# United States Environmental Protection Agency Region 9 Laboratory

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Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157H

**Reported:** 07/01/14 13:16

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>Lab ID: 1406029-04</b>		<b>Soil - Sampled: 05/29/14 14:15</b>							
<b>Sample ID: 52914-Pit Run</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Cadmium		ND	U	0.52	mg/kg dry	B14F072	06/12/14	06/16/14	6010C/SOP503
Chromium		22		1	"	"	"	"	6010C/SOP503
Lead		7.4		3.1	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.1	"	"	"	"	6010C/SOP503
Silver		ND	U	1	"	"	"	"	6010C/SOP503
<b>Sample ID: 52914-Pit Run</b>		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		96		1	%	B14F112	06/19/14	06/20/14	3550C/SOP460
<b>Lab ID: 1406029-05</b>		<b>Soil - Sampled: 05/30/14 15:30</b>							
<b>Sample ID: 53014-Top Soil</b>		<b>Metals by EPA 6000/7000 Series Methods</b>							
Mercury		0.031	A2, J	0.027	mg/kg dry	B14F099	06/17/14	06/17/14	7473/SOP535
Arsenic		16		2.2	"	B14F072	06/12/14	06/16/14	6010C/SOP503
Barium	RE1	290		5.4	"	"	"	06/17/14	6010C/SOP503
Cadmium		0.28	C1, J	0.54	"	"	"	06/16/14	6010C/SOP503
Chromium		19		1.1	"	"	"	"	6010C/SOP503
Lead		11		3.2	"	"	"	"	6010C/SOP503
Selenium		ND	U	2.2	"	"	"	"	6010C/SOP503
Silver		ND	U	1.1	"	"	"	"	6010C/SOP503
<b>Sample ID: 53014-Top Soil</b>		<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>							
% Solids		93		1	%	B14F112	06/19/14	06/20/14	3550C/SOP460



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**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157H

**Reported:** 07/01/14 13:16

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14F072 - 3050B Sld Acid Dig - Metals by 6010**

**Prepared: 06/12/14 Analyzed: 06/16/14**

**Metals by EPA 6000/7000 Series Methods - Quality Control**

### Blank (B14F072-BLK1)

Arsenic	ND	U		2 mg/kg wet
Barium	ND	U		5 "
Cadmium	ND	U	0.5	"
Chromium	ND	U	1	"
Lead	ND	U	3	"
Selenium	ND	U	2	"
Silver	ND	U	1	"

### Blank (B14F072-BLK2)

Arsenic	ND	U		2 mg/kg wet
Barium	ND	U		5 "
Cadmium	ND	U	0.5	"
Chromium	ND	U	1	"
Lead	ND	U	3	"
Selenium	ND	U	2	"
Silver	ND	U	1	"

### Matrix Spike (B14F072-MS1)

**Source: 1406029-01**

Arsenic	456		2.1 mg/kg dry	403	17.1	109	75-125	20
Cadmium	10.5		0.51 "	10.1	0.402	100	75-125	20
Chromium	61.1		1 "	40.3	18.5	106	75-125	20
Lead	114		3.1 "	101	13.3	100	75-125	20
Selenium	414		2.1 "	403	ND	103	75-125	20
Silver	10.9		1 "	10.1	ND	108	75-125	20

### Matrix Spike (B14F072-MS2)

**Source: 1406029-01RE1**

Barium	686		5.1 mg/kg dry	403	251	108	75-125	20
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### Matrix Spike Dup (B14F072-MSD1)

**Source: 1406029-01**

Arsenic	468		2.1 mg/kg dry	403	17.1	112	75-125	3	20
Cadmium	10.7		0.51 "	10.1	0.402	102	75-125	2	20
Chromium	63.5		1 "	40.3	18.5	112	75-125	4	20
Lead	117		3.1 "	101	13.3	103	75-125	3	20
Selenium	426		2.1 "	403	ND	106	75-125	3	20
Silver	11.1		1 "	10.1	ND	111	75-125	2	20

### Matrix Spike Dup (B14F072-MSD2)

**Source: 1406029-01RE1**

Barium	695		5.1 mg/kg dry	403	251	110	75-125	1	20
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### Reference (B14F072-SRM1)

Arsenic	266		2 mg/kg wet	252		105	60.9-139
Cadmium	10.3		0.5 "	10.9		94	70.6-128
Chromium	25.9		1 "	27.0		96	68.3-132



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**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157H

**Reported:** 07/01/14 13:16

**Quality Control**

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B14F072 - 3050B Sld Acid Dig - Metals by 6010						Prepared: 06/12/14 Analyzed: 06/16/14				
Reference (B14F072-SRM1)						Metals by EPA 6000/7000 Series Methods - Quality Control				
Lead	52.3			3 "	56.8		92	72.8-127		
Silver	6.02			1 "	5.89		102	45.8-154		
Reference (B14F072-SRM2)										
Barium	ND	U		5 mg/kg wet	1.60			62.5-138		
Reference (B14F072-SRM3)										
Selenium	7.31			2 mg/kg wet	9.98		73	41-159		
Batch B14F099 - 7473 Hg Prep - Mercury by 7473						Prepared & Analyzed: 06/17/14				
Blank (B14F099-BLK1)						Metals by EPA 6000/7000 Series Methods - Quality Control				
Mercury	ND	U		0.025 mg/kg wet						
Matrix Spike (B14F099-MS1)		Source: 1406029-02								
Mercury	0.505			0.025 mg/kg dry	0.470	0.0135	105	80-120		20
Matrix Spike Dup (B14F099-MSD1)		Source: 1406029-02								
Mercury	0.514			0.025 mg/kg dry	0.472	0.0135	106	80-120	1	20
Reference (B14F099-SRM1)										
Mercury	1.14			0.025 mg/kg wet	1.10		104	80-120		
Batch B14F112 - Solids, Dry Weight (Prep) - Solids, Dry Weight						Prepared: 06/19/14 Analyzed: 06/20/14				
						Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control				
Blank (B14F112-BLK1)										
% Solids	ND	U		1 %						
Duplicate (B14F112-DUP1)		Source: 1406029-02								
% Solids	98			1 %		98			0.05	20



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**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14157H

**Reported:** 07/01/14 13:16

**Qualifiers and Comments**

J The reported result for this analyte should be considered an estimated value.

C1 The reported concentration for this analyte is below the quantitation limit.

A2 The sample was received above the recommended temperature range.

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.



**United States Environmental Protection Agency  
Region 9 Laboratory**

**1337 S. 46th Street Building 201  
Richmond, CA 94804**

**Date:** 8/14/2014

**Subject:** Analytical Testing Results - Project R14S51  
SDG: 14210D

**From:** Duane James, Acting Director  
EPA Region 9 Laboratory  
MTS-2

**To:** Thomas Dunkelman  
Emergency Response Section  
SFD-9-2

Attached are the results from the analysis of samples from the **Eureka Smelter Summer 2014 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Howard Edwards, Ecology and Environment  
Mindy Song, Ecology and Environment

**Analyses included in this report:**

Metals by ICP





United States Environmental Protection Agency  
**Region 9 Laboratory**

1337 S. 46th Street, Building 201, Richmond, CA 94804  
Phone:(510) 412-2300 Fax:(510) 412-2302

**Project Manager:** Thomas Dunkelman

**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210D

**Reported:** 08/14/14 15:09

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
72614-EB	1407053-01	Water	07/26/14 11:00	07/29/14 09:30
Store-ESS	1407053-02	Water	07/28/14 11:30	07/29/14 09:30

**SDG ID 14210D**

**Work Order(s)**

**1407053**



United States Environmental Protection Agency  
**Region 9 Laboratory**

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**Project Number:** R14S51

**Project:** Eureka Smelter Summer 2014 Sampling

**Emergency Response Section**

**75 Hawthorne Street**

**San Francisco CA, 94105**

**SDG:** 14210D

**Reported:** 08/14/14 15:09

## Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
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**Lab ID:** 1407053-01

**Water - Sampled: 07/26/14 11:00**

**Sample ID:** 72614-EB

**Metals by EPA 200 Series Methods**

Arsenic 47 20 ug/L B14H029 08/05/14 08/08/14 200.7/SOP505

Lead 96 20 " " " 200.7/SOP505

**Lab ID:** 1407053-02

**Water - Sampled: 07/28/14 11:30**

**Sample ID:** Store-ESS

**Metals by EPA 200 Series Methods**

Arsenic ND U 20 ug/L B14H029 08/05/14 08/08/14 200.7/SOP505

Lead 23 20 " " " 200.7/SOP505

## Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B14H029 - 200 Series Digest - Metals by 200.7**

**Prepared: 08/05/14 Analyzed: 08/08/14**

**Metals by EPA 200 Series Methods - Quality Control**

**Blank (B14H029-BLK1)**

Arsenic ND U 20 ug/L

Lead ND U 20 "

**LCS (B14H029-BS1)**

Arsenic 912 20 ug/L 800 114 85-115 200

Lead 1,080 20 " 1000 108 85-115 200

**Matrix Spike (B14H029-MS1)**

**Source: 1407053-02**

Arsenic 907 20 ug/L 800 ND 113 70-130 20

Lead 1,090 20 " 1000 22.6 106 70-130 20

**Matrix Spike Dup (B14H029-MSD1)**

**Source: 1407053-02**

Arsenic 905 20 ug/L 800 ND 113 70-130 0.2 20

Lead 1,080 20 " 1000 22.6 106 70-130 0.3 20



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**Emergency Response Section**

75 Hawthorne Street

San Francisco CA, 94105

**SDG:** 14210D

**Reported:** 08/14/14 15:09

**Qualifiers and Comments**

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.

***Appendix E:***  
**Maps and GIS Data**

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Link with  
Maps