Nowell, Keith, Env. Health

From: Nuchims, Eric <nuchims.eric@epa.gov>
Sent: Tuesday, September 04, 2018 12:04 PM
To: Roe, Dilan, Env. Health; Mike Bowes (mike.bowes@tripointhomes.com)
Cc: Peter Morris; Nowell, Keith, Env. Health
Subject: RE: 1708 Wood Street Development
Attachments: Final Bercovich Removal Action Report.pdf

Dilan and Mike

Here is the final report from the Bercovich Lead Smelter Removal Action. Within it is reference to the staging area used at 1708 Wood Street. From the document, below is an excerpt from the report:

The Staging Area was located at 1708 Wood Street in Oakland, California, which was a nonoperational trucking yard directly adjacent to the Site, across Campbell Street (Figure 5). The Staging Area was comprised of an asphalt parking lot surrounded by two rows of security fencing. Temporary fence panels were installed to delineate the Staging Area, and separate it from the remainder of the property. One portable office trailer was present with electrical service being supplied via diesel-powered generator. The Staging Area was used for parking vehicles and heavy equipment, as well as stockpiling and loading of clean backfill materials. Empty roll-off bins were delivered to the Staging Area, then transported to a residential property to be filled. Filled roll-off bins were stored at the Staging Area, but only after being properly tarped and removing any excess
Bercovich Smelter Removal Action 10 TDD No. 0002/1302-T2-R9-17-08-0002
Removal Action Report 0163-08-ABOR
soil from the exterior prior to being transported.
To determine if staging activities impacted the Staging Area, surface soil samples were collected on April 18, 2018, before activities commenced, and again after demobilization, on May 14, 2018. The entire surface of the Staging Area was covered in asphalt surrounded by a concrete berm. Three samples were collected in the areas where a break in the berm was present. One sample was collected outside of the Staging Area, located next to the fire hydrant which was constantly used as a water source.
The samples were analyzed for volatiles using EPA Method 8260B, semivolatiles using EPA Method 9270C, polychlorinated biphenyls using EPA Method 8082A, total metals using EPA Method 6010B, and mercury using EPA Method 7471A. All samples were analyzed by the EPA Region 9 Laboratory in Richmond, California.
Comparison of the baseline and verification sample results indicate no contaminants were introduced to the Staging Area as a result of removal activities. Sampling results are summarized in Table 4. The data validation reports and laboratory data packages are provided in Appendix D.

Sincerely

Eric Nuchims
Federal On-Scene Coordinator
U.S. Environmental Protection Agency - Region IX
Superfund - Emergency Response Section
75 Hawthorne Street
Mail Code: SFD-9-2
San Francisco, CA 94105
Desk Phone: 415 972-3252

From: Roe, Dilan, Env. Health [mailto:Dilan.Roe@acgov.org]
Sent: Friday, August 31, 2018 11:52 AM
To: Nuchims, Eric <nuchims.eric@epa.gov>; Mike Bowes (mike.bowes@tripointhomes.com) <mike.bowes@tripointhomes.com>
Cc: Peter Morris <peterm@westenvironmental.com>; Nowell, Keith, Env. Health <Keith.Nowell@acgov.org>
Subject: RE: 1708 Wood Street Development

Good Morning Eric and Mike:

Please provide a status on submittal of a copy of the Bercovich Lead Smelter Removal report. Prior to authorizing site grading activities to occur at the site, Alameda County Department of Environmental Health requires documentation that the 1708 Wood Street site is no longer being used as a staging area and that the pre and post sampling that was conducted at the site in accordance with the attached SAP and sample location figure.

Thanks,

Dilan Roe, PE, C73703
Chief – Land Water Division
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA
510.567.6767; Ext. 36767
QIC: 30440
dilan.roe@acgov.org

From: Roe, Dilan, Env. Health
Sent: Thursday, July 26, 2018 1:00 PM
To: 'Nuchims, Eric' <nuchims.eric@epa.gov>
Cc: Mike Bowes (mike.bowes@tripointhomes.com) <mike.bowes@tripointhomes.com>; 'Peter Morris' <peterm@westenvironmental.com>; Nowell, Keith, Env. Health <Keith.Nowell@acgov.org>
Subject: RE: 1708 Wood Street Development

Good Afternoon Eric:

Thank you for the notification regarding dust control complaint at the subject property. Mike and Peter can you please provide a status update on this site and the complaint.

Thanks,

Dilan Roe, PE, C73703
Chief – Land Water Division
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA
510.567.6767; Ext. 36767
QIC: 30440

dilan.roe@acgov.org

From: Nuchims, Eric [mailto:nuchims.eric@epa.gov]
Sent: Thursday, July 26, 2018 9:28 AM
To: Roe, Dilan, Env. Health <Dilan.Roe@acgov.org>
Subject: 1708 Wood Street Development

Dilan

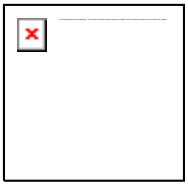
I received a complaint from one of the residents across Campbell Street from the 1708 Wood Street Development by TriPointe Homes. The complaint states that proper dust control is not being applied appropriately during excavation of the suspected or known contaminated soils.

If you need to contact me directly please try my cell phone at 628-217-0699

Alternatively, I'm expecting a draft of the final draft of the Bercovich Lead Smelter Removal soon and will share it with you once it has been finalized.

Sincerely

Eric Nuchims
Federal On-Scene Coordinator
U.S. Environmental Protection Agency - Region IX
Superfund - Emergency Response Section
75 Hawthorne Street
Mail Code: SFD-9-2
San Francisco, CA 94105
Desk Phone: 415 972-3252



REMOVAL ACTION REPORT

Bercovich Lead Smelter Removal Action
Oakland, Alameda County, California

Prepared for:

U.S. Environmental Protection Agency
Region 9
Emergency Response Section
75 Hawthorne Street
San Francisco, CA 94105

EPA Contract Number: EP-S5-13-02
Document Control Number: 0163-08-ABOR
TDD No. 0002/1302-T2-R9-17-08-0002

August 2018

Prepared by:

WESTON SOLUTIONS, INC.
2300 Clayton Rd., Suite 900
Concord, CA 94520

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

LIST OF ABBREVIATIONS AND ACRONYMS

%	percent
bgs	below ground surface
DTSC	Department of Toxic Substances Control
EMCON	EMCON Associates
EPA	U.S. Environmental Protection Agency
ERRS	Emergency and Rapid Response Services
ESA	Environmental Site Assessment
MCE	mixed-cellulose ester
mg/kg	milligrams per kilogram
mg/m^3	milligrams per cubic meter
OSC	On-Scene Coordinator
PA	Preliminary Assessment
ppm	parts per million
RCRA	Resource Conservation and Recovery Act
RM	Response Manager
RSL	Regional Screening Level
SAP	Sampling and Analysis Plan
START	Superfund Technical Assessment and Response Team
TDD	Technical Direction Document
USCG	United States Coast Guard
UST	underground storage tank
WESTON®	Weston Solutions, Inc.
XRF	X-ray fluorescence

1. INTRODUCTION

The U.S. Environmental Protection Agency (EPA) tasked the Weston Solutions, Inc. (WESTON®) Superfund Technical Assessment and Response Team (START) to assist with removal action activities at the Bercovich Lead Smelter Removal Action Site (the Site) located in Oakland, Alameda County, California (Appendix A, Figure 1). Under Technical Direction Document (TDD) No. 0002/1302-T2-R9-17-08-0002, START was tasked to provide technical support for documentation, monitoring, and sampling activities at the Site. The Site encompasses one city block in neighborhood of West Oakland where a historic smelter used to operate. Removal action activities were conducted from April 17 through May 14, 2018.

The Bercovich Smelter Removal Action was initiated to mitigate the exposure to soil with levels of lead above the EPA Regional Screening Level (RSL) for residences of 400 milligrams per kilogram (mg/kg) (EPA, 2018) which was identified during the EPA Removal Assessment conducted in June and August 2017.

This Removal Action Report is organized into the following sections:

- **Section 1: Introduction –** Briefly describes the removal action project
- **Section 2: Site Background** – Describes the Site location and summarizes the known regulatory history.
- **Section 3: Removal Activities** – Discussion of removal activities and procedures, work plans, photographic documentation, air monitoring and sampling, excavation and restoration activities, post-excavation sampling, property-specific removal actions, and disposal of contaminated soils.
- **Section 4: Data Validation –** Describes data validations, blank contaminations and reporting limits.
- **Section 5: Demobilization** – A brief statement of demobilization from Site specifics.
- **Section 6: Summary -** Provides a summary of the removal action activities.
- **Section 7: References** – Presents the references used in the preparation of this report.

2. SITE BACKGROUND

2.1 SITE DESCRIPTION

The Site is located in Oakland, Alameda County, California. The Site consists of select properties located within one city block of the West Oakland neighborhood (Appendix A, Figure 2). There are residential properties on this block, along with several commercial properties, including a trucking repair company and a restaurant. The Site is approximately 2.0 acres in size and at an

elevation of approximately 10 feet above sea level. The geographical coordinates for the approximate center of the Site are 37° 48′ 51″ north latitude and 122° 17′ 34″ west longitude.

2.2 SITE HISTORY

In 1989, a Phase I/II Environmental Site Assessment (ESA) was conducted by EMCON Associates (EMCON) for a potential buyer of the former historic smelter. During the Phase I ESA, a total of six soil samples were collected from three sampling locations at depths of 1 foot below ground surface (bgs) and 3 feet bgs, and were analyzed for metals. Groundwater samples collected during the Phase I ESA were also analyzed for metals. During the Phase II ESA, 45 soil samples were collected from 15 sampling locations at depths of 1 foot bgs, 3 feet bgs, and 5 feet bgs, and analyzed for lead. In addition, groundwater samples were collected at the former smelter during the Phase I/II ESA and analyzed for petroleum hydrocarbons, volatile organic compounds, and pH. Lead was reported in soil samples collected during the Phase I and II ESAs at maximum concentrations of 878 mg/kg and 1,100 mg/kg, respectively, exceeding the EPA residential Preliminary Remediation Goal of 400 mg/kg (EMCON, 1989). No other concerns were reported. The data collection effort and background information related to the former smelter are documented in the *Level I Environmental Assessment and Level II Shallow Soil and Groundwater Characterization* (EMCON, 1989).

In 1992 and 1995, several inspections were conducted by the Alameda County Environmental Health Department and only minor violations (e.g., open and unlabeled hazardous waste drums) were reported. In addition, in 1998 or 1999, an underground storage tank (UST) survey of a 500-gallon UST used to store diesel fuel was conducted by the Oakland Fire Department at the former smelter. According to the survey, a release to the environment was suspected but not confirmed. A Preliminary Assessment (PA) was conducted by the Department of Toxic Substances Control (DTSC) for the EPA in 2002. The PA report indicated that elevated levels of lead exist at the former smelter (DTSC, 2003).

Based on the sampling results of the Phase I/II ESA and PA for the former smelter, EPA determined that 13 residential properties warranted further assessment based on the proximity of the residences to the Site; however, access to conduct a removal assessment was initially only granted by six property owners. Access to the remaining properties was granted by owners after the first phase of the Removal Assessment.

2.3 PREVIOUS INVESTIGATIONS

In June and August 2017, EPA conducted a removal assessment of the 13 residential properties previously identified. Samples were collected from three depth intervals: 0-2 inches, 2-6 inches, and 6-12 inches. Samples were analyzed by X-ray fluorescence (XRF) and the EPA Region 9 Laboratory for lead; results ranged from 393 mg/kg to 2,874 mg/kg. Results from 11 parcels exceeded the EPA RSL for lead at residences of 400 mg/kg. The remaining two residential parcels were completely covered in concrete or other hard surface which prevented sampling.

3. REMOVAL ACTIVITIES

The following sections describe the removal activities at the Site.

3.1 REMOVAL ACTION ACTIVITIES

The EPA determined that soil removal actions were warranted at 11 residential properties based on results from the Removal Assessment conducted in June and August 2017. Soil samples from the Removal Assessment were analyzed for lead and the results ranged from 393 ppm to 2,874 ppm (Appendix A, Figure 3). Removal action activities were performed at all of the 11 properties identified during the Removal Assessment. Property-specific activities as part of this removal action are discussed in Section 3.2.

The following sections describe the overall procedures and activities followed for each property.

3.1.1 Access Agreements and Pre-Remediation Work Plans

An access agreement and Pre-Remediation Work Plan (work plan) were prepared for each identified property during the summer of 2017. Prior to the preparation of each property's work plan, EPA, START, and Emergency and Rapid Response Services (ERRS) personnel conducted a walkthrough of the property with the property owner to review and define the schedule of activities, methods and locations of excavation, restoration plans, materials and sources, decontamination procedures, property owner questions and concerns, existing property conditions, and physical site information. Following preparation of a property-specific work plan, the content was reviewed and signed for approval by the property owner, the EPA On-Scene Coordinator (OSC), and the ERRS Response Manager (RM) prior to removal actions.

3.1.2 Photographic Documentation

Photographs and/or video were used to document pre- and post-removal action conditions of each property. Photographs were taken by START prior to removal activities and as soon as practical following completion of backfill and restoration of the excavated areas for any given property. Photographic documentation of typical removal activities is presented in Appendix C.

3.1.3 Air Monitoring and Sampling

Prior to the initiation of any dust-generating activities at a property, four property or work zone perimeter air monitoring/sampling stations were established. The location of each station was used to determine whether airborne particulates were becoming airborne or migrating from work zones or off of the property at concentrations above the Site-specific action levels. Each air monitoring/sampling station included a DustTrak Aerosol Monitor, collocated with a GilAir5 Tri-Mode Air Sampler equipped with a 37-millimeter, 0.8-micrometer mixed-cellulose ester (MCE)

filter cassette for lead analysis. A DustTrak Aerosol Monitor was placed adjacent to the clean backfill material to monitor particulate conditions in the staging area.

Per the Sampling and Analysis Plan (SAP), daily air monitoring and sampling procedures were instituted throughout the removal action during dust generating activities. Each day, prior to the beginning of any dust-generating field activities, sample pumps equipped with sample media were calibrated and deployed in conjunction with particulate monitors to the property/work zone perimeter locations. The monitors and sample pumps were checked periodically during work hours to confirm they were operating properly and then collected following completion of work each day.

Per the Site-specific Health and Safety Plan, the action level for sustained particulate readings was 1.5 milligrams per cubic meter (mg/m^3). Throughout the entire project, there were no readings which exceeded this action level. None of the MCE filter samples which were submitted to the laboratory exceeded the Occupational Safety and Health Administration's Permissible Exposure Limit of 0.05 mg/m^3 for lead.

Two United States Coast Guard (USCG) Strike Team members were onsite during contaminated soil removal activities. The USGC Strike Team provided assistance with Health and Safety oversight, including the air monitoring and sampling equipment.

3.1.4 Backfill Source Selection and XRF Analysis

Prior to Site mobilization, the EPA and ERRS contractor identified sources for backfill materials to use to restore the residential properties following the removal of contaminated soils. During the removal action, START collected samples of the fill materials and analyzed them with the XRF to determine concentrations of Resource Conservation and Recovery Act (RCRA) 8 metals (lead, arsenic, barium, cadmium, chromium, mercury, selenium, and silver). Each five-point composite sample was collected from five random locations from at least every 500 cubic yards of backfill material. Each of the five 4-ounce samples that made up the composite sample were collected using a disposable plastic scoop and homogenized into one composite sample. All backfill material samples were field-analyzed using the XRF and 10 percent (%) of field-analyzed samples were submitted for laboratory analysis for confirmation. The sampling results for each fill sample are presented in Appendix B, Table 1. All RCRA 8 metals concentrations from XRF analysis and laboratory analysis of fill materials were below their respective EPA RSL for residential soil. The data validation reports and laboratory data packages are provided in Appendix D.

All soil and backfill material samples collected during the removal action were field-analyzed using XRF via Solid Waste-846 Method 6200. For confirmation analysis of RCRA 8 metals concentrations, 10% of samples field-analyzed by the XRF were sent to the EPA Region 9 Laboratory in Richmond, California. Samples were then routinely sent to the EPA Region 9 Laboratory to fulfill the 10% confirmation requirement and to ensure the XRF precision and accuracy was consistent and acceptable throughout the removal action. The R^2 value for laboratory and XRF lead results was 0.9921; therefore, the XRF data for lead collected during this removal assessment qualify as definitive analytical data under EPA's criteria for use as definitive level data ($R^2 \geq 0.9$ or 90 percent). A lead XRF analysis and laboratory analysis correlation graph is shown on Figure 4.

3.1.5 Additional Assessment Sampling

The backyard of Residence 8 was not able to be accessed during the Removal Assessment in June or August of 2017 due to access issues. The only way to access the back yard is to walk through the house. On May 5, 2018, the backyard fence was taken down to allow access for the ERRS crew. Prior to excavation, EPA and START collected composite samples from 0-2 inches, 2-6 inches, and 6-12 inches bgs, per the SAP for the Removal Assessment. Results are contained in Table 2 and show the soils that exceeded the EPA RSL for residences of 400 mg/kg.

3.1.6 Excavation and Restoration Activities

Following work plan approval, ERRS personnel were mobilized to the identified properties for removal of contaminated soils. On several of the properties, extensive clearing of brush and debris had to be performed prior to excavation. As described in the work plans, the debris was removed from each property into segregated roll-off bins, and not replaced. Contaminated soils were excavated to a depth of one foot bgs by ERRS contractor personnel using various heavy equipment and techniques, including equipment excavation and hand-digging. In total, 665 tons of contaminated soil were excavated from the residences and approximately 886 tons of clean backfill materials were used for restoring all the properties.

Prior to backfilling excavated areas, START provided sampling and analysis (as described in Section 3.1.7) to document the concentrations of the remaining lead in the soil. A visual barrier/marker (orange snow fencing) was placed over the excavation floor. The visual barrier was installed to mark the extent of the clean fill for any future excavation work by the property owner.

Excavation areas were backfilled by ERRS personnel with the appropriate clean fill materials and compacted, graded, and restored to final landscaping grade in accordance with the property's approved work plan. Materials used for backfill and site restoration included common soil, topsoil, 3/8" pea gravel, and playground fiber mulch. All applicable backfill materials were analyzed by START prior to use (as described in Section 3.1.5) to document that concentrations of RCRA 8 metals were significantly below any human-health-risk-based benchmarks and acceptable for use.

There were several tree or planter boxes along the sidewalks throughout the Site. To the extent possible, soil was removed using hand tools and backfilled with clean materials. A full 12 inches was not able to be excavated in these areas due to trees and shallow roots.

During soil excavation and remediation actions, START documented activities in written log books and in an electronic map via the Environmental Systems Research Institute, Inc. Geographic Information System (ArcGIS®) application for real-time project tracking.

3.1.7 Post-Excavation Activities

START conducted soil sampling of the excavation floor at each of the excavation areas in order to document the concentrations of lead at the limit of excavation in those areas and in accordance with the procedures identified in the SAP. The lead concentrations left in place under the backfill for each excavated property are presented in Table 1. A visual barrier/marker

(orange snow fencing) was placed over the excavation floor prior to backfill.

Following removal actions at each property, the EPA OSC reviewed the completed work with each property owner. Each property work plan was approved and signed by the property owner, the EPA OSC, and the ERRS RM indicating completion of the removal action.

3.2 PROPERTY-SPECIFIC ACTIVITIES

The general work practices at each property have been discussed and identified in Sections 3.1.1 through 3.1.7. A summary of property-specific removal actions, including contaminated soil estimated removal volumes, is provided in Table 3. All residents were able to stay in their homes during removal activities. If residents were present during excavation activities, it was recommended for them to stay inside with the windows closed. Following excavation activities, lead results at all properties in the bottom of the excavations exceeded the EPA RSL of 400 mg/kg for lead. Excavation and restoration activities were completed at the 11 properties.

3.3 TRANSPORTATION AND DISPOSAL

Excavated soil and any general debris was placed into a lined 20-yard roll-off box on or directly adjacent to each residential property. Once full, the roll-off boxes were cleaned to remove any excess soil and properly covered. After the roll-off boxes were ready to be transported over the public roads, they were staged in the Staging Area for pickup by the disposal company. Loading and transport activities at residential yards were generally performed at the same rate as excavation to eliminate the need for stockpiling large quantities of material on the residential properties.

A total of 665 tons of contaminated soil was disposed of at the Clean Harbors Buttonwillow Landfill in Buttonwillow, California. A total of 200 cubic yards of potentially contaminated general debris and 30 cubic yards of potentially contaminated concrete debris was disposed of at the Clean Harbors Buttonwillow Landfill as well.

Three inoperable cars were located on two of the properties which needed to be moved prior to starting excavation. EPA and the ERRS contractor worked closely with the homeowners to help arrange for their donation to the charity, Kars4Kids.

3.4 STAGING AREA

The Staging Area was located at 1708 Wood Street in Oakland, California, which was a non-operational trucking yard directly adjacent to the Site, across Campbell Street (Figure 5). The Staging Area was comprised of an asphalt parking lot surrounded by two rows of security fencing. Temporary fence panels were installed to delineate the Staging Area, and separate it from the remainder of the property. One portable office trailer was present with electrical service being supplied via diesel-powered generator. The Staging Area was used for parking vehicles and heavy equipment, as well as stockpiling and loading of clean backfill materials. Empty roll-off bins were delivered to the Staging Area, then transported to a residential property to be filled. Filled roll-off bins were stored at the Staging Area, but only after being properly tarped and removing any excess

soil from the exterior prior to being transported.

To determine if staging activities impacted the Staging Area, surface soil samples were collected on April 18, 2018, before activities commenced, and again after demobilization, on May 14, 2018. The entire surface of the Staging Area was covered in asphalt surrounded by a concrete berm. Three samples were collected in the areas where a break in the berm was present. One sample was collected outside of the Staging Area, located next to the fire hydrant which was constantly used as a water source.

The samples were analyzed for volatiles using EPA Method 8260B, semivolatiles using EPA Method 9270C, polychlorinated biphenyls using EPA Method 8082A, total metals using EPA Method 6010B, and mercury using EPA Method 7471A. All samples were analyzed by the EPA Region 9 Laboratory in Richmond, California.

Comparison of the baseline and verification sample results indicate no contaminants were introduced to the Staging Area as a result of removal activities. Sampling results are summarized in Table 4. The data validation reports and laboratory data packages are provided in Appendix D.

4. DATA VALIDATION

Laboratory data collected during the Bercovich Smelter Removal Action underwent a Tier 2 (Stage 2A) review by a WESTON chemist. The data validation package included documentation and quality control data provided by the laboratory, including custody records, shipping information, sample preparation/extraction records, and instrument calibration and method blank data.

The data validation was conducted in general accordance with the EPA *Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (EPA, 2017a) and *Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (EPA, 2017b), using quality control limits specific to the methods being used for the sample analyses. Laboratory validation reports for all samples collected during this removal action are presented in Appendix D.

5. DEMOBILIZATION

On May 14, 2018, EPA, START, and ERRS personnel demobilized from the Site, along with all equipment and temporary facilities. After the office trailer and equipment had been demobilized, START collected samples from the Staging Area as described in Section 3.4.

6. SUMMARY

The objective of the removal action was to reduce the potential threat to human health from exposure to elevated lead concentrations in surface and subsurface soils at the Site. In total, 11 properties were addressed during this removal action. A total of 665 tons of contaminated soil

was excavated from yards and disposed of at the Buttonwillow Landfill. The excavations were backfilled to original grade, compacted, and finished with various ground covers. Backfill materials were tested prior to use.

To document the concentration of lead at the bottom of each excavation, composite soil samples were collected and analyzed for lead using the XRF. Lead at all 11 properties exceeded the EPA RSL of 400 mg/kg. A visual barrier of orange snow fence was placed at the bottom of each excavation. Samples collected from the Staging Area indicated that contaminates were not introduced to the Staging Area from the removal action activities.

7. REFERENCES

Department of Toxic Substances Control (DTSC). *2003. Preliminary Assessment, A. Bercovich – 1639 18th Street, Oakland, California*. April.

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EPA. 2017b. *National Functional Guidelines for Inorganic Superfund Methods Data Review (ISM02.4).* EPA-540-R-2017-001. January.

Weston Solutions, Inc. (WESTON). 2017. *Sampling and Analysis Plan, Bercovich Lead Smelter Site, Oakland, Alameda County, California*. June.

WESTON. 2018. *Bercovich Lead Smelter Removal Assessment, Removal Assessment Sampling Report, Oakland, Alameda County, California*. March.

APPENDIX A
FIGURES

Contract: EP-S5-13-02; **TDD:** 0002/1302-T2-R9-17-08-0002

DCN: 0163-08-ABOR

0 Feet 50

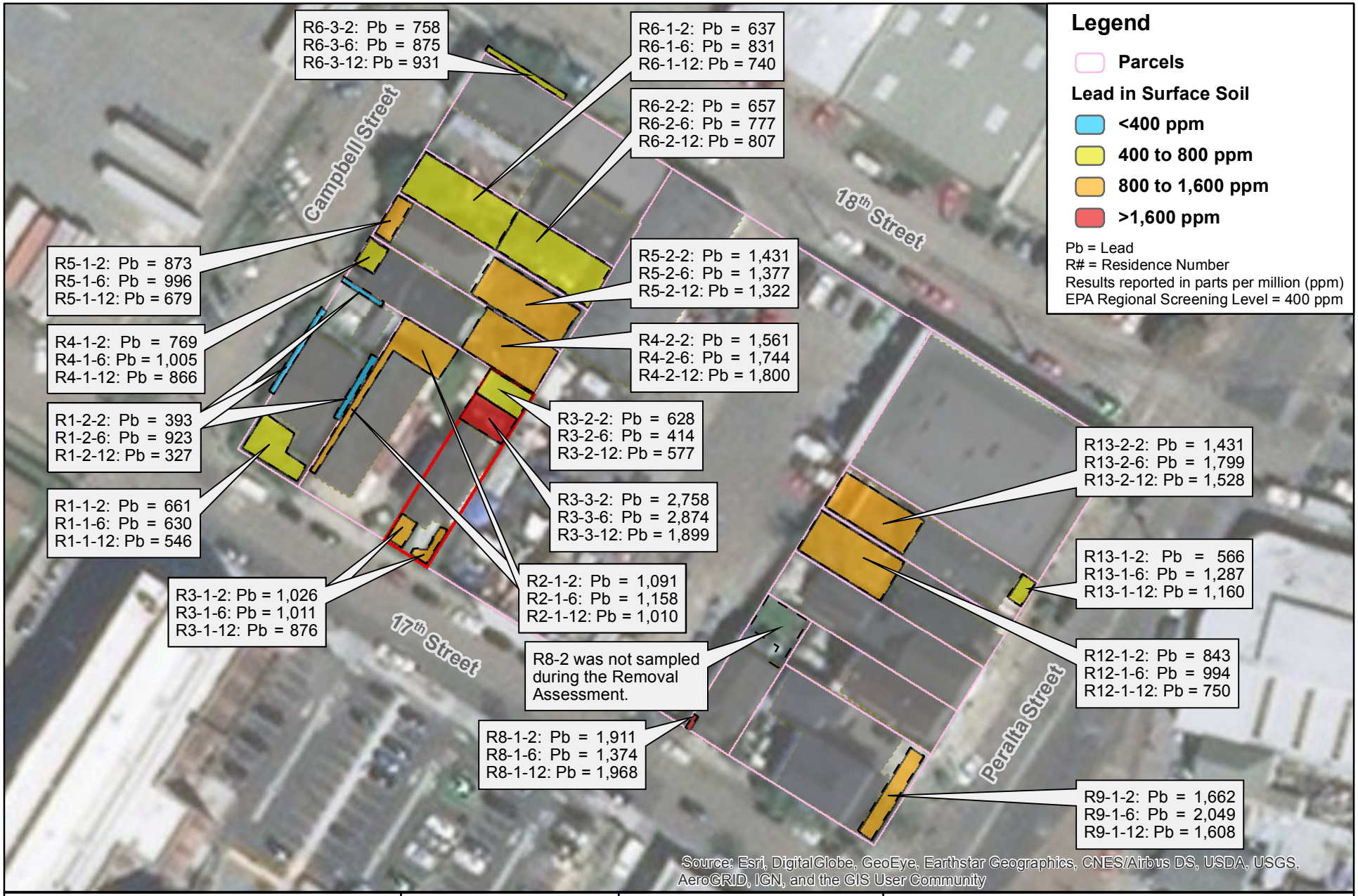
PREPARED BY:
Weston Solutions, Inc.
2300 Clayton Rd, Ste 900
Concord, CA 94520

PREPARED FOR:
EPA Region 9
Pacific Southwest

FIGURE 2
SITE LAYOUT AND SAMPLED PARCELS
Bercovich Lead Smelter
Oakland, Alameda County, CA

Contract: EP-S5-13-02; **TDD:** 0002/1302-T2-R9-17-08-0002

DCN: 0163-08-ABOR



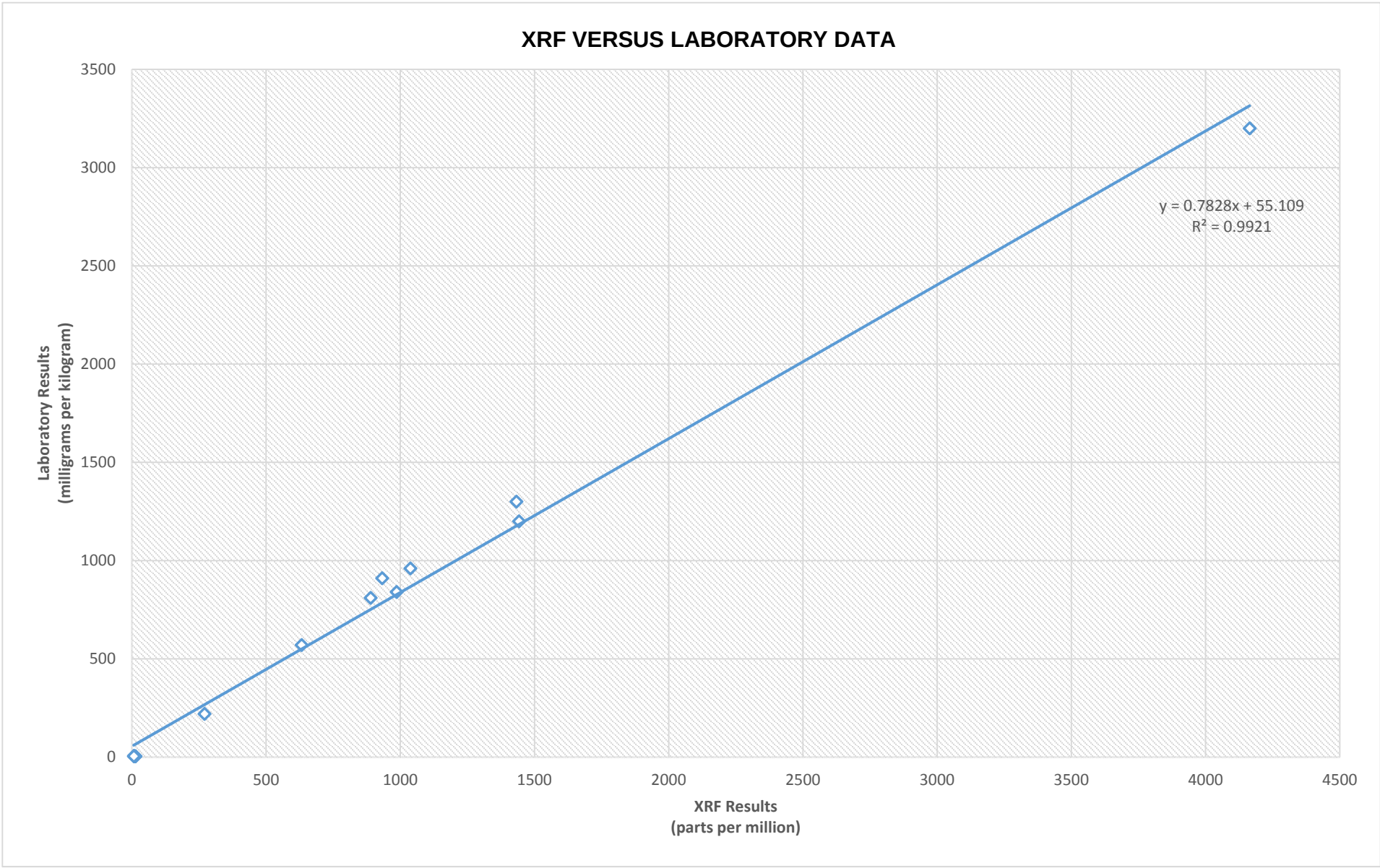
PREPARED BY:
Weston Solutions, Inc.
2300 Clayton Rd, Ste 900
Concord, CA 94520

PREPARED FOR:
EPA Region 9
Pacific Southwest

FIGURE 3
2017 REMOVAL ASSESSMENT SAMPLE RESULTS
Bercovich Lead Smelter
Oakland, Alameda County, CA

Contract: EP-S5-13-02; **TDD:** 0002/1302-T2-R9-17-08-0002

DCN: 0163-08-ABOR



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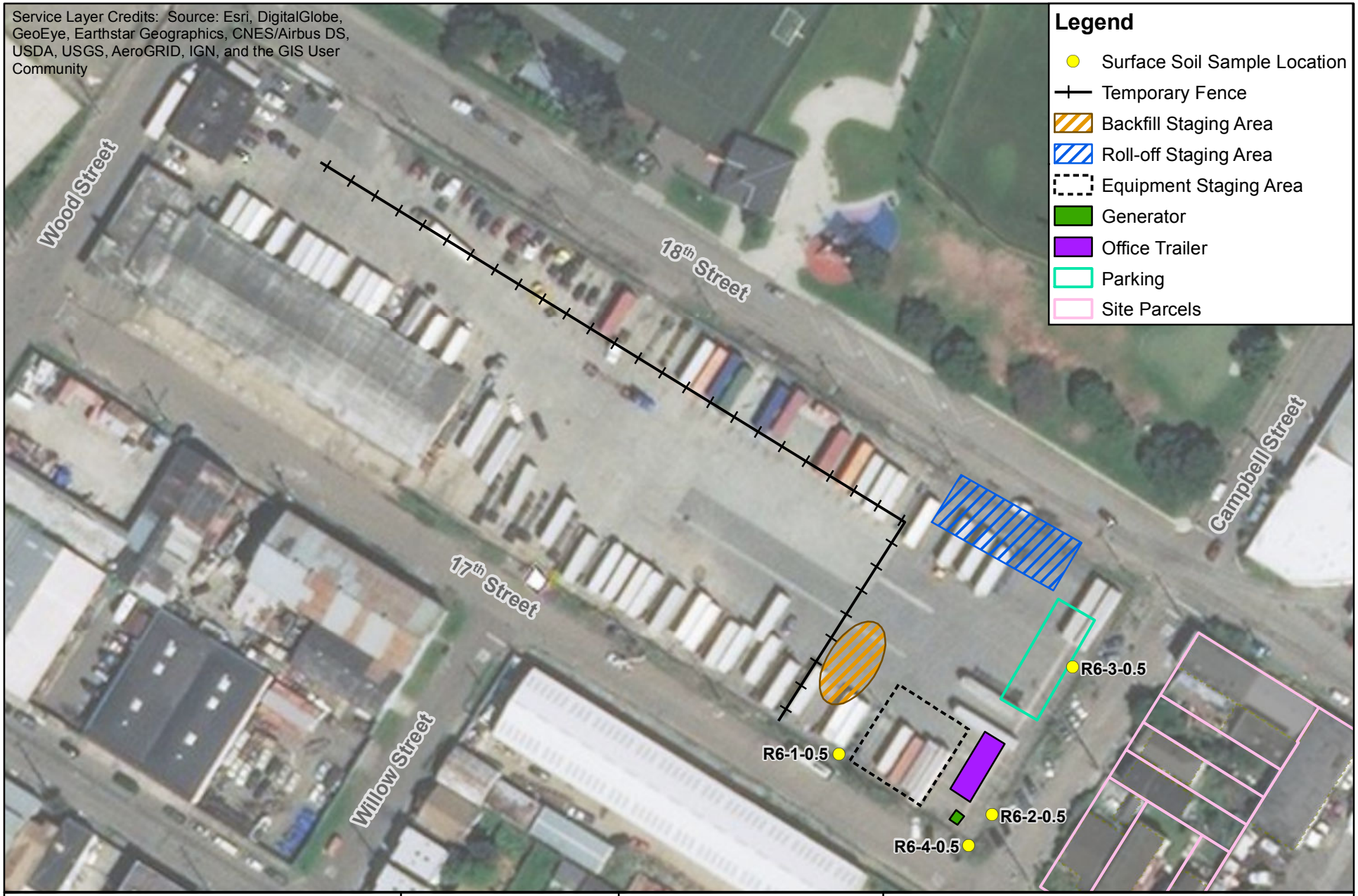
Weston Solutions, Inc.
2300 Clayton Rd, Ste 900
Concord, CA 94520

PREPARED FOR:
EPA Region 9
Pacific
Southwest

FIGURE 4
TOTAL LEAD LINEAR REGRESSION ANALYSIS
Bercovich Lead Smelter
Oakland, Alameda County, CA

Contract: EP-S5-13-02; **TDD:** 0002/1302-T2-R9-17-08-0002 **DCN:** 0163-08-ABOR



PREPARED BY:
Weston Solutions, Inc.
2300 Clayton Rd, Ste 900
Concord, CA 94520

PREPARED FOR:
EPA Region 9
Pacific
Southwest

FIGURE 5
STAGING AREA LAYOUT
Bercovich Lead Smelter
Oakland, Alameda County, CA

Contract: EP-S5-13-02; **TDD:** 0002/1302-T2-R9-17-08-0002

DCN: 0163-08-ABOR

APPENDIX B
TABLES

Table 1
Summary of RCRA 8 Metals Results for Top Soils and Backfill Soils
Bercovich Lead Smelter Removal Action
Oakland, Alameda County, California

Analyte (mg/kg)	EPA Residential RSL (mg/kg)	Topsoil-1 4/20/2018 16:05		Backfill-1 4/23/2018 14:37		Backfill-3 4/26/2018 11:02		Topsoil-3 4/30/2018 16:34		Backfill-6 5/10/2018 14:34	
Metals by EPA 6010C and 7473											
Arsenic	100	**4.9**		**4.5**		**4.7**		**4.4**		**5**	
Barium	1,500	**170**		**160**		**180**		**170**		**250**	
Cadmium	7	0.5	U	0.5	U	0.5	U	0.5	U	ND	U
Chromium	12,000	**39**		**28**		**32**		**40**		**30**	
Lead	400	**3.9**		**4.5**		**5.8**		**4.1**		**4.7**	
Mercury	23	0.029	UJ	**0.56**	**J**	**0.13**	**J**	0.03	UJ	**0.12**	**J**
Selenium	39	2	U	2	U	2	U	2	U	ND	U
Silver	39	1	U	1	U	1	U	1	U	ND	U

Analyte (ppm)	EPA Residential RSL (mg/kg)	Topsoil-1 4/20/2018 16:05		Backfill-1 4/23/2018 14:37		Backfill-3 4/26/2018 11:02		Topsoil-3 4/30/2018 16:34		Backfill-6 5/10/2018 14:34	
Metals by [1]XRF											
Arsenic	100	**7.6**	**±0.8**	**7.8**	**±0.7**	**6.4**	**±0.7**	**6.7**	**±0.8**	**5.2**	**±0.6**
Barium	1,500	**884**	**±51**	**457**	**±40**	**544**	**±41**	**948**	**±52**	**573**	**±41**
Cadmium	7	ND		ND		ND		ND		ND	
Chromium	12,000	**102**	**±7**	**120**	**±6**	**92**	**±6**	**90**	**±7**	**91**	**±6**
Lead	400	**12.3**	**±0.8**	**7.5**	**±0.6**	**7.9**	**±0.6**	**13**	**±0.8**	**7**	**±0.6**
Mercury	23	**4.5**	**±0.7**	**2.7**	**±0.6**	**2.5**	**±0.6**	**4.4**	**±0.7**	**2.5**	**±0.6**
Selenium	39	ND		ND		ND		ND		ND	
Silver	39	ND		ND		ND		ND		ND	

Analyte (ppm)	EPA Residential RSL (mg/kg)	Backfill-2 4/24/2018 16:01		Topsoil-2 4/26/2018 12:41		Backfill-4 4/30/2018 16:57		Topsoil-4 5/8/2018 15:44		Backfill-5 5/8/2018 15:46	
Metals by [1]XRF											
Arsenic	100	**6.6**	**±0.7**	**7.3**	**±0.8**	**4.6**	**±0.6**	**7.4**	**±0.8**	**6.1**	**±0.7**
Barium	1,500	**488**	**±41**	**832**	**±51**	**494**	**±40**	**887**	**±51**	**560**	**±41**
Cadmium	7	ND		ND		ND		ND		ND	
Chromium	12,000	**107**	**±6**	**119**	**±7**	**84**	**±6**	**112**	**±7**	**81**	**±6**
Lead	400	**7**	**±0.6**	**11.9**	**±0.8**	**7.6**	**±0.6**	**13**	**±0.8**	**7.3**	**±0.6**
Mercury	23	**2**	**±0.6**	**5.9**	**±0.7**	**2.2**	**±0.6**	**5.1**	**±0.7**	**2.4**	**±0.6**
Selenium	39	ND		ND		ND		ND		ND	
Silver	39	ND		ND		ND		ND		ND	

Analyte (ppm)	EPA Residential RSL (mg/kg)	Topsoil-5 5/10/2018 14:23		Topsoil-5 dup 5/10/2018 15:30	
Metals by [1]XRF					
Arsenic	100	**8**	**±0.8**	**7**	**±0.8**
Barium	1,500	**827**	**±51**	**829**	**±51**
Cadmium	7	ND		ND	
Chromium	12,000	**78**	**±7**	**84**	**±7**
Lead	400	**12.1**	**±0.7**	**12.6**	**±0.8**
Mercury	23	**5**	**±0.7**	**4.4**	**±0.7**
Selenium	39	ND		ND	
Silver	39	ND		**8**	**±3**

Notes:

1 = Analysis by Innov-X XRF in soil mode with 90-second run time
EPA = U.S. Environmental Protection Agency
EPA Site Lead in residential soil is 400 mg/kg
Bold = Detected Result
dup = Field Duplicate
J = result is estimated
mg/kg = milligrams per kilogram
ND = analyte not detected
ppm = parts per million
RCRA = Resource Conservation & Recovery Act
U = analyte not detected, reporting limit shown
XRF = X-ray fluorescence

Table 2
Summary of Lead Results in Residence Soils
Bercovich Lead Smelter Removal Action
Oakland, Alameda County, California

Sample Number	Sample Location	Decision Unit	Sample Depth (inches)	[1]XRF Lead (ppm)	Lab Lead (mg/kg)
EPA Site-Specific Screening Level in mg/kg (equivalent to ppm)				**400**	
R1-1-1	Residence 1	1	12	270.0	220
R1-2-1		2	12	394	---
R1-3-1		3	12	**601**	---
R1-4-1		4	12	**895**	---
R1-5-1		5	12	302	---
R2-1-1	Residence 2	1	12	320	---
R2-2-1		2	12	180.9	---
R3-1-1	Residence 3	1	12	341	---
R3-2-1		2	12	**503**	---
R3-3-1		3	12	**1,152**	---
R3-4-1		4	12	**1,742**	---
R4-1-1	Residence 4	1	12	**986**	---
R4-2-1		2	12	**1,439**	---
R4-3-1		3	12	**1,128**	---
R5-1-1	Residence 5	1	12	**986**	**840**
R5-2-1		2	12	**1,171**	---
R6-1-1	Residence 6	1	12	**564**	---
R6-2-1		2	12	**632**	**570**
R6-3-1		3	12	**1,442**	**1,200**
R6-3-1 dup		3	12	**1,432**	**1,300**
R6-4-1		4	12	385	---
R6-5-1		5	12	**515**	---
R6-6-1		6	12	**798**	---
R6-Garden		---	0 - 3	249.5	---
R8-1-1	Residence 8	1	12	**1,720**	---
R8-2-1		2	12	**2,351**	---
R8-2-2		2	0 - 2	**3,143**	---
R8-2-6		2	2 - 6	**4,164**	**3,200**
R8-2-12		2	6 - 12	**3,482**	---
R9-1-1	Residence 9	1	12	**932**	**910**
R9-1-1 dup		1	12	**1,037**	**960**
R12-1-1	Residence 12	1	12	**889**	**810**
R13-3-1	Residence 13	3	12	**1,438**	---

Notes:
1 = Analysis by Innov-X XRF in soil mode with 90-second run time
Lead analysis by EPA Method 6010C
EPA Site-specific screening level for lead is 400 mg/kg
Bold = Result exceeds screening level
dup = Field Duplicate
mg/kg = milligrams per kilogram
ppm = parts per million
XRF = X-ray fluorescence

Table 3
Removal Properties Information
Bercovich Lead Smelter Removal Action
Oakland, Alameda County, California

Residence Number	Start Date	Completion Date	Estimated Soil Removed (tons)
Residence 1	4/25/2018	5/12/2018	80
Residence 2 and 3	4/30/2018	5/12/2018	130
Residence 4	4/20/2018	5/10/2018	90
Residence 5	4/21/2018	5/11/2018	60
Residence 6 and 7	4/19/2018	5/13/2018	170
Residence 8	5/5/2018	5/11/2018	55
Residence 9	5/10/2018	5/11/2018	10
Residence 12	5/7/2018	5/12/2018	30
Residence 13	5/5/2018	5/9/2018	40

Table 4
Summary of Staging Area Analytical Results
Bercovich Lead Smelter Removal Action
Oakland, Alameda County, California

Analyte	R0-1-0.5 4/18/2018 9:05	R0-1-0.5 5/14/2018 16:05	R0-2-0.5 4/18/2018 9:15	R0-2-0.5 5/14/2018 16:10	R0-3-0.5 4/18/2018 9:30	R0-3-0.5 5/14/2018 16:15	R0-4-0.5 4/18/2018 10:30	R0-4-0.5 5/14/2018 16:20
Metals (mg/kg)								
Arsenic	**17**	**20**	**11**	**9.1**	**15**	**14**	**11**	**12**
Barium	**250**	**310**	**250**	**220**	**220**	**250**	**160**	**150**
Cadmium	**1.9**	**3.9**	**2.5**	**2**	**3.2**	**3.2**	**1.4**	**1.5**
Chromium	**76**	**59**	**55**	**46**	**58**	**48**	**56**	**55 J**
Lead	**220**	**180**	**250**	**150**	**340**	**410**	**660**	**610 J**
Mercury	**0.39**	**0.58 J**	**0.19**	**0.22 J**	**0.4**	**0.5 J**	**0.22**	**0.25 J**
Selenium	3 U	2.9 U	2.2 U	2 U	2.9 U	2 U	2.2 U	2 U
Silver	1.5 U	1.4 U	1.1 U	1 U	1.4 U	1 U	1.1 U	1 U
TPH (mg/kg)								
TPH - Diesel Range Organics	**490 F13**	**500 J, F13**	**160 F13**	**200 J, F13**	**98 F13**	**320 J, F13**	**110 F13**	**92 J, F13**
TPH - Gasoline Range Organics	**9.7 F13**	14 U	9.9 U	8.3 U	6.8 U	7.3 U	5.2 U	6 U
TPH - Oil Range Organics	**3,900 F5**	**3,900 J, F13**	**1,900 F5**	**1,500 J, F13**	**860 F5**	**2,900 J, F13**	**1,100 F5**	**820 J, F13**
PCBs (µg/kg)								
Aroclor 1016	19 U	19 U	15 U	13 U	19 U	13 U	14 U	13 U
Aroclor 1221	40 U	39 U	30 U	27 U	39 U	27 U	30 U	27 U
Aroclor 1232	19 U	19 U	15 U	13 U	19 U	13 U	14 U	13 U
Aroclor 1242	19 U	19 U	15 U	13 U	19 U	13 U	14 U	13 U
Aroclor 1248	19 U	19 U	15 U	13 U	19 U	13 U	14 U	13 U
Aroclor 1254	19 U	19 U	15 U	13 U	19 U	13 U	14 U	13 U
Aroclor 1260	**18 J**	**33 J**	**19**	**15 J**	**15 J**	**18 J**	**24**	**23 J**
Aroclor 1262	19 U	19 U	15 U	13 U	19 U	13 U	14 U	13 U
Aroclor 1268	19 U	19 U	15 U	13 U	19 U	13 U	14 U	13 U
VOCs (µg/kg)								
1,1,1-Trichloroethane	4.7 U	5 U	2.8 UJ	4.2 U	4 U	3.6 U	2.9 U	3.3 U
1,1,2,2-Tetrachloroethane	4.7 UJ	5 UJ	2.8 UJ	4.2 UJ	4 UJ	3.6 U	2.9 U	3.3 U
1,1,2-Trichloro-1,2,2-trifluoroethane	4.7 U	5 U	2.8 UJ	4.2 U	4 U	3.6 U	2.9 U	3.3 U
1,1,2-Trichloroethane	4.7 UJ	5 UJ	2.8 UJ	4.2 UJ	4 UJ	3.6 U	2.9 U	3.3 U
1,1-Dichloroethane	4.7 U	5 U	2.8 U	4.2 U	4 U	3.6 U	2.9 U	3.3 U
1,1-Dichloroethene	4.7 U	5 U	2.8 UJ	4.2 U	4 U	3.6 U	2.9 U	3.3 U
1,1-Dichloropropene	4.7 U	5 U	2.8 UJ	4.2 U	4 U	3.6 U	2.9 U	3.3 U
1,2,3-Trichloropropane	4.7 UJ	5 UJ	2.8 UJ	4.2 UJ	4 UJ	3.6 U	2.9 U	3.3 U
1,2-Dibromo-3-chloropropane	19 UJ	20 UJ	11 UJ	17 UJ	16 UJ	14 U	12 UJ	13 U
1,2-Dibromoethane (EDB)	4.7 UJ	5 UJ	2.8 UJ	4.2 UJ	4 UJ	3.6 U	2.9 U	3.3 U
1,2-Dichlorobenzene	4.7 UJ	5 UJ	2.8 UJ	4.2 UJ	4 UJ	3.6 U	2.9 UJ	3.3 U
1,2-Dichloroethane	4.7 U	5 U	2.8 U	4.2 U	4 U	3.6 U	2.9 U	3.3 U

Table 4
Summary of Staging Area Analytical Results
Bercovich Lead Smelter Removal Action
Oakland, Alameda County, California

Analyte	R0-1-0.5 4/18/2018 9:05	R0-1-0.5 5/14/2018 16:05	R0-2-0.5 4/18/2018 9:15	R0-2-0.5 5/14/2018 16:10	R0-3-0.5 4/18/2018 9:30	R0-3-0.5 5/14/2018 16:15	R0-4-0.5 4/18/2018 10:30	R0-4-0.5 5/14/2018 16:20
VOCs (µg/kg), continued								
1,2-Dichloropropane	4.7 U	5 U	2.8 UJ	4.2 U	4 U	3.6 U	2.9 U	3.3 U
1,3-Dichlorobenzene	4.7 UJ	5 UJ	2.8 UJ	4.2 UJ	4 UJ	3.6 U	2.9 UJ	3.3 U
1,3-Dichloropropane	4.7 UJ	5 UJ	2.8 UJ	4.2 UJ	4 UJ	3.6 U	2.9 U	3.3 U
1,4-Dichlorobenzene	4.7 UJ	5 UJ	2.8 UJ	4.2 UJ	4 UJ	3.6 U	2.9 UJ	3.3 U
2-Butanone (MEK)	37 U	40 U	22 UJ	**34 J**	**67**	29 U	23 U	27 U
2-Hexanone	37 UJ	40 UJ	22 UJ	34 UJ	32 UJ	29 U	23 U	27 U
4-Methyl-2-pentanone (MIBK)	37 UJ	40 U	22 UJ	34 UJ	32 UJ	29 U	23 U	27 U
Acetone	**30 J**	40 U	**11 J**	**34 J**	**900**	**29 J**	23 U	**54 J**
Benzene	4.7 U	5 U	2.8 U	4.2 U	4 U	3.6 U	2.9 U	3.3 U
Bromodichloromethane	4.7 UJ	5 U	2.8 UJ	4.2 U	4 UJ	3.6 U	2.9 UJ	3.3 U
Bromoform	4.7 UJ	5 UJ	2.8 UJ	4.2 UJ	4 UJ	3.6 U	2.9 U	3.3 U
Bromomethane	4.7 UJ	5 U	2.8 UJ	4.2 U	4 UJ	3.6 U	2.9 UJ	3.3 U
Carbon disulfide	4.7 UJ	5 U	2.8 UJ	4.2 U	4 UJ	3.6 U	2.9 UJ	3.3 U
Carbon tetrachloride	4.7 U	5 U	2.8 UJ	4.2 U	4 U	3.6 U	2.9 U	3.3 U
Chlorobenzene	4.7 UJ	5 UJ	2.8 UJ	4.2 UJ	4 UJ	3.6 U	2.9 UJ	3.3 U
Chlorodibromomethane	4.7 UJ	5 UJ	2.8 UJ	4.2 UJ	4 UJ	3.6 U	2.9 UJ	3.3 U
Chloroethane	4.7 U	5 U	2.8 U	4.2 U	4 U	3.6 U	2.9 U	3.3 U
Chloroform	4.7 U	5 U	2.8 U	4.2 U	4 U	3.6 U	2.9 U	3.3 U
Chloromethane	4.7 U	5 U	2.8 U	4.2 U	4 U	3.6 U	2.9 U	3.3 U
cis-1,2-Dichloroethene	4.7 U	5 U	2.8 UJ	4.2 U	4 U	3.6 U	2.9 U	3.3 U
cis-1,3-Dichloropropene	4.7 UJ	5 U	2.8 UJ	4.2 U	4 UJ	3.6 U	2.9 UJ	3.3 U
Dichlorodifluoromethane	4.7 U	5 UJ	2.8 UJ	4.2 UJ	4 U	3.6 UJ	2.9 U	3.3 UJ
Dichloromethane	4.7 U	5 U	2.8 U	4.2 U	4 U	3.6 U	2.9 U	3.3 U
Ethylbenzene	4.7 UJ	5 U	2.8 UJ	4.2 UJ	4 UJ	3.6 U	2.9 U	3.3 U
m&p-Xylene	**5.4 J**	10 U	5.6 UJ	8.4 UJ	**4.3 J**	7.2 U	**4.6 J**	6.7 U
o-Xylene	4.7 UJ	5 U	2.8 UJ	4.2 UJ	4 UJ	3.6 U	2.9 U	3.3 U
Styrene	4.7 UJ	5 U	2.8 UJ	4.2 UJ	4 UJ	3.6 U	2.9 U	3.3 U
tert-Butyl methyl ether (MTBE)	19 U	20 U	11 U	17 U	16 U	14 U	12 U	13 U
Tetrachloroethene	4.7 UJ	5 UJ	2.8 UJ	4.2 UJ	4 UJ	3.6 U	2.9 U	3.3 U
Toluene	4.7 UJ	5 UJ	2.8 UJ	4.2 UJ	4 UJ	3.6 U	2.9 U	3.3 U
trans-1,2-Dichloroethene	4.7 U	5 U	2.8 UJ	4.2 U	4 U	3.6 U	2.9 U	3.3 U
trans-1,3-Dichloropropene	4.7 UJ	5 U	2.8 UJ	4.2 U	4 UJ	3.6 U	2.9 UJ	3.3 U
Trichloroethene	4.7 U	5 U	2.8 UJ	4.2 U	4 U	3.6 U	2.9 U	3.3 U
Trichlorofluoromethane	4.7 U	5 U	2.8 UJ	4.2 U	4 U	3.6 U	2.9 U	3.3 U
Vinyl chloride	4.7 U	5 U	2.8 U	4.2 U	4 U	3.6 U	2.9 U	3.3 U

Table 4
Summary of Staging Area Analytical Results
Bercovich Lead Smelter Removal Action
Oakland, Alameda County, California

Analyte	R0-1-0.5 4/18/2018 9:05	R0-1-0.5 5/14/2018 16:05	R0-2-0.5 4/18/2018 9:15	R0-2-0.5 5/14/2018 16:10	R0-3-0.5 4/18/2018 9:30	R0-3-0.5 5/14/2018 16:15	R0-4-0.5 4/18/2018 10:30	R0-4-0.5 5/14/2018 16:20
SVOCs (µg/kg)								
1,2,4-Trichlorobenzene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
1,2-Dichlorobenzene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
1,3-Dichlorobenzene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
1,4-Dichlorobenzene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
2,4,5-Trichlorophenol	2,500 U	7,900 U	1,900 U	5,200 U	2,500 U	5,200 U	1,900 U	5,200 U
2,4,6-Trichlorophenol	2,500 U	7,900 U	1,900 U	5,200 U	2,500 U	5,200 U	1,900 U	5,200 U
2,4-Dichlorophenol	2,500 U	7,900 U	1,900 U	5,200 U	2,500 U	5,200 U	1,900 U	5,200 U
2,4-Dimethylphenol	2,500 UJ	7,900 U	1,900 UJ	5,200 U	2,500 UJ	5,200 U	1,900 UJ	5,200 U
2,4-Dinitrophenol	10,000 UJ	31,000 UJ	7,600 UJ	21,000 UJ	9,700 UJ	20,000 UJ	7,500 UJ	20,000 UJ
2,4-Dinitrotoluene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
2,6-Dinitrotoluene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
2-Chloronaphthalene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
2-Chlorophenol	2,500 U	7,900 U	1,900 U	5,200 U	2,500 U	5,200 U	1,900 U	5,200 U
2-Methylnaphthalene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	**210 J**	1,000 U
2-Methylphenol	2,500 U	7,900 U	1,900 U	5,200 U	2,500 U	5,200 U	1,900 U	5,200 U
2-Nitroaniline	2,500 U	7,900 U	1,900 U	5,200 U	2,500 U	5,200 U	1,900 U	5,200 U
2-Nitrophenol	2,500 U	7,900 U	1,900 U	5,200 U	2,500 U	5,200 U	1,900 U	5,200 U
3&4-Methylphenol	2,500 U	7,900 U	1,900 U	5,200 U	2,500 U	5,200 U	1,900 U	5,200 U
3,3'-Dichlorobenzidine	490 UJ	7,900 U	370 UJ	5,200 U	480 UJ	5,200 U	370 UJ	5,200 UJ
3-Nitroaniline	2,500 U	7,900 U	1,900 U	5,200 U	2,500 U	5,200 U	1,900 U	5,200 UJ
4,6-Dinitro-2-methylphenol	2,500 UJ	7,900 U	1,900 UJ	5,200 U	2,500 UJ	5,200 U	1,900 UJ	5,200 UJ
4-Bromophenyl phenyl ether	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
4-Chloro-3-methylphenol	2,500 U	7,900 U	1,900 U	5,200 U	2,500 U	5,200 U	1,900 U	5,200 U
4-Chloroaniline	2,500 U	7,900 U	1,900 U	5,200 U	2,500 U	5,200 U	1,900 U	5,200 UJ
4-Chlorophenyl phenyl ether	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
4-Nitroaniline	2,500 UJ	7,900 UJ	1,900 UJ	5,200 UJ	2,500 UJ	5,200 UJ	1,900 UJ	5,200 UJ
4-Nitrophenol	2,500 U	7,900 U	1,900 U	5,200 U	2,500 U	5,200 U	1,900 U	5,200 U
Acenaphthene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
Acenaphthylene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	**190 J**	1,000 U
Anthracene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
Benzo(a)anthracene	490 U	1,500 U	**260 J**	1,000 U	**460 J**	**850 J**	**500**	**600 J**
Benzo(a)pyrene	490 U	1,500 U	**310 J**	1,000 U	**570**	**900 J**	**660**	**550 J**
Benzo(b)fluoranthene	**600**	**1,200 J**	**940**	**1,600 J**	**1,700**	**1,300 J**	**1,400**	**1,400 J**
Benzo(g,h,i)perylene	**340 J**	**860 J**	**420**	1,000 U	**500**	**700 J**	**350 J**	**880 J**
Benzo(k)fluoranthene	**250 J**	1,500 U	**240 J**	1,000 U	**450 J**	1,000 U	**360 J**	1,000 UJ

Table 4
Summary of Staging Area Analytical Results
Bercovich Lead Smelter Removal Action
Oakland, Alameda County, California

Analyte	R0-1-0.5 4/18/2018 9:05	R0-1-0.5 5/14/2018 16:05	R0-2-0.5 4/18/2018 9:15	R0-2-0.5 5/14/2018 16:10	R0-3-0.5 4/18/2018 9:30	R0-3-0.5 5/14/2018 16:15	R0-4-0.5 4/18/2018 10:30	R0-4-0.5 5/14/2018 16:20
SVOCs (µg/kg), continued								
Benzyl alcohol	2,500 U	7,900 U	1,900 U	5,200 U	2,500 U	5,200 U	1,900 U	5,200 U
Bis(2-chloro-1-methylethyl) ether	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
Bis(2-chloroethoxy)methane	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
Bis(2-chloroethyl)ether	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
Bis(2-ethylhexyl) phthalate	**8,000**	**3,900 J**	**1,800**	**7,700 J**	**2,700**	1,000 U	**660**	**4,400 J**
Butyl benzyl phthalate	**570**	1,500 U	**2,600**	**760 J**	**540**	1,000 U	370 U	**18,000 J**
Carbazole	490 UJ	1,500 U	370 UJ	1,000 U	480 UJ	1,000 U	370 UJ	1,000 UJ
Chrysene	**680**	**1,400 J**	**800**	**990 J**	**1,200**	**1,100 J**	**760**	**1,400 J**
Dibenz(a,h)anthracene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 UJ
Dibenzofuran	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
Diethyl phthalate	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
Dimethyl phthalate	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
Di-n-butyl phthalate	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	**580 J**
Di-n-octyl phthalate	490 UJ	1,500 UJ	370 UJ	1,000 UJ	480 UJ	1,000 UJ	370 UJ	1,000 UJ
Diphenyl amine	490 UJ	1,500 U	370 UJ	1,000 U	480 UJ	1,000 U	370 UJ	1,000 U
Fluoranthene	**360 J**	**1,000 J**	**570**	**620 J**	**760**	**1,000 J**	**680**	**1,300 J**
Fluorene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
Hexachlorobenzene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
Hexachlorobutadiene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
Hexachlorocyclopentadiene	2,500 U	7,900 U	1,900 U	5,200 U	2,500 U	5,200 U	1,900 U	5,200 UJ
Hexachloroethane	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
Indeno(1,2,3-cd)pyrene	490 U	1,500 U	**200 J**	1,000 U	**310 J**	**520 J**	**310 J**	1,000 UJ
Isophorone	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
Naphthalene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	**550**	1,000 U
Nitrobenzene	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
N-Nitrosodipropylamine	490 U	1,500 U	370 U	1,000 U	480 U	1,000 U	370 U	1,000 U
Pentachlorophenol	10,000 UJ	31,000 UJ	7,600 UJ	21,000 UJ	9,700 UJ	20,000 UJ	7,500 UJ	20,000 UJ
Phenanthrene	**290 J**	1,500 U	**380**	1,000 U	**730**	**880 J**	**530**	**570 J**
Phenol	2,500 U	7,900 U	1,900 U	5,200 U	2,500 U	5,200 U	1,900 U	5,200 U
Pyrene	**540**	**1,400 J**	**730**	**610 J**	**1,300**	**1,600 J**	**1,300**	**1,600 J**

Notes:

Bold = Detected Result

F13 = Fuel or Product Type: mixed or unknown

F5 = Product Type: Motor Oil

J = The reported result for this analyte should be considered an estimated value

mg/kg = milligrams per kilogram

PCBs = Polychlorinated biphenyls

SVOC = semivolatile organic compounds

TPH = Total pertroleum hydrocarbons

U = This analyte was not detected, reporting limit shown

µg/kg = micrograms per kilogram

VOC = volatile organic compounds

APPENDIX C
PHOTOGRAPHIC DOCUMENTATION

PHOTOGRAPH LOG

Project Name:	Site Location:	TDD No.:
Bercovich Lead Smelter Removal Action	Oakland, Alameda County, California	0002/1302-T2-R9-17-08-0002

Photo No. 1	Date: 4/18/2018

Direction Photo Taken:

South

Description:

Overgrown residential yard prior to clearing

Photo No. 2	Date: 4/18/2018

Direction Photo Taken:

East

Description:

Overgrown residential yard prior to clearing

PHOTOGRAPH LOG

Project Name:	Site Location:	TDD No.:
Bercovich Lead Smelter Removal Action	Oakland, Alameda County, California	0002/1302-T2-R9-17-08-0002

Photo No. 3	Date: 4/23/2018

Direction Photo Taken:

South

Description:

ERRS crew using hand tools to excavate against building with USCG assistance and oversight

Photo No. 4	Date: 5/8/2018

Direction Photo Taken:

Southeast

Description:

ERRS crew using excavator in residential yard

PHOTOGRAPH LOG

Project Name:	Site Location:	TDD No.:
Bercovich Lead Smelter Removal Action	Oakland, Alameda County, California	0002/1302-T2-R9-17-08-0002

Photo No. 5	Date: 5/3/2018

Direction Photo Taken:

Northeast

Description:

ERRS crew using mini-excavator in a front yard with an air monitoring/sampling station nearby

Photo No. 6	Date: 5/10/2018

Direction Photo Taken:

Southeast

Description:

Orange snow fence placed at bottom of excavation

PHOTOGRAPH LOG

Project Name:	Site Location:	TDD No.:
Bercovich Lead Smelter Removal Action	Oakland, Alameda County, California	0002/1302-T2-R9-17-08-0002

Photo No. 7	Date: 5/9/2018

Direction Photo Taken:

Southeast

Description:

Excavator accesses backyard through fence

Photo No. 8	Date: 5/1/2018

Direction Photo Taken:

Northwest

Description:

Nonfunctional car donated by resident and picked up by Kars4Kids

PHOTOGRAPH LOG

Project Name:	Site Location:	TDD No.:
Bercovich Lead Smelter Removal Action	Oakland, Alameda County, California	0002/1302-T2-R9-17-08-0002

Photo No. 9	Date: 5/13/2018

Direction Photo Taken:

Southeast

Description:

Yard completed with pea gravel and playground mulch cover

Photo No. 10	Date: 5/9/2018

Direction Photo Taken:

North

Description:

ERRS watering a yard completed with sod

PHOTOGRAPH LOG

Project Name:	Site Location:	TDD No.:
Bercovich Lead Smelter Removal Action	Oakland, Alameda County, California	0002/1302-T2-R9-17-08-0002

Photo No. 11	Date: 5/3/2018

Direction Photo Taken:

Southeast

Description:

Overview of staging area

Photo No. 12	Date: 4/26/2018

Direction Photo Taken:

Northeast

Description:

Topsoil being delivered to staging area

APPENDIX D
DATA VALIDATION REPORTS AND LABORATORY ANALYTICAL REPORTS

BERCOVICH LEAD SMELTER SITE REMOVAL ACTION
DATA VALIDATION REPORT

Date: July 9, 2018
Laboratory: Environmental Protection Agency (EPA) Region 9 Laboratory, Richmond, CA
Laboratory Job Number: 1804031
Data Validation Performed By: Kelly Luck, Weston Solutions, Inc. (WESTON) Superfund Technical Assessment and Response Team (START)
Weston Work Order #: 20409.012.002.0163.00

This data validation report has been prepared by WESTON START under the START IV U.S. EPA Region 9 contract. This report documents the data validation for 4 soil samples collected for the Bercovich Lead Smelter Site Removal Action that were analyzed for the following parameters and EPA methods:

- Volatile Organic Compounds (VOCs) by SW-846 Method 8260C
- Semivolatile Organic Compounds (SVOCs) by SW-846 Method 8270D
- Total Petroleum Hydrocarbons (TPH) as Gasoline Range Organics (GRO) by SW-846 Method 8015C
- TPH as Diesel Range Organics (DRO) and Oil Range Organics (ORO) by SW-846 Method 8015C
- Polychlorinated Biphenyls (PCBs) by SW-846 Method 8082A
- Resource Conservation and Recovery Act (RCRA) Metals by SW-846 Method 6010C/7473

A level II data package was received from EPA Region 9 Laboratory, Richmond, CA. The data validation was conducted in general accordance with the EPA "Contract Laboratory Program National Functional Guidance for Superfund Organic Methods Data Review" dated January 2017 and the EPA "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" dated January 2017. The Attachment contains the results summary sheets with any hand-written qualifiers applied during data validation.

VOCs by SW-846 METHOD 8260C

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
R0-1-0.5	1804031-01	Soil	04/18/18	04/18/18	04/30/18
R0-2-0.5	1804031-02	Soil	04/18/18	04/18/18	05/01/18
R0-3-0.5	1804031-03	Soil	04/18/18	04/18/18	04/30/18
R0-4-0.5	1804031-04	Soil	04/18/18	04/18/18	04/30/18

1. Data Verification Check

A data verification and completeness check was performed in accordance with the Stage 1 and 2A verification checks outlined in the EPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use" dated January 13, 2009. For the VOCs analysis, requested analytical data package items were received from the laboratory and the analyses requested were performed.

2. Holding Times

The samples were extracted and analyzed within the required holding time limit of 14 days.

3. Blanks

Two method blanks were analyzed with the VOC sample group and were free of target compound contamination above the detection limits, with the exception of bromomethane in the blank analyzed on 05/01/18; the analyte was detected at 1.6 µg/kg (below the quantitation limit). No qualification of data was required as bromomethane was not detected in the affected sample.

4. Surrogate Results

The following surrogate recovery results were outside the laboratory-established quality control (QC) limits.

- in sample R0-1-0.5: toluene-d_8 (117%), 4-bromofluorobenzene (79%), 1,2-dichlorobenzene-d_4 (57%)
- in sample R0-2-0.5: 1,2-dichloroethane-d_4 (164%), toluene-d_8 (123%), 4-bromofluorobenzene (79%), 1,2-dichlorobenzene-d_4 (56%)
- in sample R0-3-0.5: toluene-d_8 (119%), 4-bromofluorobenzene (77%), 1,2-dichlorobenzene-d_4 (62%)
- in sample R0-4-0.5: 1,2-dichlorobenzene-d_4 (64%)

Positive results for m&p-xylene in samples R0-1-0.5 and R0-3-0.5 were qualified as estimated due to high recoveries of the associated surrogate, toluene-d_8. No other analytes associated with surrogates with high recoveries were detected in samples R0-1-0.5, R0-2-0.5, or R0-3-0.5.

Nondetect results for the following compounds were qualified as estimated (UJ) in all samples due to low recoveries of the associated surrogates, 4-bromofluorobenzene and/or 1,2-dichlorobenzene-d_4: 1,1,2-2-tetrachloroethane, 1,1,2-trichloroethane, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 2-hexanone, 4-methyl-2-pentanone (MIBK), bromoform, chlorobenzene, chlorodibromomethane, and tetrachloroethene.

5. Laboratory Control Sample (LCS) Results

Two LCSs were analyzed with the sample group and the recoveries were within laboratory-established QC limits, with the exception of the following analytes in the LCS analyzed on 05/01/18: vinyl chloride (122%); 1,1-dichloroethene (121%); and 1,1-dichloroethane (113%). No qualification of data was necessary as LCS recovery was high and the affected analytes were not detected in the associated sample.

6. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

Sample R0-2-0.5 was used for MS/MSD analyses. Several recoveries and relative percent differences (RPDs) were outside laboratory-established QC limits, as detailed in the table below.

Analyte	MS %Recovery	MSD %Recovery	RPD
Dichlorodifluoromethane	56	--[1]	--
Bromomethane	68	51	29
Trichlorofluoromethane	52	58	--
1,1-Dichloroethene	51	54	--
1,1,2-Trichloro-1,2,2-trifluoroethane	32	33	--
Acetone	34	23	40
trans-1,2-Dichloroethene	41	38	--
cis-1,2-Dichloroethene	56	54	--
2-Butanone (MEK)	27	16	54
1,1,1-Trichloroethane	50	47	--
Carbon tetrachloride	23	22	--
1,1-Dichloropropene	47	45	--
Trichloroethene	34	32	--
1,2-Dichloropropane	54	52	--
Bromodichloromethane	19	19	--
cis-1,3-Dichloropropene	24	18	26
4-Methyl-2-pentanone (MIBK)	51	33	43
Toluene	63	61	--
trans-1,3-Dichloropropene	37	30	21
Tetrachloroethene	33	29	--
2-Hexanone	28	24	--
Chlorodibromomethane	17	17	--
1,2-Dibromoethane (EDB)	58	53	--
Chlorobenzene	43	40	--
Ethylbenzene	39	37	--
m&p-Xylene	38	35	--
o-Xylene	38	34	--
Styrene	30	27	--
Bromoform	6	8	35
1,1,2,2-Tetrachloroethane	32	31	--
1,2,3-Trichloropropane	44	44	--
1,3-Dichlorobenzene	15	13	--

Analyte	MS %Recovery	MSD %Recovery	RPD
1,4-Dichlorobenzene	16	13	--
1,2-Dichlorobenzene	15	13	--
1,2-Dibromo-3-chloropropane	8	6	28

[1] Within QC limits.

The results for all analytes in the table above were qualified as estimated (J for detects and UJ for nondetects) in sample R0-2-0.5.

7. Field Duplicate Results

The sample set did not include any field duplicate pairs.

8. Overall Assessment

EPA Region 9 Laboratory flagged sample results with the following laboratory qualifiers:

C1, J: Indicates that the reported concentration for this analyte is below the quantitation limit and that the reported result should be considered an estimate. The data validator removed the "C1" qualifier and left the "J" qualifier in place.

C3, J, U: Indicates that the initial calibration for this analyte did not meet calibration criteria, that the reported result should be an estimate, and that the analyte was not detected. The data validator removed these qualifiers and added a "UJ" (estimated) qualifier.

Q1, J, U: Indicates that the internal standard associated with this analyte did not meet area count criteria. The data validator removed these qualifiers and added "UJ" (estimated) qualifiers.

Q2: Indicates that the laboratory control standard associated with this sample did not meet recovery criteria for this analyte. The data validator removed these qualifiers.

Q3: Indicates that the quantitation limit standard did not meet recovery criteria for this analyte. The data validator removed these qualifiers and added "UJ" (estimated) qualifiers.

Q4: Indicates that the matrix spike and/or matrix spike duplicate associated with this sample did not meet recovery criteria for this analyte. The data validator removed these qualifiers and added "UJ" (estimated) qualifiers.

Q6: Indicates that matrix spike/matrix spike duplicate precision criteria were not met for this analyte. The data validator removed these qualifiers and added "UJ" (estimated) qualifiers.

Q7: Indicates that surrogate spike recoveries for this sample were outside control limits. The data validator removed these qualifiers and, as appropriate, added "J" or "UJ" (estimated) qualifiers (see discussion above for surrogate spike recoveries).

N TIC, J: Indicates a Tentatively Identified Compound; this compound was identified only by match with mass spectral library. Identification and quantitation should be considered tentative and presumptive. The data validator left these qualifiers in place.

The VOC data are acceptable for use based on the information received.

SVOCs by SW-846 METHOD 8270D

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
R0-1-0.5	1804031-01	Soil	04/18/18	04/23/18	05/07/18
R0-2-0.5	1804031-02	Soil	04/18/18	04/23/18	05/07/18
R0-3-0.5	1804031-03	Soil	04/18/18	04/23/18	05/07/18
R0-4-0.5	1804031-04	Soil	04/18/18	04/23/18	05/07/18

1. Data Verification Check

A data verification and completeness check was performed in accordance with the Stage 1 and 2A verification checks outlined in the EPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use" dated January 13, 2009. For the SVOCs analysis, all analytical data package items were received from the laboratory and the analysis requested was performed.

2. Holding Times

The samples were extracted and analyzed within the required holding times of 14 days from sample collection to extraction and 40 days from extraction to analysis.

3. Blanks

A method blank was analyzed with the sample group and was free of target compound contamination above the detection limits.

4. Surrogate Results

The surrogate recovery results were within the laboratory-established QC limits.

5. LCS Results

An LCS was analyzed with the sample group and all recoveries were within the laboratory-established QC limits, with the following exceptions: 2,4-dimethylphenol (21%); 4-nitroaniline (39%); 4,6-dinitro-2-methylphenol (125%); diphenyl amine (7%); carbazole (42%); 3,3'-dichlorobenzidine (0%), and di-n-octyl phthalate (67%). The nondetect results for 2,4-dimethylphenol, 4-nitroaniline, diphenyl amine, carbazole, 3,3'-dichlorobenzidine, and

di-n-octyl phthalate were qualified as estimated (UJ) in all samples. No qualification of data was necessary for 4,6-dinitro-2-methylphenol as the LCS recovery was high and the analyte was not detected in any samples.

6. MS and MSD Results

The laboratory reported that an MS/MSD sample pair was prepared but not analyzed because the samples were highly contaminated with heavy hydrocarbons which necessitated dilutions that would render the MS/MSD results meaningless.

7. Field Duplicate Results

The sample set did not include any field duplicate pairs.

8. Overall Assessment

All samples were diluted (2x) due to heavy hydrocarbon contamination, which elevated the quantitation limits.

EPA Region 9 Laboratory flagged sample results with the following laboratory qualifiers:

C1, J: Indicates that the reported concentration for this analyte is below the quantitation limit and that the reported result should be considered an estimate. The data validator removed the "C1" qualifier and left the "J" qualifier in place.

C3, J, U: Indicates that the initial calibration for this analyte did not meet calibration criteria, that the reported result should be an estimate, and that the analyte was not detected. The data validator removed these qualifiers and added a "UJ" (estimated) qualifier.

C4: Indicates that the calibration verification check did not meet % difference criteria for this analyte. The data validator removed these qualifiers as the affected analyte (3,3'-dichlorobenzidine) was already qualified due to poor LCS recovery.

Q1, J, U: Indicates that the internal standard associated with this analyte did not meet area count criteria. The data validator removed these qualifiers and added "UJ" (estimated) qualifiers.

Q2, J, U: Indicates that the laboratory control standard associated with this sample did not meet recovery criteria for this analyte. The data validator removed these qualifiers and added "UJ" (estimated) qualifiers.

Q3: Indicates that the quantitation limit standard did not meet recovery criteria for this analyte. The data validator removed these qualifiers and added "UJ" (estimated) qualifiers.

N TIC, J: Indicates a Tentatively Identified Compound; this compound was identified only by match with mass spectral library. Identification and quantitation should be considered tentative and presumptive. The data validator left these qualifiers in place.

The SVOCs data are acceptable for use as qualified based on the information received.

TPH AS GRO by SW-846 METHOD 8015C

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
R0-1-0.5	1804031-01	Soil	04/18/18	04/18/18	04/24/18
R0-2-0.5	1804031-02	Soil	04/18/18	04/18/18	04/24/18
R0-3-0.5	1804031-03	Soil	04/18/18	04/18/18	04/24/18
R0-4-0.5	1804031-04	Soil	04/18/18	04/18/18	04/24/18

1. Data Verification Check

A data verification and completeness check was performed in accordance with the Stage 1 and 2A verification checks outlined in the EPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use" dated January 13, 2009. For the TPH as GRO analysis, all analytical data package items were received from the laboratory and the analysis requested was performed.

2. Holding Times

The samples were analyzed within the required holding time of 14 days.

3. Blanks

A method blank was analyzed with the sample group and free of target compound contamination above the detection limit.

4. Surrogates

The surrogate recovery results were within the laboratory-established QC limits.

5. LCS Results

An LCS was analyzed with the sample group and the recovery was within laboratory-established QC limits.

6. MS and MS Duplicate (MSD) Results

Sample R0-2-0.5 was used for MS and MSD analyses. Analyte recoveries and RPDs were within laboratory-established QC limits.

7. Field Duplicate Results

The sample set did not include any field duplicate pairs.

8. Overall Assessment

All samples were diluted (50x), which elevated the quantitation limits.

EPA Region 9 Laboratory flagged sample results with the following laboratory qualifiers:

F13: Indicates fuel or product type mixed or unknown. The data validator left these qualifiers in place.

The TPH as GRO data are acceptable for use as qualified based on the information received.

TPH AS DRO AND ORO by SW-846 METHOD 8015C

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
R0-1-0.5	1804031-01	Soil	04/18/18	04/20/18	04/24/18
R0-2-0.5	1804031-02	Soil	04/18/18	04/20/18	05/01/18
R0-3-0.5	1804031-03	Soil	04/18/18	04/20/18	04/24/18
R0-4-0.5	1804031-04	Soil	04/18/18	04/20/18	04/24/18

1. Data Verification Check

A data verification and completeness check was performed in accordance with the Stage 1 and 2A verification checks outlined in the EPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use" dated January 13, 2009. For the TPH as DRO and ORO analysis, all analytical data package items were received from the laboratory and the analysis requested was performed.

2. Holding Times

The samples were extracted and analyzed within the required holding time limits of 7 days from sample collection to extraction and 40 days from extraction to analysis.

3. Blanks

A method blank was analyzed with the samples and was free of target compound contamination above the quantitation limits.

4. Surrogates

The surrogate recovery results were within the laboratory-established QC limits for sample R0-2-0.5. For samples R0-1-0.5, R0-3-0.5, and R0-4-0.5, the laboratory stated that samples contained heavy hydrocarbon mixtures outside the range of the analysis, and samples required dilution (5x) which diluted out the surrogates. Surrogate spike recoveries were not reported for these samples.

5. LCS Results

An LCS was analyzed with the sample group and the recovery was within laboratory-established QC limits.

6. MS and MSD Results

No MS/MSD analyses were conducted.

7. Field Duplicate Results

The sample set did not include any field duplicate pairs.

8. Overall Assessment

As stated above, samples R0-1-0.5, R0-3-0.5, and R0-4-0.5 were diluted (5x) due to matrix, which elevated the quantitation limits.

EPA Region 9 Laboratory flagged sample results with the following laboratory qualifiers:

F5: Indicates product type motor oil. The data validator left these qualifiers in place.

F13: Indicates fuel or product type mixed or unknown. The data validator left these qualifiers in place.

The TPH as DRO and ORO data are acceptable for use as qualified based on the information received.

PCBs by SW-846 METHOD 8082A

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
R0-1-0.5	1804031-01	Soil	04/18/18	04/27/18	05/04/18
R0-2-0.5	1804031-02	Soil	04/18/18	04/27/18	05/04/18
R0-3-0.5	1804031-03	Soil	04/18/18	04/27/18	05/04/18
R0-4-0.5	1804031-04	Soil	04/18/18	04/27/18	05/04/18

1. Data Verification Check

A data verification and completeness check was performed in accordance with the Stage 1 and 2A verification checks outlined in the EPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use" dated January 13, 2009. For the PCBs analysis, all analytical data package items were received from the laboratory and the analysis requested was performed.

2. Holding Times

The samples were extracted and analyzed within the required holding times of 14 days from sample collection to extraction and 40 days from extraction to analysis.

3. Blanks

A method blank was analyzed with the sample group and was free of target compound contamination above the quantitation limits.

4. Surrogates

The surrogate recovery results were within the laboratory-established QC limits.

5. LCS Results

An LCS was analyzed with the sample set. All recoveries were within laboratory-established QC limits.

6. MS and MSD Results

Sample R0-2-0.5 was used for MS and MSD analyses. All analyte recoveries and RPDs were within laboratory-established QC limits.

7. Field Duplicate Results

The sample set did not include any field duplicate pairs.

8. Overall Assessment

EPA Region 9 Laboratory flagged sample results with the following laboratory qualifiers:

C1, J: Indicates that the reported concentration for this analyte is below the quantitation limit and that the reported result should be considered an estimate. The data validator removed the "C1" qualifier and left the "J" qualifier in place.

G1, J: Indicates that the results from the two columns for this compound do not meet the dual column percent difference criteria for positive identification. The data validator removed the "G1" qualifier and left the "J" qualifier in place.

The PCBs data are acceptable for use as qualified based on the information received.

RCRA METALS by SW-846 METHOD 6010C/7473

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared		Date Analyzed	
				Mercury	Metals	Mercury	Metals
R0-1-0.5	1804031-01	Soil	04/18/18	04/26/18	04/23/18	04/26/18	05/01/18
R0-2-0.5	1804031-02	Soil	04/18/18	04/26/18	04/23/18	04/26/18	05/01/18
R0-3-0.5	1804031-03	Soil	04/18/18	04/26/18	04/23/18	04/26/18	05/01/18
R0-4-0.5	1804031-04	Soil	04/18/18	04/26/18	04/23/18	04/26/18	05/01/18

1. Data Verification Check

A data verification and completeness check was performed in accordance with the Stage 1 and 2A verification checks outlined in the EPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use" dated January 13, 2009. For the metals analyses, all analytical data package items were received from the laboratory and the analysis requested was performed.

2. Holding Times

The samples were analyzed within the required holding time limits: 28 days for mercury and 180 days for all other metals.

3. Blank Results

Method blanks were analyzed with the metal and mercury sample group and were free of target compound contamination above the quantitation limits.

4. LCS Results

LCSs (standard reference materials) were analyzed with the sample group and all recoveries were within QC limits, with the exception of barium (0%). The amount of barium in the laboratory control sample was below the quantitation limit for barium; therefore, no qualification of data was necessary.

5. MS and MSD Results

Sample R0-2-0.5 was used for MS and MSD analyses. All recoveries were within QC limits with the exception of lead (39 and 43%). All RPDs were within QC limits. The results for lead in sample R0-2-0.5 were qualified as estimated (J).

6. Field Duplicate Results

The sample set did not include any field duplicate pairs.

7. Overall Assessment

EPA Region 9 Laboratory flagged sample results with the following laboratory qualifiers:

C1, J: Indicates that the reported concentration for this analyte is below the quantitation limit and that the reported result should be considered an estimate. The data validator removed the "C1" qualifier and left the "J" qualifier in place.

Q4, J: Indicates that the matrix spike and/or matrix spike duplicate associated with this sample did not meet recovery criteria for this analyte. The data validator removed the "Q4" qualifier and left the "J" qualifier in place.

The metals data are acceptable for use as qualified based on the information received.

ATTACHMENT

EPA REGION 9 LABORATORY
RESULTS SUMMARY WITH QUALIFIERS

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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-01									**Soil - Sampled: 04/18/18 09:05**
Sample ID: R0-1-0.5									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.39		0.16	mg/kg dry	B18D127	04/26/18	04/26/18	7473
Arsenic		17		3	"	B18D103	04/23/18	05/01/18	6010C
Barium		250		7.4	"	"	"	"	6010C
Cadmium		1.9		0.74	"	"	"	"	6010C
Chromium		76		1.5	"	"	"	"	6010C
Lead		220		4.4	"	"	"	"	6010C
Selenium		ND	U	3	"	"	"	"	6010C
Silver		ND	U	1.5	"	"	"	"	6010C
Sample ID: R0-1-0.5									**Purgeable Petroleum Hydrocarbons**
TPH - Gasoline Range Organics		9.7	F13	8.2	"	B18D111	04/18/18	04/24/18	8015C
Surrogate: a,a,a-Trifluorotoluene			86 %	*76-124%*		"	"	"	
Sample ID: R0-1-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Diesel Range Organics		490	F13	37	"	B18D099	04/20/18	04/24/18	8015C
TPH - Oil Range Organics		3,900	F5	150	"	"	"	"	8015C
Sample ID: R0-1-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1016		ND	U	19	ug/kg dry	B18D129	04/27/18	05/04/18	8082A
Aroclor 1221		ND	U	40	"	"	"	"	8082A
Aroclor 1232		ND	U	19	"	"	"	"	8082A
Aroclor 1242		ND	U	19	"	"	"	"	8082A
Aroclor 1248		ND	U	19	"	"	"	"	8082A
Aroclor 1254		ND	U	19	"	"	"	"	8082A
Aroclor-1260		18	~~C1, C4~~ J	19	"	"	"	"	8082A
Aroclor 1262		ND	U	19	"	"	"	"	8082A
Aroclor 1268		ND	U	19	"	"	"	"	8082A
Surrogate: Tetrachloro-m-xylene			55 %	*20-140%*		"	"	"	
Surrogate: Decachlorobiphenyl			45 %	*20-125%*		"	"	"	
Sample ID: R0-1-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Dichlorodifluoromethane		ND	U	4.7	"	B18D145	04/18/18	04/30/18	8260C
Chloromethane		ND	U	4.7	"	"	"	"	8260C
Vinyl chloride		ND	U	4.7	"	"	"	"	8260C
Bromomethane		ND	~~C3, J, U~~ UJ	4.7	"	"	"	"	8260C
Chloroethane		ND	U	4.7	"	"	"	"	8260C
Trichlorofluoromethane		ND	U	4.7	"	"	"	"	8260C
1,1-Dichloroethene		ND	U	4.7	"	"	"	"	8260C
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	U	4.7	"	"	"	"	8260C
Acetone		30	~~C4~~ J	37	"	"	"	"	8260C
Carbon disulfide		ND	~~C3, J, U~~ UJ	4.7	"	"	"	"	8260C

KAL 7/9/18

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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Lab ID: 1804031-01 — **Soil - Sampled: 04/18/18 09:05**

Sample ID: R0-1-0.5

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Volatile Organic Compounds by EPA Method 8260C									
Dichloromethane		ND	U	4.7	ug/kg dry	B18D145	04/18/18	04/30/18	8260C
trans-1,2-Dichloroethene		ND	U	4.7	"	"	"	"	8260C
tert-Butyl methyl ether (MTBE)		ND	U	19	"	"	"	"	8260C
1,1-Dichloroethane		ND	U	4.7	"	"	"	"	8260C
cis-1,2-Dichloroethene		ND	U	4.7	"	"	"	"	8260C
2-Butanone (MEK)		ND	U	37	"	"	"	"	8260C
Chloroform		ND	U	4.7	"	"	"	"	8260C
1,1,1-Trichloroethane		ND	U	4.7	"	"	"	"	8260C
Carbon tetrachloride		ND	U	4.7	"	"	"	"	8260C
1,1-Dichloropropene		ND	U	4.7	"	"	"	"	8260C
Benzene		ND	~~J, Q7,~~ U	4.7	"	"	"	"	8260C
1,2-Dichloroethane		ND	U	4.7	"	"	"	"	8260C
Trichloroethene		ND	U	4.7	"	"	"	"	8260C
1,2-Dichloropropane		ND	U	4.7	"	"	"	"	8260C
Bromodichloromethane		ND	~~C3, J, U~~ UJ	4.7	"	"	"	"	8260C
cis-1,3-Dichloropropene		ND	~~C3, J, U~~ UJ	4.7	"	"	"	"	8260C
4-Methyl-2-pentanone (MIBK)		ND	~~Q1, J, Q7, U~~ UJ	37	"	"	"	"	8260C
Toluene		ND	~~Q1, J, Q7, U~~ UJ	4.7	"	"	"	"	8260C
trans-1,3-Dichloropropene		ND	~~C3, J, U~~ UJ	4.7	"	"	"	"	8260C
1,1,2-Trichloroethane		ND	~~Q7, J, U~~ UJ	4.7	"	"	"	"	8260C
Tetrachloroethene		ND	~~Q1, J, Q7,~~ U UJ	4.7	"	"	"	"	8260C
1,3-Dichloropropane		ND	~~Q7, Q1, J, U~~ UJ	4.7	"	"	"	"	8260C
2-Hexanone		ND	~~Q7, Q1, J,~~ U UJ	37	"	"	"	"	8260C
Chlorodibromomethane		ND	~~C3, Q1, Q7, J, U~~ UJ	4.7	"	"	"	"	8260C
1,2-Dibromoethane (EDB)		ND	~~Q7, Q1, J, U~~ UJ	4.7	"	"	"	"	8260C
Chlorobenzene		ND	~~Q1, Q7, J, U~~ UJ	4.7	"	"	"	"	8260C
Ethylbenzene		ND	~~Q1, Q7, J, U~~ UJ	4.7	"	"	"	"	8260C
m&p-Xylene		5.4	~~C1, Q1,~~ J, ~~Q7~~	9.4	"	"	"	"	8260C
o-Xylene		ND	~~Q1, J, Q7, U~~ UJ	4.7	"	"	"	"	8260C
Styrene		ND	~~J, Q1, Q7, U~~ UJ	4.7	"	"	"	"	8260C
Bromoform		ND	~~C3, Q1, Q7, J, U~~ UJ	4.7	"	"	"	"	8260C
1,1,2,2-Tetrachloroethane		ND	~~Q7, Q1, J, U~~ UJ	4.7	"	"	"	"	8260C
1,2,3-Trichloropropane		ND	~~Q7, Q1, J, U~~ UJ	4.7	"	"	"	"	8260C
1,3-Dichlorobenzene		ND	~~Q7, Q1, J, U~~ UJ	4.7	"	"	"	"	8260C
1,4-Dichlorobenzene		ND	~~Q7, Q1, J, U~~ UJ	4.7	"	"	"	"	8260C
1,2-Dichlorobenzene		ND	~~Q7, Q1, J, U~~ UJ	4.7	"	"	"	"	8260C

EAC 7/9/18

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: Eric Nuchims
Project Number: R18S51
Project: Bercovich Smelter April 2018 Removal Action

Emergency Response Section
75 Hawthorne Street
San Francisco CA, 94105

SDG: 18108E
Reported: 05/15/18 12:22

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-01									**Soil - Sampled: 04/18/18 09:05**
Sample ID: R0-1-0.5									**Volatile Organic Compounds by EPA Method 8260C**
1,2-Dibromo-3-chloropropane		ND	~~Q7, C3, Q1, J, U~~ UJ	19	ug/kg dry	B18D145	04/18/18	04/30/18	8260C
Ethanol		230	N TIC, J		"	"	"	"	8260C
Ethene, difluoro		10	N TIC, J		"	"	"	"	8260C
Propene, methyl		14	N TIC, J		"	"	"	"	8260C
Surrogate: 1,2-Dichloroethane-d4			111 %	*63-144%*		"	"	"	
Surrogate: Toluene-d8			**117 %**	*86-111%*		"	"	"	
Surrogate: 4-Bromofluorobenzene			**79 %**	*81-110%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			**57 %**	*75-112%*		"	"	"	
Sample ID: R0-1-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Phenol		ND	U	2,500	"	B18D112	04/23/18	05/07/18	8270D
Bis(2-chloroethyl)ether		ND	U	490	"	"	"	"	8270D
2-Chlorophenol		ND	U	2,500	"	"	"	"	8270D
1,3-Dichlorobenzene		ND	U	490	"	"	"	"	8270D
1,4-Dichlorobenzene		ND	U	490	"	"	"	"	8270D
Benzyl alcohol		ND	U	2,500	"	"	"	"	8270D
1,2-Dichlorobenzene		ND	U	490	"	"	"	"	8270D
2-Methylphenol		ND	U	2,500	"	"	"	"	8270D
Bis(2-chloro-1-methylethyl) ether		ND	U	490	"	"	"	"	8270D
3&4-Methylphenol		ND	U	2,500	"	"	"	"	8270D
N-Nitrosodipropylamine		ND	U	490	"	"	"	"	8270D
Hexachloroethane		ND	U	490	"	"	"	"	8270D
Nitrobenzene		ND	U	490	"	"	"	"	8270D
Isophorone		ND	U	490	"	"	"	"	8270D
2-Nitrophenol		ND	U	2,500	"	"	"	"	8270D
2,4-Dimethylphenol		NI	~~J, Q2, U~~ UJ	2,500	"	"	"	"	8270D
Bis(2-chloroethoxy)methane		ND	U	490	"	"	"	"	8270D
2,4-Dichlorophenol		ND	U	2,500	"	"	"	"	8270D
1,2,4-Trichlorobenzene		ND	U	490	"	"	"	"	8270D
Naphthalene		ND	U	490	"	"	"	"	8270D
4-Chloroaniline		ND	U	2,500	"	"	"	"	8270D
Hexachlorobutadiene		ND	U	490	"	"	"	"	8270D
4-Chloro-3-methylphenol		ND	U	2,500	"	"	"	"	8270D
2-Methylnaphthalene		ND	U	490	"	"	"	"	8270D
Hexachlorocyclopentadiene		ND	U	2,500	"	"	"	"	8270D
2,4,6-Trichlorophenol		ND	U	2,500	"	"	"	"	8270D
2,4,5-Trichlorophenol		ND	U	2,500	"	"	"	"	8270D

EAL 7/9/18

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-01									**Soil - Sampled: 04/18/18 09:05**
Sample ID: R0-1-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
2-Chloronaphthalene		ND	U	490	ug/kg dry	B18D112	04/23/18	05/07/18	8270D
2-Nitroaniline		ND	U	2,500	"	"	"	"	8270D
Dimethyl phthalate		ND	U	490	"	"	"	"	8270D
2,6-Dinitrotoluene		ND	U	490	"	"	"	"	8270D
Acenaphthylene		ND	U	490	"	"	"	"	8270D
3-Nitroaniline		ND	U	2,500	"	"	"	"	8270D
Acenaphthene		ND	U	490	"	"	"	"	8270D
2,4-Dinitrophenol		ND	~~C3, J, U~~ UJ	10,000	"	"	"	"	8270D
4-Nitrophenol		ND	U	2,500	"	"	"	"	8270D
Dibenzofuran		ND	U	490	"	"	"	"	8270D
2,4-Dinitrotoluene		ND	U	490	"	"	"	"	8270D
Diethyl phthalate		ND	U	490	"	"	"	"	8270D
Fluorene		ND	U	490	"	"	"	"	8270D
4-Chlorophenyl phenyl ether		ND	U	490	"	"	"	"	8270D
4-Nitroaniline		ND	~~J, Q2, U~~ UJ	2,500	"	"	"	"	8270D
4,6-Dinitro-2-methylphenol		ND	~~C3, J, U~~ UJ	2,500	"	"	"	"	8270D
Diphenyl amine		ND	~~J, Q2, U~~ UJ	490	"	"	"	"	8270D
4-Bromophenyl phenyl ether		ND	U	490	"	"	"	"	8270D
Hexachlorobenzene		ND	U	490	"	"	"	"	8270D
Pentachlorophenol		ND	~~C3, J, U~~ UJ	10,000	"	"	"	"	8270D
Phenanthrene		29(	~~C1~~, J	490	"	"	"	"	8270D
Anthracene		ND	U	490	"	"	"	"	8270D
Carbazole		ND	~~J, Q2, U~~ UJ	490	"	"	"	"	8270D
Di-n-butyl phthalate		ND	U	490	"	"	"	"	8270D
Fluoranthene		36(	~~C1~~, J	490	"	"	"	"	8270D
Pyrene		540		490	"	"	"	"	8270D
Butyl benzyl phthalate		570		490	"	"	"	"	8270D
Benzo(a)anthracene		ND	U	490	"	"	"	"	8270D
3,3'-Dichlorobenzidine		ND	~~C4, J, Q2, U~~ UJ	490	"	"	"	"	8270D
Chrysene		680		490	"	"	"	"	8270D
Bis(2-ethylhexyl) phthalate		8,000		490	"	"	"	"	8270D
Di-n-octyl phthalate		ND	~~J, Q2, Q3, U~~ UJ	490	"	"	"	"	8270D
Benzo(b)fluoranthene		600		490	"	"	"	"	8270D
Benzo(k)fluoranthene		25(	~~C1~~, J	490	"	"	"	"	8270D
Benzo(a)pyrene		ND	U	490	"	"	"	"	8270D
Indeno(1,2,3-cd)pyrene		ND	U	490	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	U	490	"	"	"	"	8270D

KAR 7/9/18

United States Environmental Protection Agency
Region 9 Laboratory
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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-01									**Soil - Sampled: 04/18/18 09:05**
Sample ID: R0-1-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Benzo(g,h,i)perylene		340	~~CL~~ J	490	ug/kg dry	B18D112	04/23/18	05/07/18	8270D
Benzenedicarboxylic acid, diis		29,000	N TIC, J		"	"	"	"	8270D
Hexadecanoic acid		2,300	N TIC, J		"	"	"	"	8270D
Octacosane		13,000	N TIC, J		"	"	"	"	8270D
Surrogate: 2-Fluorophenol			74 %	*20-111%*		"	"	"	
Surrogate: Phenol-d5			80 %	*20-111%*		"	"	"	
Surrogate: 2-Chlorophenol-d4			81 %	*20-121%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			67 %	*20-136%*		"	"	"	
Surrogate: Nitrobenzene-d5			78 %	*20-125%*		"	"	"	
Surrogate: 2-Fluorobiphenyl			72 %	*20-121%*		"	"	"	
Surrogate: 2,4,6-Tribromophenol			93 %	*20-146%*		"	"	"	
Surrogate: Terphenyl-d14			75 %	*20-131%*		"	"	"	
Sample ID: R0-1-0.5									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		68		1	%	B18D123	04/25/18	04/26/18	3550C
Lab ID: 1804031-02									**Soil - Sampled: 04/18/18 09:15**
Sample ID: R0-2-0.5									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.19	~~CL~~ J	0.20	mg/kg dry	B18D127	04/26/18	04/26/18	7473
Arsenic		11		2.2	"	B18D103	04/23/18	05/01/18	6010C
Barium		250		5.6	"	"	"	"	6010C
Cadmium		2.5		0.56	"	"	"	"	6010C
Chromium		55		1.1	"	"	"	"	6010C
Lead		250	J ~~Q4~~	3.3	"	"	"	"	6010C
Selenium		ND	U	2.2	"	"	"	"	6010C
Silver		ND	U	1.1	"	"	"	"	6010C
Sample ID: R0-2-0.5									**Purgeable Petroleum Hydrocarbons**
TPH - Gasoline Range Organics		ND	U	9.9	"	B18D111	04/18/18	04/24/18	8015C
Surrogate: α,α,α-Trifluorotoluene			~~88~~ %	*76-124%*		"	"	"	
Sample ID: R0-2-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Diesel Range Organics	RE1	160	F13	33	"	B18D138	04/20/18	05/01/18	8015C
TPH - Oil Range Organics	RE1	1,900	F5	130	"	"	"	"	8015C
Surrogate: Hexacosane	*RE1*		26 %	*20-111%*		"	"	"	
Sample ID: R0-2-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1016		ND	U	15	ug/kg dry	B18D129	04/27/18	05/04/18	8082A
Aroclor 1221		ND	U	30	"	"	"	"	8082A
Aroclor 1232		ND	U	15	"	"	"	"	8082A
Aroclor 1242		ND	U	15	"	"	"	"	8082A
Aroclor 1248		ND	U	15	"	"	"	"	8082A
Aroclor 1254		ND	U	15	"	"	"	"	8082A

KAR 7/9/18

United States Environmental Protection Agency
Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-02									**Soil - Sampled: 04/18/18 09:15**
Sample ID: R0-2-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor-1260		19		15	ug/kg dry	B18D129	04/27/18	05/04/18	8082A
Aroclor 1262		ND	U	15	"	"	"	"	8082A
Aroclor 1268		ND	U	15	"	"	"	"	8082A
Surrogate: Tetrachloro-m-xylene			62 %	*20-140%*		"	"	"	
Surrogate: Decachlorobiphenyl			49 %	*20-125%*		"	"	"	
Sample ID: R0-2-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Dichlorodifluoromethane		ND	~~Q7, J, Q4, U~~ UJ	2.8	"	B18D145	04/18/18	05/01/18	8260C
Chloromethane		ND	~~Q7, J~~ U	2.8	"	"	"	"	8260C
Vinyl chloride		ND	~~J, Q7~~ U	2.8	"	"	"	"	8260C
Bromomethane		ND	~~J, C3, Q7, Q4, Q6, U~~ UJ	2.8	"	"	"	"	8260C
Chloroethane		ND	~~J, Q7~~ U	2.8	"	"	"	"	8260C
Trichlorofluoromethane		ND	~~J, Q7, Q4, U~~ UJ	2.8	"	"	"	"	8260C
1,1-Dichloroethene		ND	~~Q7, J, Q4, U~~ UJ	2.8	"	"	"	"	8260C
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	~~Q7, Q4, J, U~~ UJ	2.8	"	"	"	"	8260C
Acetone		11	~~Q7, J, C1, Q6, Q4~~	22	"	"	"	"	8260C
Carbon disulfide		ND	~~J, C3, Q7, Q4, U~~ UJ	2.8	"	"	"	"	8260C
Dichloromethane		ND	~~Q7, J~~ U	2.8	"	"	"	"	8260C
trans-1,2-Dichloroethene		ND	~~J, Q7, Q4, U~~ UJ	2.8	"	"	"	"	8260C
tert-Butyl methyl ether (MTBE)		ND	~~J, Q7~~ U	11	"	"	"	"	8260C
1,1-Dichloroethane		ND	~~Q7, J~~ U	2.8	"	"	"	"	8260C
cis-1,2-Dichloroethene		ND	~~Q7, J, Q4, U~~ UJ	2.8	"	"	"	"	8260C
2-Butanone (MEK)		ND	~~Q7, J, Q4, Q6, U~~ UJ	22	"	"	"	"	8260C
Chloroform		ND	~~J, Q7~~ U	2.8	"	"	"	"	8260C
1,1,1-Trichloroethane		ND	~~Q7, Q4, J, U~~ UJ	2.8	"	"	"	"	8260C
Carbon tetrachloride		ND	~~J, Q7, Q4, U~~ UJ	2.8	"	"	"	"	8260C
1,1-Dichloropropene		ND	~~Q7, J, Q4, U~~ UJ	2.8	"	"	"	"	8260C
Benzene		ND	~~Q7, J~~ U	2.8	"	"	"	"	8260C
1,2-Dichloroethane		ND	~~Q7, J~~ U	2.8	"	"	"	"	8260C
Trichloroethene		ND	~~J, Q7, Q4, U~~ UJ	2.8	"	"	"	"	8260C
1,2-Dichloropropane		ND	~~Q7, J, Q4, U~~ UJ	2.8	"	"	"	"	8260C
Bromodichloromethane		ND	~~J, C3, Q7, Q4, U~~ UJ	2.8	"	"	"	"	8260C
cis-1,3-Dichloropropene		ND	~~C3, Q7, J, Q4, Q6, U~~ UJ	2.8	"	"	"	"	8260C
4-Methyl-2-pentanone (MIBK)		ND	~~J, Q1, Q7, Q4, Q6, U~~ UJ	22	"	"	"	"	8260C

KDL 7/9/18

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-02									**Soil - Sampled: 04/18/18 09:15**
Sample ID: R0-2-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Toluene		ND	~~Q1, J, Q7, Q4, U~~ UJ	2.8	ug/kg dry	B18D145	04/18/18	05/01/18	8260C
trans-1,3-Dichloropropene		ND	~~J, C3, Q7, Q4, Q6, U~~ UJ	2.8	"	"	"	"	8260C
1,1,2-Trichloroethane		ND	~~J, Q7, U~~ UJ	2.8	"	"	"	"	8260C
Tetrachloroethene		ND	~~Q1, J, Q7, Q4, U~~ UJ	2.8	"	"	"	"	8260C
1,3-Dichloropropane		ND	~~Q1, J, Q7, U~~ UJ	2.8	"	"	"	"	8260C
2-Hexanone		ND	~~Q1, J, Q7, Q4, U~~ UJ	22	"	"	"	"	8260C
Chlorodibromomethane		ND	~~Q7, J, Q1, C3, Q4, U~~ UJ	2.8	"	"	"	"	8260C
1,2-Dibromoethane (EDB)		ND	~~Q1, J, Q7, Q4, U~~ UJ	2.8	"	"	"	"	8260C
Chlorobenzene		ND	~~Q7, J, Q1, Q4, U~~ UJ	2.8	"	"	"	"	8260C
Ethylbenzene		ND	~~Q7, J, Q1, Q4, U~~ UJ	2.8	"	"	"	"	8260C
m&p-Xylene		ND	~~Q7, J, Q1, Q4, U~~ UJ	5.6	"	"	"	"	8260C
o-Xylene		ND	~~Q1, J, Q7, Q4, U~~ UJ	2.8	"	"	"	"	8260C
Styrene		ND	~~Q1, J, Q7, Q4, U~~ UJ	2.8	"	"	"	"	8260C
Bromoform		ND	~~Q7, J, Q1, C3, Q4, Q6, U~~ UJ	2.8	"	"	"	"	8260C
1,1,2,2-Tetrachloroethane		ND	~~J, Q1, Q7, Q4, U~~ UJ	2.8	"	"	"	"	8260C
1,2,3-Trichloropropane		ND	~~J, Q1, Q7, Q4, U~~ UJ	2.8	"	"	"	"	8260C
1,3-Dichlorobenzene		ND	~~Q1, J, Q7, Q4, U~~ UJ	2.8	"	"	"	"	8260C
1,4-Dichlorobenzene		ND	~~Q1, J, Q7, Q4, U~~ UJ	2.8	"	"	"	"	8260C
1,2-Dichlorobenzene		ND	~~Q1, Q7, J, Q4, U~~ UJ	2.8	"	"	"	"	8260C
1,2-Dibromo-3-chloropropane		ND	~~J, Q1, C3, Q7, Q6, Q4, U~~ UJ	11	"	"	"	"	8260C
Ethanol		37	N TIC, J		"	"	"	"	8260C
Surrogate: 1,2-Dichloroethane-d4			**164 %**	*63-144%*		"	"	"	
Surrogate: Toluene-d8			**123 %**	*86-111%*		"	"	"	
Surrogate: 4-Bromofluorobenzene			**79 %**	*81-110%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			**56 %**	*75-112%*		"	"	"	
Sample ID: R0-2-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Phenol		ND	U	1,900	"	B18D112	04/23/18	05/07/18	8270D
Bis(2-chloroethyl)ether		ND	U	370	"	"	"	"	8270D
2-Chlorophenol		ND	U	1,900	"	"	"	"	8270D

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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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-02									**Soil - Sampled: 04/18/18 09:15**
Sample ID: R0-2-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
1,3-Dichlorobenzene		ND	U	370	ug/kg dry	B18D112	04/23/18	05/07/18	8270D
1,4-Dichlorobenzene		ND	U	370	"	"	"	"	8270D
Benzyl alcohol		ND	U	1,900	"	"	"	"	8270D
1,2-Dichlorobenzene		ND	U	370	"	"	"	"	8270D
2-Methylphenol		ND	U	1,900	"	"	"	"	8270D
Bis(2-chloro-1-methylethyl) ether		ND	U	370	"	"	"	"	8270D
3&4-Methylphenol		ND	U	1,900	"	"	"	"	8270D
N-Nitrosodipropylamine		ND	U	370	"	"	"	"	8270D
Hexachloroethane		ND	U	370	"	"	"	"	8270D
Nitrobenzene		ND	U	370	"	"	"	"	8270D
Isophorone		ND	U	370	"	"	"	"	8270D
2-Nitrophenol		ND	U	1,900	"	"	"	"	8270D
2,4-Dimethylphenol		NI	~~J, Q2, U~~ UJ	1,900	"	"	"	"	8270D
Bis(2-chloroethoxy)methane		ND	U	370	"	"	"	"	8270D
2,4-Dichlorophenol		ND	U	1,900	"	"	"	"	8270D
1,2,4-Trichlorobenzene		ND	U	370	"	"	"	"	8270D
Naphthalene		ND	U	370	"	"	"	"	8270D
4-Chloroaniline		ND	U	1,900	"	"	"	"	8270D
Hexachlorobutadiene		ND	U	370	"	"	"	"	8270D
4-Chloro-3-methylphenol		ND	U	1,900	"	"	"	"	8270D
2-Methylnaphthalene		ND	U	370	"	"	"	"	8270D
Hexachlorocyclopentadiene		ND	U	1,900	"	"	"	"	8270D
2,4,6-Trichlorophenol		ND	U	1,900	"	"	"	"	8270D
2,4,5-Trichlorophenol		ND	U	1,900	"	"	"	"	8270D
2-Chloronaphthalene		ND	U	370	"	"	"	"	8270D
2-Nitroaniline		ND	U	1,900	"	"	"	"	8270D
Dimethyl phthalate		ND	U	370	"	"	"	"	8270D
2,6-Dinitrotoluene		ND	U	370	"	"	"	"	8270D
Acenaphthylene		ND	U	370	"	"	"	"	8270D
3-Nitroaniline		ND	U	1,900	"	"	"	"	8270D
Acenaphthene		ND	U	370	"	"	"	"	8270D
2,4-Dinitrophenol		NI	~~U, C3, J~~ UJ	7,600	"	"	"	"	8270D
4-Nitrophenol		ND	U	1,900	"	"	"	"	8270D
Dibenzofuran		ND	U	370	"	"	"	"	8270D
2,4-Dinitrotoluene		ND	U	370	"	"	"	"	8270D
Diethyl phthalate		ND	U	370	"	"	"	"	8270D

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-02									**Soil - Sampled: 04/18/18 09:15**
Sample ID: R0-2-0.5									
									Semivolatile Organic Compounds by EPA Method 8270D
Fluorene		ND	U	370	ug/kg dry	B18D112	04/23/18	05/07/18	8270D
4-Chlorophenyl phenyl ether		ND	U	370	"	"	"	"	8270D
4-Nitroaniline		ND	~~J, Q2, U~~ UJ	1,900	"	"	"	"	8270D
4,6-Dinitro-2-methylphenol		ND	~~C3, J, U~~ UJ	1,900	"	"	"	"	8270D
Diphenyl amine		ND	~~J, Q2, U~~ UJ	370	"	"	"	"	8270D
4-Bromophenyl phenyl ether		ND	U	370	"	"	"	"	8270D
Hexachlorobenzene		ND	U	370	"	"	"	"	8270D
Pentachlorophenol		ND	~~U, C3, J~~ UJ	7,600	"	"	"	"	8270D
Phenanthrene		380		370	"	"	"	"	8270D
Anthracene		ND	U	370	"	"	"	"	8270D
Carbazole		ND	~~J, Q2, U~~ UJ	370	"	"	"	"	8270D
Di-n-butyl phthalate		ND	U	370	"	"	"	"	8270D
Fluoranthene		570		370	"	"	"	"	8270D
Pyrene		730		370	"	"	"	"	8270D
Butyl benzyl phthalate		2,600		370	"	"	"	"	8270D
Benzo(a)anthracene		260	~~C1~~, J	370	"	"	"	"	8270D
3,3'-Dichlorobenzidine		ND	~~C4, J, Q2, U~~ UJ	370	"	"	"	"	8270D
Chrysene		800		370	"	"	"	"	8270D
Bis(2-ethylhexyl) phthalate		1,800		370	"	"	"	"	8270D
Di-n-octyl phthalate		ND	~~J, Q2, Q3, U~~ UJ	370	"	"	"	"	8270D
Benzo(b)fluoranthene		940		370	"	"	"	"	8270D
Benzo(k)fluoranthene		240	~~C1~~, J	370	"	"	"	"	8270D
Benzo(a)pyrene		310	~~C1~~, J	370	"	"	"	"	8270D
Indeno(1,2,3-cd)pyrene		200	~~C1~~, J	370	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	U	370	"	"	"	"	8270D
Benzo(g,h,i)perylene		420		370	"	"	"	"	8270D
Hentriacontane		12,000	N TIC, J		"	"	"	"	8270D
Hexadecanoic acid		4,500	N TIC, J		"	"	"	"	8270D
Sitosterol		7,300	N TIC, J		"	"	"	"	8270D
Surrogate: 2-Fluorophenol			84 %	*20-111%*		"	"	"	
Surrogate: Phenol-d5			88 %	*20-111%*		"	"	"	
Surrogate: 2-Chlorophenol-d4			88 %	*20-121%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			73 %	*20-136%*		"	"	"	
Surrogate: Nitrobenzene-d5			81 %	*20-125%*		"	"	"	
Surrogate: 2-Fluorobiphenyl			78 %	*20-121%*		"	"	"	
Surrogate: 2,4,6-Tribromophenol			101 %	*20-146%*		"	"	"	
Surrogate: Terphenyl-d14			95 %	*20-131%*		"	"	"	
Sample ID: R0-2-0.5									**Conventional Chemistry Parameters by APHA/EPA Methods**

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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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E	
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22	
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**		

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-02									**Soil - Sampled: 04/18/18 09:15**
Sample ID: R0-2-0.5									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		90		1	%	B18D123	04/25/18	04/26/18	3550C
Lab ID: 1804031-03									**Soil - Sampled: 04/18/18 09:30**
Sample ID: R0-3-0.5									**Metals by EPA 6000/7000 Series Methods**
Mercury	RE1	0.40		0.032	mg/kg dry	B18D127	04/26/18	04/26/18	7473
Arsenic		15		2.9	"	B18D103	04/23/18	05/01/18	6010C
Barium		220		7.2	"	"	"	"	6010C
Cadmium		3.2		0.72	"	"	"	"	6010C
Chromium		58		1.4	"	"	"	"	6010C
Lead		340		4.3	"	"	"	"	6010C
Selenium		ND	U	2.9	"	"	"	"	6010C
Silver		ND	U	1.4	"	"	"	"	6010C
Sample ID: R0-3-0.5									**Purgeable Petroleum Hydrocarbons**
TPH - Gasoline Range Organics		ND	U	6.8	"	B18D111	04/18/18	04/24/18	8015C
Surrogate: a,a,a-Trifluorotoluene			87 %	*76-124%*		"	"	"	
Sample ID: R0-3-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Diesel Range Organics		98	F13	36	"	B18D099	04/20/18	04/24/18	8015C
TPH - Oil Range Organics		860	F5	140	"	"	"	"	8015C
Sample ID: R0-3-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1016		ND	U	19	ug/kg dry	B18D129	04/27/18	05/04/18	8082A
Aroclor 1221		ND	U	39	"	"	"	"	8082A
Aroclor 1232		ND	U	19	"	"	"	"	8082A
Aroclor 1242		ND	U	19	"	"	"	"	8082A
Aroclor 1248		ND	U	19	"	"	"	"	8082A
Aroclor 1254		ND	U	19	"	"	"	"	8082A
Aroclor-1260		1	~~C1, J~~	19	"	"	"	"	8082A
Aroclor 1262		ND	U	19	"	"	"	"	8082A
Aroclor 1268		ND	U	19	"	"	"	"	8082A
Surrogate: Tetrachloro-m-xylene			46 %	*20-140%*		"	"	"	
~~*Surrogate: Decachlorobiphenyl*~~			36 %	*20-125%*		"	"	"	
Sample ID: R0-3-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Dichlorodifluoromethane		ND	U	4	"	B18D145	04/18/18	04/30/18	8260C
Chloromethane		ND	U	4	"	"	"	"	8260C
Vinyl chloride		ND	U	4	"	"	"	"	8260C
Bromomethane		ND	~~C3, J, U~~ UJ	4	"	"	"	"	8260C
Chloroethane		ND	U	4	"	"	"	"	8260C
Trichlorofluoromethane		ND	U	4	"	"	"	"	8260C
1,1-Dichloroethene		ND	U	4	"	"	"	"	8260C

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United States Environmental Protection Agency
Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Lab ID: 1804031-03 — **Soil - Sampled: 04/18/18 09:30**

Sample ID: R0-3-0.5

Volatile Organic Compounds by EPA Method 8260C

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	U	4	ug/kg dry	B18D145	04/18/18	04/30/18	8260C
Acetone		900		32	"	"	"	"	8260C
Carbon disulfide		ND	~~C3, J, U~~ SJ	4	"	"	"	"	8260C
Dichloromethane		ND	U	4	"	"	"	"	8260C
trans-1,2-Dichloroethene		ND	U	4	"	"	"	"	8260C
tert-Butyl methyl ether (MTBE)		ND	U	16	"	"	"	"	8260C
1,1-Dichloroethane		ND	U	4	"	"	"	"	8260C
cis-1,2-Dichloroethene		ND	U	4	"	"	"	"	8260C
2-Butanone (MEK)		67		32	"	"	"	"	8260C
Chloroform		ND	U	4	"	"	"	"	8260C
1,1,1-Trichloroethane		ND	U	4	"	"	"	"	8260C
Carbon tetrachloride		ND	U	4	"	"	"	"	8260C
1,1-Dichloropropene		ND	U	4	"	"	"	"	8260C
Benzene		ND	~~J, Q7~~ U	4	"	"	"	"	8260C
1,2-Dichloroethane		ND	U	4	"	"	"	"	8260C
Trichloroethene		ND	U	4	"	"	"	"	8260C
1,2-Dichloropropane		ND	U	4	"	"	"	"	8260C
Bromodichloromethane		ND	~~C3, J, U~~ SJ	4	"	"	"	"	8260C
cis-1,3-Dichloropropene		ND	~~J, C3, U~~ SJ	4	"	"	"	"	8260C
4-Methyl-2-pentanone (MIBK)		ND	~~Q1, J, Q7, U~~ SJ	32	"	"	"	"	8260C
Toluene		ND	~~Q1, U, J, Q7~~ SJ	4	"	"	"	"	8260C
trans-1,3-Dichloropropene		ND	~~J, C3, U~~ SJ	4	"	"	"	"	8260C
1,1,2-Trichloroethane		ND	~~U, J, Q7~~ SJ	4	"	"	"	"	8260C
Tetrachloroethene		ND	U, ~~Q1, J, Q7~~ SJ	4	"	"	"	"	8260C
1,3-Dichloropropane		ND	~~Q1, J, Q7, U~~ SJ	4	"	"	"	"	8260C
2-Hexanone		ND	~~Q1, J, Q7, U~~ SJ	32	"	"	"	"	8260C
Chlorodibromomethane		ND	~~Q1, J, C3, Q7, U~~ SJ	4	"	"	"	"	8260C
1,2-Dibromoethane (EDB)		ND	~~J, Q1, Q7, U~~ SJ	4	"	"	"	"	8260C
Chlorobenzene		ND	~~U, Q1, J, Q7~~ SJ	4	"	"	"	"	8260C
Ethylbenzene		ND	~~J, Q1, Q7, U~~ SJ	4	"	"	"	"	8260C
m&p-Xylene		4.3	~~J, C1, Q1, Q7~~ SJ	8	"	"	"	"	8260C
o-Xylene		ND	~~J, Q1, Q7, U~~ SJ	4	"	"	"	"	8260C
Styrene		ND	~~U, Q1, J, Q7~~ SJ	4	"	"	"	"	8260C
Bromoform		ND	~~Q1, J, C3, Q7, U~~ SJ	4	"	"	"	"	8260C
1,1,2,2-Tetrachloroethane		ND	~~J, Q7, Q1, U~~ SJ	4	"	"	"	"	8260C
1,2,3-Trichloropropane		ND	~~J, Q1, Q7, U~~ SJ	4	"	"	"	"	8260C

KSL 7/9/18

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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-03									**Soil - Sampled: 04/18/18 09:30**
Sample ID: R0-3-0.5									**Volatile Organic Compounds by EPA Method 8260C**
1,3-Dichlorobenzene		ND	~~Q1, J, Q7, U~~ UJ	4	ug/kg dry	B18D145	04/18/18	04/30/18	8260C
1,4-Dichlorobenzene		ND	~~Q1, J, Q7, U~~ UJ	4	"	"	"	"	8260C
1,2-Dichlorobenzene		ND	~~J, Q1, Q7, U~~ UJ	4	"	"	"	"	8260C
1,2-Dibromo-3-chloropropane		ND	~~J, Q1, C3, Q7, U~~ UJ	16	"	"	"	"	8260C
Ethanol		510	N TIC, J		"	"	"	"	8260C
Isopropyl Alcohol		82	N TIC, J		"	"	"	"	8260C
Octanone		300	N TIC, J		"	"	"	"	8260C
Octene		52	N TIC, J		"	"	"	"	8260C
Propene, methyl		8.4	N TIC, J		"	"	"	"	8260C
Surrogate: 1,2-Dichloroethane-d4			108 %	*63-144%*		"	"	"	
Surrogate: Toluene-d8			**119 %**	*86-111%*		"	"	"	
Surrogate: 4-Bromofluorobenzene			**77 %**	*81-110%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			**62 %**	*75-112%*		"	"	"	
Sample ID: R0-3-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Phenol		ND	U	2,500	"	B18D112	04/23/18	05/07/18	8270D
Bis(2-chloroethyl)ether		ND	U	480	"	"	"	"	8270D
2-Chlorophenol		ND	U	2,500	"	"	"	"	8270D
1,3-Dichlorobenzene		ND	U	480	"	"	"	"	8270D
1,4-Dichlorobenzene		ND	U	480	"	"	"	"	8270D
Benzyl alcohol		ND	U	2,500	"	"	"	"	8270D
1,2-Dichlorobenzene		ND	U	480	"	"	"	"	8270D
2-Methylphenol		ND	U	2,500	"	"	"	"	8270D
Bis(2-chloro-1-methylethyl) ether		ND	U	480	"	"	"	"	8270D
3&4-Methylphenol		ND	U	2,500	"	"	"	"	8270D
N-Nitrosodipropylamine		ND	U	480	"	"	"	"	8270D
Hexachloroethane		ND	U	480	"	"	"	"	8270D
Nitrobenzene		ND	U	480	"	"	"	"	8270D
Isophorone		ND	U	480	"	"	"	"	8270D
2-Nitrophenol		ND	U	2,500	"	"	"	"	8270D
2,4-Dimethylphenol		ND	~~U, J, Q2~~ UJ	2,500	"	"	"	"	8270D
Bis(2-chloroethoxy)methane		ND	U	480	"	"	"	"	8270D
2,4-Dichlorophenol		ND	U	2,500	"	"	"	"	8270D
1,2,4-Trichlorobenzene		ND	U	480	"	"	"	"	8270D
Naphthalene		ND	U	480	"	"	"	"	8270D
4-Chloroaniline		ND	U	2,500	"	"	"	"	8270D
Hexachlorobutadiene		ND	U	480	"	"	"	"	8270D
4-Chloro-3-methylphenol		ND	U	2,500	"	"	"	"	8270D

KAL 7/9/18

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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Lab ID: 1804031-03 — **Soil - Sampled: 04/18/18 09:30**

Sample ID: R0-3-0.5

Semivolatile Organic Compounds by EPA Method 8270D

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
2-Methylnaphthalene		ND	U	480	ug/kg dry	B18D112	04/23/18	05/07/18	8270D
Hexachlorocyclopentadiene		ND	U	2,500	"	"	"	"	8270D
2,4,6-Trichlorophenol		ND	U	2,500	"	"	"	"	8270D
2,4,5-Trichlorophenol		ND	U	2,500	"	"	"	"	8270D
2-Chloronaphthalene		ND	U	480	"	"	"	"	8270D
2-Nitroaniline		ND	U	2,500	"	"	"	"	8270D
Dimethyl phthalate		ND	U	480	"	"	"	"	8270D
2,6-Dinitrotoluene		ND	U	480	"	"	"	"	8270D
Acenaphthylene		ND	U	480	"	"	"	"	8270D
3-Nitroaniline		ND	U	2,500	"	"	"	"	8270D
Acenaphthene		ND	U	480	"	"	"	"	8270D
2,4-Dinitrophenol		ND	~~U, C3, L~~ UJ	9,700	"	"	"	"	8270D
4-Nitrophenol		ND	U	2,500	"	"	"	"	8270D
Dibenzofuran		ND	U	480	"	"	"	"	8270D
2,4-Dinitrotoluene		ND	U	480	"	"	"	"	8270D
Diethyl phthalate		ND	U	480	"	"	"	"	8270D
Fluorene		ND	U	480	"	"	"	"	8270D
4-Chlorophenyl phenyl ether		ND	U	480	"	"	"	"	8270D
4-Nitroaniline		ND	~~U, J, Q2~~ UJ	2,500	"	"	"	"	8270D
4,6-Dinitro-2-methylphenol		ND	~~U, C3, J~~ UJ	2,500	"	"	"	"	8270D
Diphenyl amine		ND	~~U, J, Q2~~ UJ	480	"	"	"	"	8270D
4-Bromophenyl phenyl ether		ND	U	480	"	"	"	"	8270D
Hexachlorobenzene		ND	U	480	"	"	"	"	8270D
Pentachlorophenol		ND	~~U, C3, L~~ UJ	9,700	"	"	"	"	8270D
Phenanthrene		730		480	"	"	"	"	8270D
Anthracene		ND	U	480	"	"	"	"	8270D
Carbazole		ND	~~U, J, Q2~~ UJ	480	"	"	"	"	8270D
Di-n-butyl phthalate		ND	U	480	"	"	"	"	8270D
Fluoranthene		760		480	"	"	"	"	8270D
Pyrene		1,300		480	"	"	"	"	8270D
Butyl benzyl phthalate		540		480	"	"	"	"	8270D
Benzo(a)anthracene		460	C1, J	480	"	"	"	"	8270D
3,3'-Dichlorobenzidine		ND	~~U, C4, J, Q2~~ UJ	480	"	"	"	"	8270D
Chrysene		1,200		480	"	"	"	"	8270D
Bis(2-ethylhexyl) phthalate		2,700		480	"	"	"	"	8270D
Di-n-octyl phthalate		ND	~~U, J, Q2, Q3~~ UJ	480	"	"	"	"	8270D
Benzo(b)fluoranthene		1,700		480	"	"	"	"	8270D

KMC 7/9/18

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-03									**Soil - Sampled: 04/18/18 09:30**
Sample ID: R0-3-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Benzo(k)fluoranthene		450	CL, J	480	ug/kg dry	B18D112	04/23/18	05/07/18	8270D
Benzo(a)pyrene		570		480	"	"	"	"	8270D
Indeno(1,2,3-cd)pyrene		310	CL, J	480	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	U	480	"	"	"	"	8270D
Benzo(g,h,i)perylene		500		480	"	"	"	"	8270D
Surrogate: 2-Fluorophenol			59 %	*20-111%*		"	"	"	
Surrogate: Phenol-d5			22 %	*20-111%*		"	"	"	
Surrogate: 2-Chlorophenol-d4			90 %	*20-121%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			78 %	*20-136%*		"	"	"	
Surrogate: Nitrobenzene-d5			82 %	*20-125%*		"	"	"	
Surrogate: 2-Fluorobiphenyl			75 %	*20-121%*		"	"	"	
Surrogate: 2,4,6-Tribromophenol			99 %	*20-146%*		"	"	"	
Surrogate: Terphenyl-d14			85 %	*20-131%*		"	"	"	
Sample ID: R0-3-0.5									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		70		1	%	B18D123	04/25/18	04/26/18	3550C
Lab ID: 1804031-04									**Soil - Sampled: 04/18/18 10:30**
Sample ID: R0-4-0.5									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.22		0.13	mg/kg dry	B18D127	04/26/18	04/26/18	7473
Arsenic		11		2.2	"	B18D103	04/23/18	05/01/18	6010C
Barium		160		5.5	"	"	"	"	6010C
Cadmium		1.4		0.55	"	"	"	"	6010C
Chromium		56		1.1	"	"	"	"	6010C
Lead		660		3.3	"	"	"	"	6010C
Selenium		ND	U	2.2	"	"	"	"	6010C
Silver		ND	U	1.1	"	"	"	"	6010C
Sample ID: R0-4-0.5									**Purgeable Petroleum Hydrocarbons**
TPH - Gasoline Range Organics		ND	U	5.2	"	B18D111	04/18/18	04/24/18	8015C
Surrogate: a,a,a-Trifluorotoluene			86 %	*76-124%*		"	"	"	
Sample ID: R0-4-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Diesel Range Organics		110	F13	27	"	B18D099	04/20/18	04/24/18	8015C
TPH - Oil Range Organics		1,100	F5	110	"	"	"	"	8015C
Sample ID: R0-4-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1016		ND	U	14	ug/kg dry	B18D129	04/27/18	05/04/18	8082A
Aroclor 1221		ND	U	30	"	"	"	"	8082A
Aroclor 1232		ND	U	14	"	"	"	"	8082A
Aroclor 1242		ND	U	14	"	"	"	"	8082A
Aroclor 1248		ND	U	14	"	"	"	"	8082A
Aroclor 1254		ND	U	14	"	"	"	"	8082A

KAL 7/9/18

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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-04									**Soil - Sampled: 04/18/18 10:30**
Sample ID: R0-4-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1260		24		14	ug/kg dry	B18D129	04/27/18	05/04/18	8082A
Aroclor 1262		ND	U	14	"	"	"	"	8082A
Aroclor 1268		ND	U	14	"	"	"	"	8082A
Surrogate: Tetrachloro-m-xylene			50 %	*20-140%*		"	"	"	
Surrogate: Decachlorobiphenyl			40 %	*20-125%*		"	"	"	
Sample ID: R0-4-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Dichlorodifluoromethane		ND	U	2.9	"	B18D145	04/18/18	04/30/18	8260C
Chloromethane		ND	U	2.9	"	"	"	"	8260C
Vinyl chloride		ND	U	2.9	"	"	"	"	8260C
Bromomethane		ND	~~J, C3, U~~ UJ	2.9	"	"	"	"	8260C
Chloroethane		ND	U	2.9	"	"	"	"	8260C
Trichlorofluoromethane		ND	U	2.9	"	"	"	"	8260C
1,1-Dichloroethene		ND	U	2.9	"	"	"	"	8260C
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	U	2.9	"	"	"	"	8260C
Acetone		ND	U	23	"	"	"	"	8260C
Carbon disulfide		ND	~~U, J, C3~~ UJ	2.9	"	"	"	"	8260C
Dichloromethane		ND	U	2.9	"	"	"	"	8260C
trans-1,2-Dichloroethene		ND	U	2.9	"	"	"	"	8260C
tert-Butyl methyl ether (MTBE)		ND	U	12	"	"	"	"	8260C
1,1-Dichloroethane		ND	U	2.9	"	"	"	"	8260C
cis-1,2-Dichloroethene		ND	U	2.9	"	"	"	"	8260C
2-Butanone (MEK)		ND	U	23	"	"	"	"	8260C
Chloroform		ND	U	2.9	"	"	"	"	8260C
1,1,1-Trichloroethane		ND	U	2.9	"	"	"	"	8260C
Carbon tetrachloride		ND	U	2.9	"	"	"	"	8260C
1,1-Dichloropropene		ND	U	2.9	"	"	"	"	8260C
Benzene		ND	U	2.9	"	"	"	"	8260C
1,2-Dichloroethane		ND	U	2.9	"	"	"	"	8260C
Trichloroethene		ND	U	2.9	"	"	"	"	8260C
1,2-Dichloropropane		ND	U	2.9	"	"	"	"	8260C
Bromodichloromethane		ND	~~U, J, C3~~ UJ	2.9	"	"	"	"	8260C
cis-1,3-Dichloropropene		ND	~~J, C3, U~~ UJ	2.9	"	"	"	"	8260C
4-Methyl-2-pentanone (MIBK)		ND	U	23	"	"	"	"	8260C
Toluene		ND	U	2.9	"	"	"	"	8260C
trans-1,3-Dichloropropene		ND	~~J, C3, U~~ UJ	2.9	"	"	"	"	8260C
1,1,2-Trichloroethane		ND	U	2.9	"	"	"	"	8260C

EAL 7/9/18

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-04									**Soil - Sampled: 04/18/18 10:30**
Sample ID: R0-4-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Tetrachloroethene		ND	U	2.9	ug/kg dry	B18D145	04/18/18	04/30/18	8260C
1,3-Dichloropropane		ND	U	2.9	"	"	"	"	8260C
2-Hexanone		ND	U	23	"	"	"	"	8260C
Chlorodibromomethane		ND	~~J, C3, U~~ UJ	2.9	"	"	"	"	8260C
1,2-Dibromoethane (EDB)		ND	U	2.9	"	"	"	"	8260C
Chlorobenzene		ND	UJ	2.9	"	"	"	"	8260C
Ethylbenzene		ND	U	2.9	"	"	"	"	8260C
m&p-Xylene		4.6	~~C1~~, J	5.8	"	"	"	"	8260C
o-Xylene		ND	U	2.9	"	"	"	"	8260C
Styrene		ND	J	2.9	"	"	"	"	8260C
Bromoform		ND	~~J, C3, U~~ UJ	2.9	"	"	"	"	8260C
1,1,2,2-Tetrachloroethane		ND	U	2.9	"	"	"	"	8260C
1,2,3-Trichloropropane		ND	U	2.9	"	"	"	"	8260C
1,3-Dichlorobenzene		ND	UJ	2.9	"	"	"	"	8260C
1,4-Dichlorobenzene		ND	UJ	2.9	"	"	"	"	8260C
1,2-Dichlorobenzene		ND	UJ	2.9	"	"	"	"	8260C
1,2-Dibromo-3-chloropropane		ND	~~C3, J, U~~ UJ	12	"	"	"	"	8260C
Ethanol		150	N TIC, J		"	"	"	"	8260C
Surrogate: 1,2-Dichloroethane-d4			105 %	*63-144%*		"	"	"	
Surrogate: Toluene-d8			111 %	*86-111%*		"	"	"	
Surrogate: 4-Bromofluorobenzene			83 %	*81-110%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			**64 %**	*75-112%*		"	"	"	
Sample ID: R0-4-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Phenol		ND	U	1,900	"	B18D112	04/23/18	05/07/18	8270D
Bis(2-chloroethyl)ether		ND	U	370	"	"	"	"	8270D
2-Chlorophenol		ND	U	1,900	"	"	"	"	8270D
1,3-Dichlorobenzene		ND	U	370	"	"	"	"	8270D
1,4-Dichlorobenzene		ND	U	370	"	"	"	"	8270D
Benzyl alcohol		ND	U	1,900	"	"	"	"	8270D
1,2-Dichlorobenzene		ND	U	370	"	"	"	"	8270D
2-Methylphenol		ND	U	1,900	"	"	"	"	8270D
Bis(2-chloro-1-methylethyl) ether		ND	U	370	"	"	"	"	8270D
3&4-Methylphenol		ND	U	1,900	"	"	"	"	8270D
N-Nitrosodipropylamine		ND	U	370	"	"	"	"	8270D
Hexachloroethane		ND	U	370	"	"	"	"	8270D
Nitrobenzene		ND	U	370	"	"	"	"	8270D
Isophorone		ND	U	370	"	"	"	"	8270D

KR 7/9/18

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:	Eric Nuehms	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Lab ID: 1804031-04 — **Soil - Sampled: 04/18/18 10:30**

Sample ID: R0-4-0.5

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Semivolatile Organic Compounds by EPA Method 8270D									
2-Nitrophenol		ND	U	1,900	ug/kg dry	B18D112	04/23/18	05/07/18	8270D
2,4-Dimethylphenol		ND	~~U, Q2, J~~ UJ	1,900	"	"	"	"	8270D
Bis(2-chloroethoxy)methane		ND	U	370	"	"	"	"	8270D
2,4-Dichlorophenol		ND	U	1,900	"	"	"	"	8270D
1,2,4-Trichlorobenzene		ND	U	370	"	"	"	"	8270D
Naphthalene		550		370	"	"	"	"	8270D
4-Chloroaniline		ND	U	1,900	"	"	"	"	8270D
Hexachlorobutadiene		ND	U	370	"	"	"	"	8270D
4-Chloro-3-methylphenol		ND	U	1,900	"	"	"	"	8270D
2-Methylnaphthalene		210	~~C1,~~ J	370	"	"	"	"	8270D
Hexachlorocyclopentadiene		ND	U	1,900	"	"	"	"	8270D
2,4,6-Trichlorophenol		ND	U	1,900	"	"	"	"	8270D
2,4,5-Trichlorophenol		ND	U	1,900	"	"	"	"	8270D
2-Chloronaphthalene		ND	U	370	"	"	"	"	8270D
2-Nitroaniline		ND	U	1,900	"	"	"	"	8270D
Dimethyl phthalate		ND	U	370	"	"	"	"	8270D
2,6-Dinitrotoluene		ND	U	370	"	"	"	"	8270D
Acenaphthylene		19	~~C1,~~ J	370	"	"	"	"	8270D
3-Nitroaniline		ND	U	1,900	"	"	"	"	8270D
Acenaphthene		ND	U	370	"	"	"	"	8270D
2,4-Dinitrophenol		ND	~~U, C3, J~~ UJ	7,500	"	"	"	"	8270D
4-Nitrophenol		ND	U	1,900	"	"	"	"	8270D
Dibenzofuran		ND	U	370	"	"	"	"	8270D
2,4-Dinitrotoluene		ND	U	370	"	"	"	"	8270D
Diethyl phthalate		ND	U	370	"	"	"	"	8270D
Fluorene		ND	U	370	"	"	"	"	8270D
4-Chlorophenyl phenyl ether		ND	U	370	"	"	"	"	8270D
4-Nitroaniline		ND	~~U, Q2, J~~ UJ	1,900	"	"	"	"	8270D
4,6-Dinitro-2-methylphenol		ND	~~U, C3, J~~ UJ	1,900	"	"	"	"	8270D
Diphenyl amine		ND	~~U, J, Q2~~ UJ	370	"	"	"	"	8270D
4-Bromophenyl phenyl ether		ND	U	370	"	"	"	"	8270D
Hexachlorobenzene		ND	U	370	"	"	"	"	8270D
Pentachlorophenol		ND	~~U, C3, J~~ UJ	7,500	"	"	"	"	8270D
Phenanthrene		530		370	"	"	"	"	8270D
Anthracene		ND	U	370	"	"	"	"	8270D
Carbazole		ND	~~U, Q2, J~~ UJ	370	"	"	"	"	8270D
Di-n-butyl phthalate		ND	U	370	"	"	"	"	8270D

KAC 7/9/18

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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-04									**Soil - Sampled: 04/18/18 10:30**
Sample ID: R0-4-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Fluoranthene		680		370	ug/kg dry	B18D112	04/23/18	05/07/18	8270D
Pyrene		1,300		370	"	"	"	"	8270D
Butyl benzyl phthalate		ND	U	370	"	"	"	"	8270D
Benzo(a)anthracene		500		370	"	"	"	"	8270D
3,3'-Dichlorobenzidine		ND	~~U, C4, Q2, J~~ UJ	370	"	"	"	"	8270D
Chrysene		760		370	"	"	"	"	8270D
Bis(2-ethylhexyl) phthalate		660		370	"	"	"	"	8270D
Di-n-octyl phthalate		ND	~~U, Q2, Q3, J~~ UJ	370	"	"	"	"	8270D
Benzo(b)fluoranthene		1,400		370	"	"	"	"	8270D
Benzo(k)fluoranthene		360	~~C1~~, J	370	"	"	"	"	8270D
Benzo(a)pyrene		660		370	"	"	"	"	8270D
Indeno(1,2,3-cd)pyrene		310	~~C1~~, J	370	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	U	370	"	"	"	"	8270D
Benzo(g,h,i)perylene		350	~~C1~~, J	370	"	"	"	"	8270D
Heneicosanol		2,400	N TIC, J		"	"	"	"	8270D
Hentriacontane		2,800	N TIC, J		"	"	"	"	8270D
Surrogate: 2-Fluorophenol			81 %	*20-111%*		"	"	"	
Surrogate: Phenol-d5			81 %	*20-111%*		"	"	"	
Surrogate: 2-Chlorophenol-d4			85 %	*20-121%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			72 %	*20-136%*		"	"	"	
Surrogate: Nitrobenzene-d5			78 %	*20-125%*		"	"	"	
Surrogate: 2-Fluorobiphenyl			75 %	*20-121%*		"	"	"	
Surrogate: 2,4,6-Tribromophenol			100 %	*20-146%*		"	"	"	
Surrogate: Terphenyl-d14			92 %	*20-131%*		"	"	"	
Sample ID: R0-4-0.5									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		91		1	%	B18D123	04/25/18	04/26/18	3550C

KAL 7/9/18

BERCOVICH LEAD SMELTER SITE REMOVAL ACTION
DATA VALIDATION REPORT

Date: July 9, 2018
Laboratory: Environmental Protection Agency (EPA) Region 9 Laboratory, Richmond, CA
Laboratory Job Number: 1805009
Data Validation Performed By: Kelly Luck, Weston Solutions, Inc. (WESTON) Superfund Technical Assessment and Response Team (START)
Weston Work Order #: 20409.012.002.0163.00

This data validation report has been prepared by WESTON START under the START IV U.S. EPA Region 9 contract. This report documents the data validation for 9 soil samples collected for the Bercovich Lead Smelter Site Removal Action that were analyzed for the following parameters and EPA methods:

- Resource Conservation and Recovery Act (RCRA) Metals by SW-846 Method 6010C/7473

A level II data package was received from EPA Region 9 Laboratory, Richmond, CA. The data validation was conducted in general accordance with the EPA "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" dated January 2017. The Attachment contains the results summary sheets with any hand-written qualifiers applied during data validation.

RCRA METALS by SW-846 METHOD 6010C/7473

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared		Date Analyzed	
				Mercury	Metals	Mercury	Metals
Topsoil-1	1805009-01	Soil	04/20/18	05/14/18	05/07/18	05/14/18	05/18/18
Backfill-1	1805009-02	Soil	04/23/18	05/14/18	05/07/18	05/14/18	05/18/18
R6-3-1[1]	1805009-03	Soil	04/24/18	--	05/07/18	--	05/18/18
R6-3-1-dup[1]	1805009-04	Soil	04/24/18	--	05/07/18	--	05/18/18
R6-2-1[1]	1805009-05	Soil	04/24/18	--	05/07/18	--	05/18/18
Backfill-3	1805009-06	Soil	04/26/18	05/14/18	05/07/18	05/14/18	05/18/18. 05/21/18
R1-1-1[1]	1805009-07	Soil	04/27/18	--	05/07/18	--	05/21/18
R5-1-1[1]	1805009-08	Soil	04/28/18	--	05/07/18	--	05/21/18
Topsoil-3	1805009-09	Soil	04/30/18	05/14/18	05/07/18	05/14/18	05/18/18. 05/21/18

[1] This sample was analyzed for lead only.

1. Data Verification Check

A data verification and completeness check was performed in accordance with the Stage 1 and 2A verification checks outlined in the EPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use" dated January 13, 2009. For the metals analyses, all analytical data package items were received from the laboratory and the analysis requested was performed.

The laboratory noted that the samples were received pre-dried and sieved in XRF cups and therefore sample results were reported on an "as received" basis. No percent solids determination was performed and no dry-weight correction applied.

2. Holding Times

The samples were analyzed within the required holding time limits: 28 days for mercury and 180 days for all other metals. The laboratory reported that samples analyzed for mercury, Topsoil-1, Backfill-1, Backfill-3, and Topsoil-3, were received above the recommended temperature range (actual temperature not reported). The results for mercury in these samples were qualified as estimated (J for detects, UJ for nondetects).

3. Blank Results

Method blanks were analyzed with the metal and mercury sample group and were free of target compound contamination above the quantitation limits.

4. Laboratory Control Sample Results

Laboratory control samples (standard reference materials) were analyzed with the sample group and all recoveries were within quality control (QC) limits, with the exception of barium (0%). The amount of barium in the laboratory control sample was below the quantitation limit for barium; therefore, no qualification of data was necessary.

5. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

Sample R6-2-1 was used for MS and MSD analyses for target analytes except mercury, and sample Topsoil-1 was used for MS and MSD analyses for mercury. All recoveries were within QC limits with the exception of barium (127%) and lead (142%). All relative percent differences (RPDs) were within QC limits. The concentrations of lead in the unspiked sample was greater than four times the amount of the spiked concentrations; therefore, no action was required for lead. No qualification of data was necessary for barium as sample R6-2-1 was not analyzed for barium.

6. Field Duplicate Results

The sample set included one field duplicate pair, R6-3-1 and R6-3-1-dup. The RPD for lead (the only target analyte for this pair) was within control limits (≤50%).

7. Overall Assessment

EPA Region 9 Laboratory flagged sample results with the following laboratory qualifier:

A2, J: Indicates that the sample was received above the recommended temperature range. The data validator removed the "A2" qualifier and left the "J" qualifier in place.

The metals data are acceptable for use as qualified based on the information received.

ATTACHMENT

EPA REGION 9 LABORATORY
RESULTS SUMMARY WITH QUALIFIERS

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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18123D
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 05/24/18 08:52
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805009-01									**Solid - Sampled: 04/20/18 16:05**
Sample ID: Topsoil-1									**Metals by EPA 6000/7000 Series Methods**
Mercury		ND	~~A2, J~~ UJ	0.029	mg/kg wet	B18E097	05/14/18	05/14/18	7473
Arsenic		4.9		2	"	B18E048	05/07/18	05/18/18	6010C
Barium		170		5	"	"	"	"	6010C
Cadmium		ND	U	0.50	"	"	"	"	6010C
Chromium		39		1	"	"	"	"	6010C
Lead		3.9		3	"	"	"	"	6010C
Selenium		ND	U	2	"	"	"	"	6010C
Silver		ND	U	1	"	"	"	"	6010C
Lab ID: 1805009-02									**Solid - Sampled: 04/23/18 14:37**
Sample ID: Backfill-1									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.56	~~A2,~~ J	0.023	mg/kg wet	B18E097	05/14/18	05/14/18	7473
Arsenic		4.5		2	"	B18E048	05/07/18	05/18/18	6010C
Barium		160		5	"	"	"	"	6010C
Cadmium		ND	U	0.50	"	"	"	"	6010C
Chromium		28		1	"	"	"	"	6010C
Lead		4.5		3	"	"	"	"	6010C
Selenium		ND	U	2	"	"	"	"	6010C
Silver		ND	U	1	"	"	"	"	6010C
Lab ID: 1805009-03									**Solid - Sampled: 04/24/18 14:45**
Sample ID: R6-3-1									**Metals by EPA 6000/7000 Series Methods**
Lead		1,200		3	mg/kg wet	B18E048	05/07/18	05/18/18	6010C
Lab ID: 1805009-04									**Solid - Sampled: 04/24/18 14:47**
Sample ID: R6-3-1-dup									**Metals by EPA 6000/7000 Series Methods**
Lead		1,300		3	mg/kg wet	B18E048	05/07/18	05/18/18	6010C
Lab ID: 1805009-05									**Solid - Sampled: 04/24/18 15:37**
Sample ID: R6-2-1									**Metals by EPA 6000/7000 Series Methods**
Lead		570		3	mg/kg wet	B18E048	05/07/18	05/18/18	6010C
Lab ID: 1805009-06									**Solid - Sampled: 04/26/18 11:02**
Sample ID: Backfill-3									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.13	~~A2,~~ J	0.029	mg/kg wet	B18E097	05/14/18	05/14/18	7473
Arsenic	RE1	4.7		2	"	B18E048	05/07/18	05/21/18	6010C
Barium		180		5	"	"	"	05/18/18	6010C
Cadmium	RE1	ND	U	0.50	"	"	"	05/21/18	6010C
Chromium	RE1	32		1	"	"	"	"	6010C
Lead	RE1	5.8		3	"	"	"	"	6010C
Selenium	RE1	ND	U	2	"	"	"	"	6010C
Silver	RE1	ND	U	1	"	"	"	"	6010C
Lab ID: 1805009-07									**Solid - Sampled: 04/27/18 16:15**

KR 7/9/18

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18123D
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/24/18 08:52
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805009-07									**Solid - Sampled: 04/27/18 16:15**
Sample ID: R1-1-1									**Metals by EPA 6000/7000 Series Methods**
Lead	RE1	220		3	mg/kg wet	B18E048	05/07/18	05/21/18	6010C
Lab ID: 1805009-08									**Solid - Sampled: 04/28/18 16:20**
Sample ID: R5-1-1									**Metals by EPA 6000/7000 Series Methods**
Lead	RE1	840		3	mg/kg wet	B18E048	05/07/18	05/21/18	6010C
Lab ID: 1805009-09									**Solid - Sampled: 04/30/18 16:34**
Sample ID: Topsoil-3									**Metals by EPA 6000/7000 Series Methods**
Mercury		ND	~~A2, J, U~~ UJ	0.030	mg/kg wet	B18E097	05/14/18	05/14/18	7473
Arsenic	RE1	4.4		2	"	B18E048	05/07/18	05/21/18	6010C
Barium		170		5	"	"	"	05/18/18	6010C
Cadmium	RE1	ND	U	0.50	"	"	"	05/21/18	6010C
Chromium	RE1	40		1	"	"	"	"	6010C
Lead	RE1	4.1		3	"	"	"	"	6010C
Selenium	RE1	ND	U	2	"	"	"	"	6010C
Silver	RE1	ND	U	1	"	"	"	"	6010C

KAL 7/9/18

BERCOVICH LEAD SMELTER SITE REMOVAL ACTION
DATA VALIDATION REPORT

Date: July 9, 2018
Laboratory: Environmental Protection Agency (EPA) Region 9 Laboratory, Richmond, CA
Laboratory Job Number: 1805010
Data Validation Performed By: Kelly Luck, Weston Solutions, Inc. (WESTON) Superfund Technical Assessment and Response Team (START)
Weston Work Order #: 20409.012.002.0163.00

This data validation report has been prepared by WESTON START under the START IV U.S. EPA Region 9 contract. This report documents the data validation for 9 air filter samples collected for the Bercovich Lead Smelter Site Removal Action that were analyzed for the following parameter and EPA method:

- Lead by Federal Equivalent Method for Air Monitoring EQL-0710-192

A level II data package was received from EPA Region 9 Laboratory, Richmond, CA. The data validation was conducted in general accordance with the EPA "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" dated January 2017. The Attachment contains the results summary sheets with any hand-written qualifiers applied during data validation.

LEAD by FEDERAL EQUIVALENT METHOD FOR AIR MONITORING EQL-0710-192

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
BR-23-041818	1805010-01	Air Filter	04/18/18	05/18/18	05/22/18
BR-25-041818	1805010-02	Air Filter	04/18/18	05/18/18	05/22/18
BR-PA1-042118	1805010-03	Air Filter	04/21/18	05/18/18	05/22/18
BR-PA2-042118	1805010-04	Air Filter	04/21/18	05/18/18	05/22/18
BR-22-042318	1805010-05	Air Filter	04/23/18	05/18/18	05/22/18
BR-24-042318	1805010-06	Air Filter	04/23/18	05/18/18	05/22/18
BR-22-050218	1805010-07	Air Filter	05/02/18	05/18/18	05/22/18
BR-21-050218	1805010-08	Air Filter	05/02/18	05/18/18	05/22/18
BR-24-050218	1805010-09	Air Filter	05/02/18	05/18/18	05/22/18

1. Data Verification Check

A data verification and completeness check was performed in accordance with the Stage 1 and 2A verification checks outlined in the EPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use" dated January 13, 2009. For the lead analyses, all analytical data package items were received from the laboratory and the analysis requested was performed.

2. Holding Times

The samples were analyzed within the required holding time limits of 180 days.

3. Blank Results

A method blank was analyzed with the sample group and was free of target compound contamination above the quantitation limit.

4. Laboratory Control Sample Results

A laboratory control sample and a laboratory control sample duplicate were analyzed with the sample group and the recoveries and relative percent difference (RPD) were within quality control limits.

5. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

No MS/MSD analyses were conducted.

6. Field Duplicate Results

The sample set included one field duplicate pair, BR-22-050218 and BR-21-050218. The RPD for lead was within control limits (≤50%).

7. Overall Assessment

The lead data are acceptable for use as qualified based on the information received.

ATTACHMENT

EPA REGION 9 LABORATORY
RESULTS SUMMARY

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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18123E
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 05/24/18 10:06
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805010-01									**Air Filter - Sampled: 04/18/18 08:41**
Sample ID: BR-23-041818									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: 1805010-02									**Air Filter - Sampled: 04/18/18 08:43**
Sample ID: BR-25-041818									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: 1805010-03									**Air Filter - Sampled: 04/21/18 08:30**
Sample ID: BR-PA1-042118									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: 1805010-04									**Air Filter - Sampled: 04/21/18 08:31**
Sample ID: BR-PA2-042118									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		0.19		0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: 1805010-05									**Air Filter - Sampled: 04/23/18 07:29**
Sample ID: BR-22-042318									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: 1805010-06									**Air Filter - Sampled: 04/23/18 07:31**
Sample ID: BR-24-042318									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: 1805010-07									**Air Filter - Sampled: 05/02/18 07:34**
Sample ID: BR-22-050218									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		0.46		0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: 1805010-08									**Air Filter - Sampled: 05/02/18 07:34**
Sample ID: BR-21-050218									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		0.41		0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: 1805010-09									**Air Filter - Sampled: 05/02/18 07:36**
Sample ID: BR-24-050218									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E119 - Air Filter Digestion - Lead on Air Filters										**Prepared: 05/18/18 Analyzed: 05/22/18**
										Federal Equivalent Methods for Ambient Air Monitoring - Quality Control
Blank (B18E119-BLK1)										
Lead	ND	U	0.18	ug/Filter						
LCS (B18E119-BS1)										
Lead	2		0.18	ug/Filter	2.00		100	80-120		
LCS Dup (B18E119-BSD1)										
Lead	2.01		0.18	ug/Filter	2.00		101	80-120	0.6	20

BERCOVICH LEAD SMELTER SITE REMOVAL ACTION
DATA VALIDATION REPORT

Date: July 9, 2018
Laboratory: Environmental Protection Agency (EPA) Region 9 Laboratory, Richmond, CA
Laboratory Job Number: 1805026
Data Validation Performed By: Kelly Luck, Weston Solutions, Inc. (WESTON) Superfund Technical Assessment and Response Team (START)
Weston Work Order #: 20409.012.002.0163.00

This data validation report has been prepared by WESTON START under the START IV U.S. EPA Region 9 contract. This report documents the data validation for 3 air filter samples collected for the Bercovich Lead Smelter Site Removal Action that were analyzed for the following parameter and EPA method:

- Lead by Federal Equivalent Method for Air Monitoring EQL-0710-192

A level II data package was received from EPA Region 9 Laboratory, Richmond, CA. The data validation was conducted in general accordance with the EPA "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" dated January 2017. The Attachment contains the results summary sheets with any hand-written qualifiers applied during data validation.

LEAD by FEDERAL EQUIVALENT METHOD FOR AIR MONITORING EQL-0710-192

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
BR-22-050718	1805026-01	Air Filter	05/07/18	05/18/18	05/22/18
BR-12-051018	1805026-02	Air Filter	05/10/18	05/18/18	05/22/18
BR-FB	1805026-03	Air Filter	05/11/18	05/18/18	05/22/18

1. Data Verification Check

A data verification and completeness check was performed in accordance with the Stage 1 and 2A verification checks outlined in the EPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use" dated January 13, 2009. For the lead analyses, all analytical data package items were received from the laboratory and the analysis requested was performed.

2. Holding Times

The samples were analyzed within the required holding time limits of 180 days.

3. Blank Results

A method blank was analyzed with the sample group and was free of target compound contamination above the quantitation limit.

4. Laboratory Control Sample Results

A laboratory control sample and a laboratory control sample duplicate were analyzed with the sample group and the recoveries and relative percent difference (RPD) were within quality control limits.

5. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

No MS/MSD analyses were conducted.

6. Field Duplicate Results

The sample set did not include any field duplicate pairs.

7. Overall Assessment

The lead data are acceptable for use as qualified based on the information received.

ATTACHMENT

EPA REGION 9 LABORATORY
RESULTS SUMMARY

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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18131A
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 05/30/18 13:55
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1805026-01**									**Air Filter - Sampled: 05/07/18 07:35**
Sample ID: **BR-22-050718**									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: **1805026-02**									**Air Filter - Sampled: 05/10/18 10:58**
Sample ID: **BR-12-051018**									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: **1805026-03**									**Air Filter - Sampled: 05/11/18 08:00**
Sample ID: **BR-FB**									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E119 - Air Filter Digestion - Lead on Air Filters										**Prepared: 05/18/18 Analyzed: 05/22/18**
										Federal Equivalent Methods for Ambient Air Monitoring - Quality Control
Blank (B18E119-BLK1)										
Lead	ND	U	0.18	ug/Filter						
LCS (B18E119-BS1)										
Lead	2		0.18	ug/Filter	2.00		100	80-120		
LCS Dup (B18E119-BSD1)										
Lead	2.01		0.18	ug/Filter	2.00		101	80-120	0.6	20

BERCOVICH LEAD SMELTER SITE REMOVAL ACTION
DATA VALIDATION REPORT

Date: July 9, 2018
Laboratory: Environmental Protection Agency (EPA) Region 9 Laboratory, Richmond, CA
Laboratory Job Number: 1805027
Data Validation Performed By: Kelly Luck, Weston Solutions, Inc. (WESTON) Superfund Technical Assessment and Response Team (START)
Weston Work Order #: 20409.012.002.0163.00

This data validation report has been prepared by WESTON START under the START IV U.S. EPA Region 9 contract. This report documents the data validation for 5 soil samples collected for the Bercovich Lead Smelter Site Removal Action that were analyzed for the following parameters and EPA methods:

- Resource Conservation and Recovery Act (RCRA) Metals by SW-846 Method 6010C/7473

A level II data package was received from EPA Region 9 Laboratory, Richmond, CA. The data validation was conducted in general accordance with the EPA "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" dated January 2017. The Attachment contains the results summary sheets with any hand-written qualifiers applied during data validation.

RCRA METALS by SW-846 METHOD 6010C/7473

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared		Date Analyzed	
				Mercury	Metals	Mercury	Metals
Backfill-6	1805027-01	Soil	05/10/18	05/14/18	05/16/18	05/14/18	05/23/18
R8-2-6[1]	1805027-02	Soil	05/07/18	--	05/16/18	--	05/23/18
R12-1-1[1]	1805027-03	Soil	05/10/18	--	05/16/18	--	05/23/18
R9-1-1[1]	1805027-04	Soil	05/10/18	--	05/16/18	--	05/23/18
R9-1-1-dup[1]	1805027-05	Soil	05/10/18	--	05/16/18	--	05/23/18

[1] This sample was analyzed for lead only.

1. Data Verification Check

A data verification and completeness check was performed in accordance with the Stage 1 and 2A verification checks outlined in the EPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use" dated January 13, 2009. For the metals analyses, all analytical data package items were received from the laboratory and the analysis requested was performed.

The laboratory noted that the samples were received pre-dried and sieved in XRF cups and therefore sample results were reported on an "as received" basis. No percent solids determination was performed and no dry-weight correction applied.

2. Holding Times

The samples were analyzed within the required holding time limits: 28 days for mercury and 180 days for all other metals. The laboratory reported that samples were received at 24 ºC, which is above the recommended temperature range for mercury. The results for mercury in sample Backfill-6 (the only sample analyzed for mercury) were qualified as estimated (J).

3. Blank Results

Method blanks were analyzed with the metal and mercury sample group and were free of target compound contamination above the quantitation limits.

4. Laboratory Control Sample Results

Laboratory control samples (standard reference materials) were analyzed with the sample group and all recoveries were within quality control (QC) limits, with the exception of barium (0%). The amount of barium in the laboratory control sample was below the quantitation limit for barium; therefore, no qualification of data was necessary.

5. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

Sample Backfill-6 was used for MS and MSD analyses for metals and mercury. All recoveries and relative percent differences (RPDs) were within QC limits.

6. Field Duplicate Results

The sample set included one field duplicate pair, R9-1-1 and R9-1-1-dup. The RPD for lead (the only target analyte for this pair) was within control limits (≤50%).

7. Overall Assessment

EPA Region 9 Laboratory flagged sample results with the following laboratory qualifier:

A2, J: Indicates that the sample was received above the recommended temperature range. The data validator removed the “A2” qualifier and left the “J” qualifier in place.

The metals data are acceptable for use as qualified based on the information received.

ATTACHMENT

EPA REGION 9 LABORATORY
RESULTS SUMMARY WITH QUALIFIERS

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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18131B
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 05/31/18 11:26
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805027-01									**Soil - Sampled: 05/10/18 14:34**
Sample ID: Backfill-6									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.12	~~A8~~, J	0.025	mg/kg wet	B18E097	05/14/18	05/14/18	7473
Arsenic		5.0		2	"	B18E115	05/16/18	05/23/18	6010C
Barium		250		5	"	"	"	"	6010C
Cadmium		ND	U	0.50	"	"	"	"	6010C
Chromium		30		1	"	"	"	"	6010C
Lead		4.7		3	"	"	"	"	6010C
Selenium		ND	U	2	"	"	"	"	6010C
Silver		ND	U	1	"	"	"	"	6010C
Lab ID: 1805027-02									**Soil - Sampled: 05/07/18 15:38**
Sample ID: R8-2-6									**Metals by EPA 6000/7000 Series Methods**
Lead		3,200		3	mg/kg wet	B18E115	05/16/18	05/23/18	6010C
Lab ID: 1805027-03									**Soil - Sampled: 05/10/18 15:24**
Sample ID: R12-1-1									**Metals by EPA 6000/7000 Series Methods**
Lead		810		3	mg/kg wet	B18E115	05/16/18	05/25/18	6010C
Lab ID: 1805027-04									**Soil - Sampled: 05/10/18 15:53**
Sample ID: R9-1-1									**Metals by EPA 6000/7000 Series Methods**
Lead		910		3	mg/kg wet	B18E115	05/16/18	05/23/18	6010C
Lab ID: 1805027-05									**Soil - Sampled: 05/10/18 15:54**
Sample ID: R9-1-1_dup									**Metals by EPA 6000/7000 Series Methods**
Lead		960		3	mg/kg wet	B18E115	05/16/18	05/23/18	6010C

km 7/9/18

BERCOVICH LEAD SMELTER SITE REMOVAL ACTION
DATA VALIDATION REPORT

Date: July 9, 2018
Laboratory: Environmental Protection Agency (EPA) Region 9 Laboratory, Richmond, CA
Laboratory Job Number: 1805029
Data Validation Performed By: Kelly Luck, Weston Solutions, Inc. (WESTON) Superfund Technical Assessment and Response Team (START)
Weston Work Order #: 20409.012.002.0163.00

This data validation report has been prepared by WESTON START under the START IV U.S. EPA Region 9 contract. This report documents the data validation for 4 soil samples collected for the Bercovich Lead Smelter Site Removal Action that were analyzed for the following parameters and EPA methods:

- Volatile Organic Compounds (VOCs) by SW-846 Method 8260C
- Semivolatile Organic Compounds (SVOCs) by SW-846 Method 8270D
- Total Petroleum Hydrocarbons (TPH) as Gasoline Range Organics (GRO) by SW-846 Method 8015C
- TPH as Diesel Range Organics (DRO) and Oil Range Organics (ORO) by SW-846 Method 8015C
- Polychlorinated Biphenyls (PCBs) by SW-846 Method 8082A
- Resource Conservation and Recovery Act (RCRA) Metals by SW-846 Method 6010C/7473

A level II data package was received from EPA Region 9 Laboratory, Richmond, CA. The data validation was conducted in general accordance with the EPA "Contract Laboratory Program National Functional Guidance for Superfund Organic Methods Data Review" dated January 2017 and the EPA "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" dated January 2017. The Attachment contains the results summary sheets with any hand-written qualifiers applied during data validation.

VOCs by SW-846 METHOD 8260C

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
R0-1-0.5	1805029-01	Soil	05/14/18	05/15/18	05/16/18
R0-2-0.5	1805029-02	Soil	05/14/18	05/15/18	05/16/18
R0-3-0.5	1805029-03	Soil	05/14/18	05/15/18	05/16/18
R0-4-0.5	1805029-04	Soil	05/14/18	05/15/18	05/16/18

1. Data Verification Check

A data verification and completeness check was performed in accordance with the Stage 1 and 2A verification checks outlined in the EPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use" dated January 13, 2009. For the VOCs analysis, requested analytical data package items were received from the laboratory and the analyses requested were performed.

2. Holding Times

The samples were extracted and analyzed within the required holding time limit of 14 days. The laboratory noted that samples were received at 8 ºC. All detected results for VOCs in all samples were qualified as estimated (J) due to exceedance of preservation temperature. No qualification of nondetect results was necessary (professional judgement of data validator).

3. Blanks

A method blank was analyzed with the VOC sample group and was free of target compound contamination above the detection limits.

4. Surrogate Results

The following surrogate recovery results were outside the laboratory-established quality control (QC) limits.

- in sample R0-1-0.5: toluene-d_8 (120%), 4-bromofluorobenzene (68%), 1,2-dichlorobenzene-d_4 (42%)
- in sample R0-2-0.5: 4-bromofluorobenzene (71%), 1,2-dichlorobenzene-d_4 (63%)

Nondetect results for the following compounds were qualified as estimated (UJ) in samples R0-1-0.5 and R0-2-0.5 due to low recoveries of the associated surrogates, 4-bromofluorobenzene and/or 1,2-dichlorobenzene-d_4: 1,1,2-2-tetrachloroethane, 1,1,2-trichloroethane, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 2-hexanone, 4-methyl-2-pentanone (MIBK), bromoform, chlorobenzene, chlorodibromomethane, and tetrachloroethene.

No qualification of data was necessary due to the high recovery of the toluene-d_8 surrogate as no target analytes associated with that surrogate were detected in sample R0-1-0.5.

5. Laboratory Control Sample (LCS) Results

One LCS was analyzed with the sample group and the recoveries were within laboratory-established QC limits.

6. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

Sample R0-4-0.5 was used for MS/MSD analyses. All recoveries were within laboratory-established QC limits, with the exception of trichloroethene (74%), 4-methyl-2-pentanone (MIBK; 124%), 1,3-dichlorobenzene (52 and 56%), 1,4-dichlorobenzene (51 and 56%), and 1,2-dichlorobenzene (45 and 50%). All relative percent differences (RPDs) were within QC limits.

The nondetect results for trichloroethene, 4-methyl-2-pentanone (MIBK), 1,3-dichlorobenzene, 1,4-dichlorobenzene, and 1,2-dichlorobenzene in sample R0-4-0.5 were qualified as estimated (UJ).

7. Field Duplicate Results

The sample set did not include any field duplicate pairs.

8. Overall Assessment

EPA Region 9 Laboratory flagged sample results with the following laboratory qualifiers:

A2, J: Indicates that the sample was received above the recommended temperature range. The data validator removed the "A2" qualifier and left the "J" qualifier in place for detected results, and removed both qualifiers for nondetect results.

C3, J, U: Indicates that the initial calibration for this analyte did not meet calibration criteria, that the reported result should be an estimate, and that the analyte was not detected. The data validator removed these qualifiers and added a "UJ" (estimated) qualifier.

Q1, J, U: Indicates that the internal standard associated with this analyte did not meet area count criteria. The data validator removed these qualifiers and added "UJ" (estimated) qualifiers.

Q4: Indicates that the matrix spike and/or matrix spike duplicate associated with this sample did not meet recovery criteria for this analyte. The data validator removed these qualifiers and added "UJ" (estimated) qualifiers.

Q7: Indicates that surrogate spike recoveries for this sample were outside control limits. The data validator removed these qualifiers and, for most analytes, added "UJ" (estimated) qualifiers (see discussion above for surrogate spike recoveries).

N TIC, J: Indicates a Tentatively Identified Compound; this compound was identified only by match with mass spectral library. Identification and quantitation should be considered tentative and presumptive. The data validator left these qualifiers in place.

The VOC data are acceptable for use based on the information received.

SVOCs by SW-846 METHOD 8270D

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
R0-1-0.5	1805029-01	Soil	05/14/18	05/21/18	05/22/18
R0-2-0.5	1805029-02	Soil	05/14/18	05/21/18	05/22/18
R0-3-0.5	1805029-03	Soil	05/14/18	05/21/18	05/22/18
R0-4-0.5	1805029-04	Soil	05/14/18	05/21/18	05/22/18

1. Data Verification Check

A data verification and completeness check was performed in accordance with the Stage 1 and 2A verification checks outlined in the EPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use" dated January 13, 2009. For the SVOCs analysis, all analytical data package items were received from the laboratory and the analysis requested was performed.

The laboratory noted that sample extracts were dark, foamy, viscous, which necessitated a final extract volume greater than specified in the method. The corresponding QC samples were diluted to the same final extract volume, which resulted in some analytes in the LCS, MS, and/or MSD being diluted out.

2. Holding Times

The samples were extracted and analyzed within the required holding times of 14 days from sample collection to extraction and 40 days from extraction to analysis. The laboratory noted that samples were received at 8 ºC. All detected results for SVOCs in all samples were qualified as estimated (J) due to exceedance of preservation temperature. No qualification of nondetect results was necessary (professional judgement of data validator).

3. Blanks

A method blank was analyzed with the sample group and was free of target compound contamination above the detection limits.

4. Surrogate Results

The surrogate recovery results were within the laboratory-established QC limits.

5. LCS Results

An LCS was analyzed with the sample group and all recoveries were within the laboratory-established QC limits, with the following exceptions: nitrobenzene (113%) and 4-nitroaniline (53%). The nondetect results for 4-nitroaniline were qualified as estimated (UJ) in

all samples. No qualification of data was necessary for nitrobenzene as the LCS recovery was high and the analyte was not detected in any samples.

There was no recovery of 2,4-dinitrophenol, pentachlorophenol, or 3,3'-dichlorobenzidine in the LCS; however, the spike levels for these analytes were below the quantitation limits. Therefore, no qualification of data was necessary.

6. MS and MSD Results

Sample R0-4-0.5 was used for MS/MSD analyses. All recoveries were within laboratory-established QC limits, with the following exceptions: 4-chloroaniline (no recovery), hexachlorocyclopentadiene (no recovery), 3-nitroaniline (26%), 2,4-dinitrophenol (no recovery), 4-nitroaniline (42%), 4,6-dinitro-2-methylphenol (≤27%), pentachlorophenol (no recovery), carbazole (114 and 125%), fluoranthene (55%), 3,3'-dichlorobenzidine (no recovery), di-n-octyl-phthalate (159 and 190%), benzo(b)fluoranthene (131 and 148%), benzo(k)fluoranthene (152%), benzo(a)pyrene (124%), dibenz(a,h)anthracene (63%), and benzo(g,h,i)perylene (33%). All RPDs were within QC limits, with the exception of chrysene (23%), indeno(1,2,3-cd)pyrene (25%) and benzo(g,h,i)perylene (33%).

The results for the following analytes were qualified as estimated (J for detects and UJ for nondetects) in sample R0-4-0.5: 4-chloroaniline, hexachlorocyclopentadiene, 3-nitroaniline, 2,4-dinitrophenol, 4-nitroaniline, 4,6-dinitro-2-methylphenol, pentachlorophenol, carbazole, fluoranthene, 3,3'-dichlorobenzidine, chrysene, di-n-octyl-phthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene.

The recovery of butyl benzyl phthalate was outside QC limits; however, the however, the concentration of butyl benzyl phthalate in the unspiked sample was greater than four times the amount of the spiked concentration; therefore, no action was required.

7. Field Duplicate Results

The sample set did not include any field duplicate pairs.

8. Overall Assessment

EPA Region 9 Laboratory flagged sample results with the following laboratory qualifiers:

A2, J: Indicates that the sample was received above the recommended temperature range. The data validator removed the "A2" qualifier and left the "J" qualifier in place for detected results, and removed both qualifiers for nondetect results.

C1, J: Indicates that the reported concentration for this analyte is below the quantitation limit and that the reported result should be considered an estimate. The data validator removed the "C1" qualifier and left the "J" qualifier in place.

C3, J, U: Indicates that the initial calibration for this analyte did not meet calibration criteria, that the reported result should be an estimate, and that the analyte was not detected. The data validator removed these qualifiers and added a "UJ" (estimated) qualifier.

C4, J, U: Indicates that the calibration verification check did not meet % difference criteria for this analyte. The data validator removed these qualifiers and added a "UJ" (estimated) qualifier.

Q2, J, U: Indicates that the laboratory control standard associated with this sample did not meet recovery criteria for this analyte. For 4-nitroaniline, the data validator removed these qualifiers and added "UJ" (estimated) qualifiers. For 2,4-dinitrophenol, pentachlorophenol, or 3,3'-dichlorobenzidine, the data validator removed the "Q2" and "J" qualifiers and left the "U" qualifier in place (see discussion of laboratory control sample above).

Q3: Indicates that the quantitation limit standard did not meet recovery criteria for this analyte. The data validator removed these qualifiers and added "UJ" (estimated) qualifiers.

Q4: Indicates that the matrix spike and/or matrix spike duplicate associated with this sample did not meet recovery criteria for this analyte. The data validator removed these qualifiers and added "J" or "UJ" (estimated) qualifiers.

Q6: Indicates that the matrix spike/matrix spike duplicate precision criteria were not met for this analyte. The data validator removed these qualifiers and added "J" or "UJ" (estimated) qualifiers.

N TIC, J: Indicates a Tentatively Identified Compound; this compound was identified only by match with mass spectral library. Identification and quantitation should be considered tentative and presumptive. The data validator left these qualifiers in place.

The SVOCs data are acceptable for use as qualified based on the information received.

TPH AS GRO by SW-846 METHOD 8015C

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
R0-1-0.5	1805029-01	Soil	05/14/18	05/15/18	05/17/18
R0-2-0.5	1805029-02	Soil	05/14/18	05/15/18	05/17/18
R0-3-0.5	1805029-03	Soil	05/14/18	05/15/18	05/17/18
R0-4-0.5	1805029-04	Soil	05/14/18	05/15/18	05/17/18

1. Data Verification Check

A data verification and completeness check was performed in accordance with the Stage 1 and 2A verification checks outlined in the EPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use" dated January 13, 2009. For the TPH as GRO analysis, all analytical data package items were received from the laboratory and the analysis requested was performed.

2. Holding Times

The samples were analyzed within the required holding time of 14 days. The laboratory noted that samples were received at 8 ºC. No qualification of nondetect results was necessary (professional judgement of data validator), and all results for TPH as GRO in the sample group were nondetects.

3. Blanks

A method blank was analyzed with the sample group and free of target compound contamination above the detection limit.

4. Surrogates

The surrogate recovery results were within the laboratory-established QC limits.

5. LCS Results

An LCS was analyzed with the sample group and the recovery was within laboratory-established QC limits.

6. MS and MS Duplicate (MSD) Results

Sample R0-4-0.5 was used for MS and MSD analyses. Analyte recoveries and RPDs were within laboratory-established QC limits.

The data package contained results for two sets of MS/MSD analyses, both stated to be conducted using sample R0-4-0.5. However, one set (identified as B18E117-MS1 and B18E117-MSD1) reported results of 390 mg/kg for the unspiked sample, which did not correspond to the nondetect result reported for sample R0-4-0.5. Therefore, the data validator did not use these results to qualify data.

7. Field Duplicate Results

The sample set did not include any field duplicate pairs.

8. Overall Assessment

All samples were diluted (50x), which elevated the quantitation limits.

EPA Region 9 Laboratory flagged sample results with the following laboratory qualifiers:

A2, J: Indicates that the sample was received above the recommended temperature range. The data validator removed both qualifiers for nondetect results.

Q6: Indicates that the matrix spike/matrix spike duplicate precision criteria were not met for this analyte. Because this QC failure referred to the MS/MSD pair that did not appear to be from the sample set, the data validator removed the qualifier.

The TPH as GRO data are acceptable for use as qualified based on the information received.

TPH AS DRO AND ORO by SW-846 METHOD 8015C

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
R0-1-0.5	1805029-01	Soil	05/14/18	05/16/18	05/21/18, 05/22/18
R0-2-0.5	1805029-02	Soil	05/14/18	05/16/18	05/21/18
R0-3-0.5	1805029-03	Soil	05/14/18	05/16/18	05/22/18
R0-4-0.5	1805029-04	Soil	05/14/18	05/16/18	05/21/18

1. Data Verification Check

A data verification and completeness check was performed in accordance with the Stage 1 and 2A verification checks outlined in the EPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use" dated January 13, 2009. For the TPH as DRO and ORO analysis, all analytical data package items were received from the laboratory and the analysis requested was performed.

2. Holding Times

The samples were extracted and analyzed within the required holding time limits of 7 days from sample collection to extraction and 40 days from extraction to analysis. The laboratory noted that samples were received at 8 ºC. All detected results for TPH as DRO and ORO in all samples were qualified as estimated (J) due to exceedance of preservation temperature.

3. Blanks

A method blank was analyzed with the samples and was free of target compound contamination above the quantitation limits.

4. Surrogates

The surrogate recovery results were within the laboratory-established QC limits.

5. LCS Results

An LCS was analyzed with the sample group and the recovery was within laboratory-established QC limits.

6. MS and MSD Results

Sample R0-4-0.5 was used for MS/MSD analyses, and recoveries and RPD were within QC limits.

7. Field Duplicate Results

The sample set did not include any field duplicate pairs.

8. Overall Assessment

EPA Region 9 Laboratory flagged sample results with the following laboratory qualifiers:

A2, J: Indicates that the sample was received above the recommended temperature range. The data validator removed the "A2" qualifier and left the "J" qualifier in place for detected results (all samples).

F13: Indicates fuel or product type mixed or unknown. The data validator left these qualifiers in place.

The TPH as DRO and ORO data are acceptable for use as qualified based on the information received.

PCBs by SW-846 METHOD 8082A

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
R0-1-0.5	1805029-01	Soil	05/14/18	05/17/18	05/22/18
R0-2-0.5	1805029-02	Soil	05/14/18	05/17/18	05/22/18

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
R0-3-0.5	1805029-03	Soil	05/14/18	05/17/18	05/22/18
R0-4-0.5	1805029-04	Soil	05/14/18	05/17/18	05/22/18

1. Data Verification Check

A data verification and completeness check was performed in accordance with the Stage 1 and 2A verification checks outlined in the EPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use" dated January 13, 2009. For the PCBs analysis, all analytical data package items were received from the laboratory and the analysis requested was performed.

2. Holding Times

The samples were extracted and analyzed within the required holding times of 14 days from sample collection to extraction and 40 days from extraction to analysis. The laboratory noted that samples were received at 8 ºC. All detected results for PCBs in all samples were qualified as estimated (J) due to exceedance of preservation temperature. No qualification of nondetect results was necessary (professional judgement of data validator).

3. Blanks

A method blank was analyzed with the sample group and was free of target compound contamination above the quantitation limits.

4. Surrogates

The surrogate recovery results were within the laboratory-established QC limits.

5. LCS Results

An LCS was analyzed with the sample set. All recoveries were within laboratory-established QC limits.

6. MS and MSD Results

Sample R0-4-0.5 was used for MS and MSD analyses. All analyte recoveries and RPDs were within laboratory-established QC limits.

7. Field Duplicate Results

The sample set did not include any field duplicate pairs.

8. Overall Assessment

The PCBs data are acceptable for use as qualified based on the information received.

RCRA METALS by SW-846 METHOD 6010C/7473

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared		Date Analyzed	
				Mercury	Metals	Mercury	Metals
R0-1-0.5	1805029-01	Soil	05/14/18	05/17/18	05/17/18	05/16/18	05/23/18
R0-2-0.5	1805029-02	Soil	05/14/18	05/17/18	05/17/18	05/16/18	05/23/18
R0-3-0.5	1805029-03	Soil	05/14/18	05/17/18	05/17/18	05/17/18	05/23/18
R0-4-0.5	1805029-04	Soil	05/14/18	05/17/18	05/17/18	05/16/18	05/23/18

1. Data Verification Check

A data verification and completeness check was performed in accordance with the Stage 1 and 2A verification checks outlined in the EPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use" dated January 13, 2009. For the metals analyses, all analytical data package items were received from the laboratory and the analysis requested was performed.

2. Holding Times

The samples were analyzed within the required holding time limits: 28 days for mercury and 180 days for all other metals. The laboratory noted that samples were received at 8 ºC. All detected results for mercury (the only metal analyte with a temperature preservation requirement) in all samples were qualified as estimated (J) due to exceedance of preservation temperature.

3. Blank Results

Method blanks were analyzed with the metal and mercury sample group and were free of target compound contamination above the quantitation limits.

4. LCS Results

LCSs (standard reference materials) were analyzed with the sample group and all recoveries were within QC limits, with the exception of barium (0%). The amount of barium in the laboratory control sample was below the quantitation limit for barium; therefore, no qualification of data was necessary.

5. MS and MSD Results

Sample R0-4-0.5 was used for MS and MSD analyses. All recoveries were within QC limits with the exception of chromium (175 and 248%). The RPDs for chromium (22%), lead (49%), and mercury (23%) were outside QC limits. The results for chromium, lead, and mercury in sample R0-4-0.5 were qualified as estimated (J).

The MS/MSD recoveries were outside the QC limits for lead; however, the concentration of lead in the unspiked sample was greater than four times the amount of the spiked concentrations.

6. Field Duplicate Results

The sample set did not include any field duplicate pairs.

7. Overall Assessment

EPA Region 9 Laboratory flagged sample results with the following laboratory qualifiers:

A2, J: Indicates that the sample was received above the recommended temperature range. The data validator removed the "A2" qualifier and left the "J" qualifier in place.

Q4, J: Indicates that the matrix spike and/or matrix spike duplicate associated with this sample did not meet recovery criteria for this analyte. The data validator removed the "Q4" qualifier and left the "J" qualifier in place.

Q6: Indicates that the matrix spike/matrix spike duplicate precision criteria were not met for this analyte. The data validator removed these qualifiers and added "J" qualifiers.

The metals data are acceptable for use as qualified based on the information received.

ATTACHMENT

EPA REGION 9 LABORATORY
RESULTS SUMMARY WITH QUALIFIERS

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-01									**Soil - Sampled: 05/14/18 16:05**
Sample ID: R0-1-0.5									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.58	~~A2,~~ J	0.036	mg/kg dry	B18E116	05/17/18	05/17/18	7473
Arsenic		20		2.9	"	B18E115	05/16/18	05/23/18	6010C
Barium		310		7.2	"	"	"	"	6010C
Cadmium		3.9		0.72	"	"	"	"	6010C
Chromium		59		1.4	"	"	"	"	6010C
Lead		180		4.3	"	"	"	"	6010C
Selenium		ND	U	2.9	"	"	"	"	6010C
Silver		ND	U	1.4	"	"	"	"	6010C
Sample ID: R0-1-0.5									**Purgeable Petroleum Hydrocarbons**
TPH - Gasoline Range Organics		ND	~~A2, J,~~ U	14	"	B18E117	05/15/18	05/17/18	8015C
Surrogate: a,a,a-Trifluorotoluene			82 %	*76-124%*		"	"	"	
Sample ID: R0-1-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Diesel Range Organics		500	~~A2,~~ F13, J	14	"	B18E114	05/16/18	05/21/18	8015C
TPH - Oil Range Organics	RE1	3,900	~~A2,~~ J, F13	290	"	"	"	05/22/18	8015C
Surrogate: Hexacosane			66 %	*20-111%*		"	"	*05/21/18*	
Sample ID: R0-1-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1016		ND	U	19	ug/kg dry	B18E120	05/17/18	05/22/18	8082A
Aroclor 1221		ND	U	39	"	"	"	"	8082A
Aroclor 1232		ND	U	19	"	"	"	"	8082A
Aroclor 1242		ND	U	19	"	"	"	"	8082A
Aroclor 1248		ND	U	19	"	"	"	"	8082A
Aroclor 1254		ND	U	19	"	"	"	"	8082A
Aroclor-1260		33	J	19	"	"	"	"	8082A
Aroclor 1262		ND	U	19	"	"	"	"	8082A
Aroclor 1268		ND	U	19	"	"	"	"	8082A
Surrogate: Tetrachloro-m-xylene			61 %	*20-140%*		"	"	"	
Surrogate: Decachlorobiphenyl			46 %	*20-125%*		"	"	"	
Sample ID: R0-1-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Dichlorodifluoromethane		ND	~~A2, C3, J, U~~ UJ	5	"	B18E111	05/15/18	05/16/18	8260C
Chloromethane		ND	~~A2, J,~~ U	5	"	"	"	"	8260C
Vinyl chloride		ND	~~A2, J,~~ U	5	"	"	"	"	8260C
Bromomethane		ND	~~A2, J,~~ U	5	"	"	"	"	8260C
Chloroethane		ND	~~A2, J,~~ U	5	"	"	"	"	8260C
Trichlorofluoromethane		ND	~~A2, J,~~ U	5	"	"	"	"	8260C
1,1-Dichloroethene		ND	~~A2, J,~~ U	5	"	"	"	"	8260C
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	~~A2, J,~~ U	5	"	"	"	"	8260C
Acetone		ND	~~A2, J,~~ U	40	"	"	"	"	8260C

KAL 7/9/18

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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-01									**Soil - Sampled: 05/14/18 16:05**
Sample ID: R0-1-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Carbon disulfide		ND	~~A2, J~~, U	5	ug/kg dry	B18E111	05/15/18	05/16/18	8260C
Dichloromethane		ND	~~A2, J~~, U	5	"	"	"	"	8260C
trans-1,2-Dichloroethene		ND	~~A2, J~~, U	5	"	"	"	"	8260C
tert-Butyl methyl ether (MTBE)		ND	~~A2, J~~, U	20	"	"	"	"	8260C
1,1-Dichloroethane		ND	~~A2, J~~, U	5	"	"	"	"	8260C
cis-1,2-Dichloroethene		ND	~~A2, J~~, U	5	"	"	"	"	8260C
2-Butanone (MEK)		ND	~~A2, J~~, U	40	"	"	"	"	8260C
Chloroform		ND	~~A2, J~~, U	5	"	"	"	"	8260C
1,1,1-Trichloroethane		ND	~~A2, J~~, U	5	"	"	"	"	8260C
Carbon tetrachloride		ND	~~A2, J~~, U	5	"	"	"	"	8260C
1,1-Dichloropropene		ND	~~A2, J~~, U	5	"	"	"	"	8260C
Benzene		ND	~~A2, Q7, J~~, U	5	"	"	"	"	8260C
1,2-Dichloroethane		ND	~~A2, J~~, U	5	"	"	"	"	8260C
Trichloroethene		ND	~~A2, J~~, U	5	"	"	"	"	8260C
1,2-Dichloropropane		ND	~~A2, J~~, U	5	"	"	"	"	8260C
Bromodichloromethane		ND	~~A2, J~~, U	5	"	"	"	"	8260C
cis-1,3-Dichloropropene		ND	~~A2, J~~, U	5	"	"	"	"	8260C
4-Methyl-2-pentanone (MIBK)		ND	~~A2, Q1, Q7, J~~, U	40	"	"	"	"	8260C
Toluene		ND	~~A2, Q1, J, Q7~~, U	5	"	"	"	"	8260C
trans-1,3-Dichloropropene		ND	~~A2, J~~, U	5	"	"	"	"	8260C
1,1,2-Trichloroethane		ND	~~A2, J, Q7, U~~	5	"	"	"	"	8260C
Tetrachloroethene		ND	~~A2, Q1, J, Q7, U~~	5	"	"	"	"	8260C
1,3-Dichloropropane		ND	~~A2, Q1, J, Q7, U~~	5	"	"	"	"	8260C
2-Hexanone		ND	~~A2, Q1, J, Q7, U~~	40	"	"	"	"	8260C
Chlorodibromomethane		ND	~~A2, Q1, J, Q7, U~~	5	"	"	"	"	8260C
1,2-Dibromoethane (EDB)		ND	~~A2, Q1, J, Q7, U~~	5	"	"	"	"	8260C
Chlorobenzene		ND	~~A2, Q1, J, Q7, U~~	5	"	"	"	"	8260C
Ethylbenzene		ND	~~A2, Q1, J, Q7, U~~	5	"	"	"	"	8260C
m&p-Xylene		ND	~~A2, Q1, J, Q7, U~~	10	"	"	"	"	8260C
o-Xylene		ND	~~A2, Q1, J, Q7, U~~	5	"	"	"	"	8260C
Styrene		ND	~~A2, Q1, J, Q7, U~~	5	"	"	"	"	8260C
Bromoform		ND	~~A2, Q1, J, Q7, U~~	5	"	"	"	"	8260C

UJ

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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:	Eric Nuchims	**Emergency Response Section**	**SDG:** I8135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-01									**Soil - Sampled: 05/14/18 16:05**
Sample ID: R0-1-0.5									**Volatile Organic Compounds by EPA Method 8260C**
1,1,2,2-Tetrachloroethane		ND	~~A2, Q1, J, Q7, U~~ UJ	5	ug/kg dry	B18E111	05/15/18	05/16/18	8260C
1,2,3-Trichloropropane		ND	~~A2, Q1, J, Q7, U~~ UJ	5	"	"	"	"	8260C
1,3-Dichlorobenzene		ND	~~A2, Q1, J, Q7, U~~ UJ	5	"	"	"	"	8260C
1,4-Dichlorobenzene		ND	~~A2, Q1, J, Q7, U~~ UJ	5	"	"	"	"	8260C
1,2-Dichlorobenzene		ND	~~A2, Q1, J, Q7, U~~ UJ	5	"	"	"	"	8260C
1,2-Dibromo-3-chloropropane		ND	~~A2, Q1, J, Q7, U~~ UJ	20	"	"	"	"	8260C
Surrogate: 1,2-Dichloroethane-d4			131 %	*63-144%*		"	"	"	
Surrogate: Toluene-d8			**120 %**	*86-111%*		"	"	"	
Surrogate: 4-Bromofluorobenzene			**68 %**	*81-110%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			**42 %**	*75-112%*		"	"	"	
Sample ID: R0-1-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Phenol		ND	~~A2, J, U~~	7,900	"	B18E126	05/21/18	05/22/18	8270D
Bis(2-chloroethyl)ether		ND	~~A2, J, U~~	1,500	"	"	"	"	8270D
2-Chlorophenol		ND	~~A2, J, U~~	7,900	"	"	"	"	8270D
1,3-Dichlorobenzene		ND	~~A2, J, U~~	1,500	"	"	"	"	8270D
1,4-Dichlorobenzene		ND	~~A2, J, U~~	1,500	"	"	"	"	8270D
Benzyl alcohol		ND	~~A2, J, U~~	7,900	"	"	"	"	8270D
1,2-Dichlorobenzene		ND	~~A2, J, U~~	1,500	"	"	"	"	8270D
2-Methylphenol		ND	~~A2, J, U~~	7,900	"	"	"	"	8270D
Bis(2-chloro-1-methylethyl) ether		ND	~~A2, J, U~~	1,500	"	"	"	"	8270D
3&4-Methylphenol		ND	~~A2, J, U~~	7,900	"	"	"	"	8270D
N-Nitrosodipropylamine		ND	~~A2, J, U~~	1,500	"	"	"	"	8270D
Hexachloroethane		ND	~~A2, J, U~~	1,500	"	"	"	"	8270D
Nitrobenzene		ND	~~A2, J, U~~	1,500	"	"	"	"	8270D
Isophorone		ND	~~A2, J, U~~	1,500	"	"	"	"	8270D
2-Nitrophenol		ND	~~A2, J, U~~	7,900	"	"	"	"	8270D
2,4-Dimethylphenol		ND	~~A2, J, U~~	7,900	"	"	"	"	8270D
Bis(2-chloroethoxy)methane		ND	~~A2, J, U~~	1,500	"	"	"	"	8270D
2,4-Dichlorophenol		ND	~~A2, J, U~~	7,900	"	"	"	"	8270D
1,2,4-Trichlorobenzene		ND	~~A2, J, U~~	1,500	"	"	"	"	8270D
Naphthalene		ND	~~A2, J, U~~	1,500	"	"	"	"	8270D
4-Chloroaniline		ND	~~A2, J, U~~	7,900	"	"	"	"	8270D
Hexachlorobutadiene		ND	~~A2, J, U~~	1,500	"	"	"	"	8270D
4-Chloro-3-methylphenol		ND	~~A2, J, U~~	7,900	"	"	"	"	8270D

KBL 7/9/18

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Lab ID: 1805029-01 — **Soil - Sampled: 05/14/18 16:05**

Sample ID: R0-1-0.5

Semivolatile Organic Compounds by EPA Method 8270D

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
2-Methylnaphthalene		ND	~~A2, J~~, U	1,500	ug/kg dry	B18E126	05/21/18	05/22/18	8270D
Hexachlorocyclopentadiene		ND	~~A2, J~~, U	7,900	"	"	"	"	8270D
2,4,6-Trichlorophenol		ND	~~A2, J~~, U	7,900	"	"	"	"	8270D
2,4,5-Trichlorophenol		ND	~~A2, J~~, U	7,900	"	"	"	"	8270D
2-Chloronaphthalene		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
2-Nitroaniline		ND	~~A2, J~~, U	7,900	"	"	"	"	8270D
Dimethyl phthalate		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
2,6-Dinitrotoluene		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
Acenaphthylene		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
3-Nitroaniline		ND	~~A2, J~~, U	7,900	"	"	"	"	8270D
Acenaphthene		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
2,4-Dinitrophenol		ND	~~A2, C3, C4, J, Q2, U~~ UJ	31,000	"	"	"	"	8270D
4-Nitrophenol		ND	~~A2, J~~, U	7,900	"	"	"	"	8270D
Dibenzofuran		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
2,4-Dinitrotoluene		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
Diethyl phthalate		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
Fluorene		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
4-Chlorophenyl phenyl ether		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
4-Nitroaniline		ND	~~A2, J, Q2, U~~ UJ	7,900	"	"	"	"	8270D
4,6-Dinitro-2-methylphenol		ND	~~A2, J~~, U	7,900	"	"	"	"	8270D
Diphenyl amine		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
4-Bromophenyl phenyl ether		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
Hexachlorobenzene		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
Pentachlorophenol		ND	~~A2, C4, J, Q2, U~~ UJ	31,000	"	"	"	"	8270D
Phenanthrene		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
Anthracene		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
Carbazole		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
Di-n-butyl phthalate		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
Fluoranthene		1,000	~~A2, C1~~, J	1,500	"	"	"	"	8270D
Pyrene		1,400	~~A2, C1~~, J	1,500	"	"	"	"	8270D
Butyl benzyl phthalate		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
Benzo(a)anthracene		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
3,3'-Dichlorobenzidine		ND	~~A2, J, Q2~~, U	7,900	"	"	"	"	8270D
Chrysene		1,400	~~A2, C1~~, J	1,500	"	"	"	"	8270D
Bis(2-ethylhexyl) phthalate		3,900	~~A2~~, J	1,500	"	"	"	"	8270D
Di-n-octyl phthalate		ND	~~A2, C3, J, U~~ UJ	1,500	"	"	"	"	8270D

KDL 7/9/18

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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-01									**Soil - Sampled: 05/14/18 16:05**
Sample ID: R0-1-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Benzo(b)fluoranthene		1,200	~~A2, C1~~, J	1,500	ug/kg dry	B18E126	05/21/18	05/22/18	8270D
Benzo(k)fluoranthene		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
Benzo(a)pyrene		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
Indeno(1,2,3-cd)pyrene		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	~~A2, J~~, U	1,500	"	"	"	"	8270D
Benzo(g,h,i)perylene		860	~~A2, C1~~, J	1,500	"	"	"	"	8270D
Dodecadien-one, -dimethy		4,100	N TIC, J		"	"	"	"	8270D
Hexadecanoic acid		5,300	N TIC, J		"	"	"	"	8270D
Sitosterol		18,000	N TIC, J		"	"	"	"	8270D
unknown hydrocarbon (01)		11,000	N TIC, J		"	"	"	"	8270D
unknown hydrocarbon (02)		15,000	N TIC, J		"	"	"	"	8270D
Surrogate: 2-Fluorophenol			85 %	*20-111%*		"	"	"	
Surrogate: Phenol-d5			89 %	*20-111%*		"	"	"	
Surrogate: 2-Chlorophenol-d4			90 %	*20-121%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			79 %	*20-136%*		"	"	"	
Surrogate: Nitrobenzene-d5			84 %	*20-125%*		"	"	"	
Surrogate: 2-Fluorobiphenyl			84 %	*20-121%*		"	"	"	
Surrogate: 2,4,6-Tribromophenol			113 %	*20-146%*		"	"	"	
Surrogate: Terphenyl-d14			115 %	*20-131%*		"	"	"	
Sample ID: R0-1-0.5									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		70		1	%	B18E135	05/23/18	05/24/18	3550C
Lab ID: 1805029-02									**Soil - Sampled: 05/14/18 16:10**
Sample ID: R0-2-0.5									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.22	~~A2~~, J	0.030	mg/kg dry	B18E116	05/17/18	05/17/18	7473
Arsenic		9.1		2	"	B18E115	05/16/18	05/23/18	6010C
Barium		220		5	"	"	"	"	6010C
Cadmium		2.0		0.50	"	"	"	"	6010C
Chromium		46		1	"	"	"	"	6010C
Lead		150		3	"	"	"	"	6010C
Selenium		ND	U	2	"	"	"	"	6010C
Silver		ND	U	1	"	"	"	"	6010C
Sample ID: R0-2-0.5									**Purgeable Petroleum Hydrocarbons**
TPH - Gasoline Range Organics		ND	~~A2, J~~, U	8.3	"	B18E117	05/15/18	05/17/18	8015C
Surrogate: a,a,a-Trifluorotoluene			89 %	*76-124%*		"	"	"	
Sample ID: R0-2-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Diesel Range Organics		200	~~A2~~, F13, J	10	"	B18E114	05/16/18	05/21/18	8015C
TPH - Oil Range Organics		1,500	~~A2~~, F13, J	40	"	"	"	"	8015C
Surrogate: Hexacosane			50 %	*20-111%*		"	"	"	

KH- 7/9/18

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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-02									**Soil - Sampled: 05/14/18 16:10**
Sample ID: R0-2-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1016		ND	U	13	ug/kg dry	B18E120	05/17/18	05/22/18	8082A
Aroclor 1221		ND	U	27	"	"	"	"	8082A
Aroclor 1232		ND	U	13	"	"	"	"	8082A
Aroclor 1242		ND	U	13	"	"	"	"	8082A
Aroclor 1248		ND	U	13	"	"	"	"	8082A
Aroclor 1254		ND	U	13	"	"	"	"	8082A
Aroclor-1260		15	J	13	"	"	"	"	8082A
Aroclor 1262		ND	U	13	"	"	"	"	8082A
Aroclor 1268		ND	U	13	"	"	"	"	8082A
Surrogate: Tetrachloro-m-xylene			66 %	*20-140%*		"	"	"	
Surrogate: Decachlorobiphenyl			51 %	*20-125%*		"	"	"	
Sample ID: R0-2-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Dichlorodifluoromethane		ND	~~A2, C3, J, U~~ UJ	4.2	"	B18E111	05/15/18	05/16/18	8260C
Chloromethane		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
Vinyl chloride		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
Bromomethane		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
Chloroethane		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
Trichlorofluoromethane		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
1,1-Dichloroethene		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
Acetone		130	~~A2~~, J	34	"	"	"	"	8260C
Carbon disulfide		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
Dichloromethane		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
trans-1,2-Dichloroethene		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
tert-Butyl methyl ether (MTBE)		ND	~~A2, J,~~ U	17	"	"	"	"	8260C
1,1-Dichloroethane		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
cis-1,2-Dichloroethene		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
2-Butanone (MEK)		34	~~A2~~, J	34	"	"	"	"	8260C
Chloroform		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
1,1,1-Trichloroethane		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
Carbon tetrachloride		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
1,1-Dichloropropene		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
Benzene		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
1,2-Dichloroethane		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
Trichloroethene		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C
1,2-Dichloropropane		ND	~~A2, J,~~ U	4.2	"	"	"	"	8260C

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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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-02									**Soil - Sampled: 05/14/18 16:10**
Sample ID: R0-2-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Bromodichloromethane		ND	~~A2, J~~, U	4.2	ug/kg dry	B18E111	05/15/18	05/16/18	8260C
cis-1,3-Dichloropropene		ND	~~A2, J~~, U	4.2	"	"	"	"	8260C
4-Methyl-2-pentanone (MIBK)		ND	~~A2, Q1, Q7, J, U~~ UJ	34	"	"	"	"	8260C
Toluene		ND	~~A2, J, Q1, U~~ UJ	4.2	"	"	"	"	8260C
trans-1,3-Dichloropropene		ND	~~A2, J~~, U	4.2	"	"	"	"	8260C
1,1,2-Trichloroethane		ND	~~A2, Q7, J, U~~ UJ	4.2	"	"	"	"	8260C
Tetrachloroethene		ND	~~A2, J, Q7, Q1, U~~ UJ	4.2	"	"	"	"	8260C
1,3-Dichloropropane		ND	~~A2, Q1, J, U~~ UJ	4.2	"	"	"	"	8260C
2-Hexanone		ND	~~A2, Q1, J, Q7, U~~ UJ	34	"	"	"	"	8260C
Chlorodibromomethane		ND	~~A2, Q1, Q7, J, U~~ UJ	4.2	"	"	"	"	8260C
1,2-Dibromoethane (EDB)		ND	~~A2, Q1, J, Q7, U~~ UJ	4.2	"	"	"	"	8260C
Chlorobenzene		ND	~~A2, Q1, Q7, J, U~~ UJ	4.2	"	"	"	"	8260C
Ethylbenzene		ND	~~A2, Q1, J, U~~ UJ	4.2	"	"	"	"	8260C
m&p-Xylene		ND	~~A2, Q1, J, U~~ UJ	8.4	"	"	"	"	8260C
o-Xylene		ND	~~A2, Q1, J, U~~ UJ	4.2	"	"	"	"	8260C
Styrene		ND	A2, ~~J~~, Q1, U UJ	4.2	"	"	"	"	8260C
Bromoform		ND	~~A2, Q1, Q7, J, U~~ UJ	4.2	"	"	"	"	8260C
1,1,2,2-Tetrachloroethane		ND	~~A2, Q1, J, Q7, U~~ UJ	4.2	"	"	"	"	8260C
1,2,3-Trichloropropane		ND	~~A2, Q1, J, Q7, U~~ UJ	4.2	"	"	"	"	8260C
1,3-Dichlorobenzene		ND	~~A2, Q1, J, Q7, U~~ UJ	4.2	"	"	"	"	8260C
1,4-Dichlorobenzene		ND	~~A2, Q1, J, Q7, U~~ UJ	4.2	"	"	"	"	8260C
1,2-Dichlorobenzene		ND	~~A2, Q1, J, Q7, U~~ UJ	4.2	"	"	"	"	8260C
1,2-Dibromo-3-chloropropane		ND	~~A2, Q1, J, Q7, U~~ UJ	17	"	"	"	"	8260C
Hexanol, ethyl		13	N TIC, J		"	"	"	"	8260C
Octanone		16	N TIC, J		"	"	"	"	8260C
Surrogate: 1,2-Dichloroethane-d4			120 %	*63-144%*		"	"	"	
Surrogate: Toluene-d8			109 %	*86-111%*		"	"	"	
Surrogate: 4-Bromofluorobenzene			**71 %**	*81-110%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			**63 %**	*75-112%*		"	"	"	
Sample ID: R0-2-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Phenol		ND	~~U, A2, J~~	5,200	"	B18E126	05/21/18	05/22/18	8270D
Bis(2-chloroethyl)ether		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D

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United States Environmental Protection Agency
Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-02									**Soil - Sampled: 05/14/18 16:10**
Sample ID: R0-2-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
2-Chlorophenol		ND	~~A2, J~~, U	5,200	ug/kg dry	B18E126	05/21/18	05/22/18	8270D
1,3-Dichlorobenzene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
1,4-Dichlorobenzene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
Benzyl alcohol		ND	~~A2, J~~, U	5,200	"	"	"	"	8270D
1,2-Dichlorobenzene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
2-Methylphenol		ND	~~A2, J~~, U	5,200	"	"	"	"	8270D
Bis(2-chloro-1-methylethyl) ether		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
3&4-Methylphenol		ND	~~A2, J~~, U	5,200	"	"	"	"	8270D
N-Nitrosodipropylamine		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
Hexachloroethane		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
Nitrobenzene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
Isophorone		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
2-Nitrophenol		ND	~~A2, J~~, U	5,200	"	"	"	"	8270D
2,4-Dimethylphenol		ND	~~A2, J~~, U	5,200	"	"	"	"	8270D
Bis(2-chloroethoxy)methane		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
2,4-Dichlorophenol		ND	U, ~~A2, J~~	5,200	"	"	"	"	8270D
1,2,4-Trichlorobenzene		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
Naphthalene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
4-Chloroaniline		ND	~~A2, J~~, U	5,200	"	"	"	"	8270D
Hexachlorobutadiene		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
4-Chloro-3-methylphenol		ND	~~A2, J~~, U	5,200	"	"	"	"	8270D
2-Methylnaphthalene		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
Hexachlorocyclopentadiene		ND	U, ~~A2, J~~	5,200	"	"	"	"	8270D
2,4,6-Trichlorophenol		ND	U, ~~A2, J~~	5,200	"	"	"	"	8270D
2,4,5-Trichlorophenol		ND	U, ~~A2, J~~	5,200	"	"	"	"	8270D
2-Chloronaphthalene		ND	U, ~~J, A2~~	1,000	"	"	"	"	8270D
2-Nitroaniline		ND	~~A2, J~~, U	5,200	"	"	"	"	8270D
Dimethyl phthalate		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
2,6-Dinitrotoluene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
Acenaphthylene		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
3-Nitroaniline		ND	~~A2, J~~, U	5,200	"	"	"	"	8270D
Acenaphthene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
2,4-Dinitrophenol		ND	~~A2, C3, C4, J, Q2, U~~ UJ	21,000	"	"	"	"	8270D
4-Nitrophenol		ND	~~A2, J~~, U	5,200	"	"	"	"	8270D
Dibenzofuran		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
2,4-Dinitrotoluene		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D

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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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-02									**Soil - Sampled: 05/14/18 16:10**
Sample ID: R0-2-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Diethyl phthalate		ND	~~A3, J~~, U	1,000	ug/kg dry	B18E126	05/21/18	05/22/18	8270D
Fluorene		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
4-Chlorophenyl phenyl ether		ND	~~A3, J~~, U	1,000	"	"	"	"	8270D
4-Nitroaniline		ND	~~A2, J, Q2, U~~ UJ	5,200	"	"	"	"	8270D
4,6-Dinitro-2-methylphenol		ND	~~A2, J~~, U	5,200	"	"	"	"	8270D
Diphenyl amine		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
4-Bromophenyl phenyl ether		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
Hexachlorobenzene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
Pentachlorophenol		ND	~~A2, C4, J, Q2, U~~ UJ	21,000	"	"	"	"	8270D
Phenanthrene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
Anthracene		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
Carbazole		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
Di-n-butyl phthalate		ND	~~J, A2~~, U	1,000	"	"	"	"	8270D
Fluoranthene		620	~~A2, C1~~, J	1,000	"	"	"	"	8270D
Pyrene		610	~~A2, C1~~, J	1,000	"	"	"	"	8270D
Butyl benzyl phthalate		760	~~A2, C1~~, J	1,000	"	"	"	"	8270D
Benzo(a)anthracene		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
3,3'-Dichlorobenzidine		ND	U, ~~A3, J, Q2~~	5,200	"	"	"	"	8270D
Chrysene		990	~~A2, C1~~, J	1,000	"	"	"	"	8270D
Bis(2-ethylhexyl) phthalate		7,700	~~A3~~, J	1,000	"	"	"	"	8270D
Di-n-octyl phthalate		ND	~~U, A2, C3, J~~ UJ	1,000	"	"	"	"	8270D
Benzo(b)fluoranthene		1,600	~~A3~~, J	1,000	"	"	"	"	8270D
Benzo(k)fluoranthene		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
Benzo(a)pyrene		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
Indeno(1,2,3-cd)pyrene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
Benzo(g,h,i)perylene		ND	~~J, A2~~, U	1,000	"	"	"	"	8270D
Phthalic acid, bis(methyloc... (01)		230,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, bis(methyloc... (02)		160,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, bis(methyloc... (03)		720,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, bis(methyloc... (04)		620,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, cyclohexyl n...		1,000,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, decyl ethylh...		390,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, ethylhexyl i...		160,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, hexyl tridec...		350,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, isopropyl oc...		1,200,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, neopentyl pe...		1,200,000	N TIC, J		"	"	"	"	8270D

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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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-02									**Soil - Sampled: 05/14/18 16:10**
Sample ID: R0-2-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Surrogate: 2-Fluorophenol			97 %	*20-111%*		*B18E126*	*05/21/18*	*05/22/18*	
Surrogate: Phenol-d5			98 %	*20-111%*		"	"	"	
Surrogate: 2-Chlorophenol-d4			99 %	*20-121%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			90 %	*20-136%*		"	"	"	
Surrogate: Nitrobenzene-d5			91 %	*20-125%*		"	"	"	
Surrogate: 2-Fluorobiphenyl			87 %	*20-121%*		"	"	"	
Surrogate: 2,4,6-Tribromophenol			120 %	*20-146%*		"	"	"	
Surrogate: Terphenyl-d14			127 %	*20-131%*		"	"	"	
Sample ID: R0-2-0.5									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		99		1	%	B18E135	05/23/18	05/24/18	3550C
Lab ID: 1805029-03									**Soil - Sampled: 05/14/18 16:15**
Sample ID: R0-3-0.5									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.50	~~A2,~~ J	0.025	mg/kg dry	B18E116	05/17/18	05/17/18	7473
Arsenic	RE1	14		2	"	B18E118	05/17/18	05/23/18	6010C
Barium	RE1	250		5.1	"	"	"	"	6010C
Cadmium	RE1	3.2		0.51	"	"	"	"	6010C
Chromium	RE1	48		1	"	"	"	"	6010C
Lead	RE1	410		3	"	"	"	"	6010C
Selenium	RE1	ND	U	2	"	"	"	"	6010C
Silver	RE1	ND	U	1	"	"	"	"	6010C
Sample ID: R0-3-0.5									**Purgeable Petroleum Hydrocarbons**
TPH - Gasoline Range Organics		ND	~~A2, J,~~ U	7.3	"	B18E117	05/15/18	05/17/18	8015C
Surrogate: a,a,a-Trifluorotoluene			89 %	*76-124%*		"	"	"	
Sample ID: R0-3-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Diesel Range Organics	RE2	320	~~A2,~~ J, F13	5.1	"	B18E114	05/16/18	05/22/18	8015C
TPH - Oil Range Organics	RE1	2,900	~~A2,~~ F13, J	200	"	"	"	05/22/18	8015C
Surrogate: Hexacosane	*RE2*		63 %	*20-111%*		"	"	*05/22/18*	
Sample ID: R0-3-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1016		ND	U	13	ug/kg dry	B18E120	05/17/18	05/22/18	8082A
Aroclor 1221		ND	U	27	"	"	"	"	8082A
Aroclor 1232		ND	U	13	"	"	"	"	8082A
Aroclor 1242		ND	U	13	"	"	"	"	8082A
Aroclor 1248		ND	U	13	"	"	"	"	8082A
Aroclor 1254		ND	U	13	"	"	"	"	8082A
Aroclor-1260		18	J	13	"	"	"	"	8082A
Aroclor 1262		ND	U	13	"	"	"	"	8082A
Aroclor 1268		ND	U	13	"	"	"	"	8082A

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United States Environmental Protection Agency
Region 9 Laboratory
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Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-03									**Soil - Sampled: 05/14/18 16:15**
Sample ID: R0-3-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Surrogate: Tetrachloro-m-xylene		48 %		*20-140%*		*B18E120*	*05/17/18*	*05/22/18*	
Surrogate: Decachlorobiphenyl		38 %		*20-125%*		"	"	"	
Sample ID: R0-3-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Dichlorodifluoromethane		ND	~~A2, C3, J, U~~ UJ	3.6	"	B18E111	05/15/18	05/16/18	8260C
Chloromethane		ND	U, ~~A2, J~~	3.6	"	"	"	"	8260C
Vinyl chloride		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
Bromomethane		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
Chloroethane		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
Trichlorofluoromethane		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
1,1-Dichloroethene		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
Acetone		29	~~A2~~, J	29	"	"	"	"	8260C
Carbon disulfide		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
Dichloromethane		ND	~~J, A2~~, U	3.6	"	"	"	"	8260C
trans-1,2-Dichloroethene		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
tert-Butyl methyl ether (MTBE)		ND	~~A2, J~~, U	14	"	"	"	"	8260C
1,1-Dichloroethane		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
cis-1,2-Dichloroethene		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
2-Butanone (MEK)		ND	~~A2, J~~, U	29	"	"	"	"	8260C
Chloroform		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
1,1,1-Trichloroethane		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
Carbon tetrachloride		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
1,1-Dichloropropene		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
Benzene		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
1,2-Dichloroethane		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
Trichloroethene		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
1,2-Dichloropropane		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
Bromodichloromethane		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
cis-1,3-Dichloropropene		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
4-Methyl-2-pentanone (MIBK)		ND	~~A2, J~~, U	29	"	"	"	"	8260C
Toluene		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
trans-1,3-Dichloropropene		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
1,1,2-Trichloroethane		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
Tetrachloroethene		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
1,3-Dichloropropane		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C
2-Hexanone		ND	~~A2, J~~, U	29	"	"	"	"	8260C
Chlorodibromomethane		ND	~~A2, J~~, U	3.6	"	"	"	"	8260C

KAL 7/9/18

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-03									**Soil - Sampled: 05/14/18 16:15**
Sample ID: R0-3-0.5									**Volatile Organic Compounds by EPA Method 8260C**
1,2-Dibromoethane (EDB)		ND	A2, J, U	3.6	ug/kg dry	B18E111	05/15/18	05/16/18	8260C
Chlorobenzene		ND	A2, J, U	3.6	"	"	"	"	8260C
Ethylbenzene		ND	A2, J, U	3.6	"	"	"	"	8260C
m&p-Xylene		ND	A2, J, U	7.2	"	"	"	"	8260C
o-Xylene		ND	A2, J, U	3.6	"	"	"	"	8260C
Styrene		ND	U, A2, J	3.6	"	"	"	"	8260C
Bromoform		ND	A2, J, U	3.6	"	"	"	"	8260C
1,1,2,2-Tetrachloroethane		ND	A2, J, U	3.6	"	"	"	"	8260C
1,2,3-Trichloropropane		ND	A2, J, U	3.6	"	"	"	"	8260C
1,3-Dichlorobenzene		ND	A2, J, U	3.6	"	"	"	"	8260C
1,4-Dichlorobenzene		ND	A2, J, U	3.6	"	"	"	"	8260C
1,2-Dichlorobenzene		ND	A2, J, U	3.6	"	"	"	"	8260C
1,2-Dibromo-3-chloropropane		ND	A2, J, U	14	"	"	"	"	8260C
Octanol		17	N TIC, J		"	"	"	"	8260C
Octanone		27	N TIC, J		"	"	"	"	8260C
Surrogate: 1,2-Dichloroethane-d4			126 %	*63-144%*		"	"	"	
Surrogate: Toluene-d8			93 %	*86-111%*		"	"	"	
Surrogate: 4-Bromofluorobenzene			89 %	*81-110%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			106 %	*75-112%*		"	"	"	
Sample ID: R0-3-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Phenol		ND	U, A2, J	5,200	"	B18E126	05/21/18	05/22/18	8270D
Bis(2-chloroethyl)ether		ND	U, A2, J	1,000	"	"	"	"	8270D
2-Chlorophenol		ND	U, A2, J	5,200	"	"	"	"	8270D
1,3-Dichlorobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
1,4-Dichlorobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
Benzyl alcohol		ND	U, A2, J	5,200	"	"	"	"	8270D
1,2-Dichlorobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
2-Methylphenol		ND	U, A2, J	5,200	"	"	"	"	8270D
Bis(2-chloro-1-methylethyl) ether		ND	U, A2, J	1,000	"	"	"	"	8270D
3&4-Methylphenol		ND	U, J, A2	5,200	"	"	"	"	8270D
N-Nitrosodipropylamine		ND	U, A2, J	1,000	"	"	"	"	8270D
Hexachloroethane		ND	U, A2, J	1,000	"	"	"	"	8270D
Nitrobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
Isophorone		ND	U, A2, J	1,000	"	"	"	"	8270D
2-Nitrophenol		ND	U, A2, J	5,200	"	"	"	"	8270D
2,4-Dimethylphenol		ND	U, A2, J	5,200	"	"	"	"	8270D
Bis(2-chloroethoxy)methane		ND	U, A2, J	1,000	"	"	"	"	8270D

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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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-03									**Soil - Sampled: 05/14/18 16:15**
Sample ID: R0-3-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
2,4-Dichlorophenol		ND	U, ~~A2, J~~	5,200	ug/kg dry	B18E126	05/21/18	05/22/18	8270D
1,2,4-Trichlorobenzene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
Naphthalene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
4-Chloroaniline		ND	U, ~~A2, J~~	5,200	"	"	"	"	8270D
Hexachlorobutadiene		ND	~~A2, J,~~ U	1,000	"	"	"	"	8270D
4-Chloro-3-methylphenol		ND	U, ~~A2, J~~	5,200	"	"	"	"	8270D
2-Methylnaphthalene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
Hexachlorocyclopentadiene		ND	U, ~~A2, J~~	5,200	"	"	"	"	8270D
2,4,6-Trichlorophenol		ND	U, ~~A2, J~~	5,200	"	"	"	"	8270D
2,4,5-Trichlorophenol		ND	U, ~~A2, J~~	5,200	"	"	"	"	8270D
2-Chloronaphthalene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
2-Nitroaniline		ND	U, ~~A2, J~~	5,200	"	"	"	"	8270D
Dimethyl phthalate		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
2,6-Dinitrotoluene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
Acenaphthylene		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
3-Nitroaniline		ND	U, ~~A2, J~~	5,200	"	"	"	"	8270D
Acenaphthene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
2,4-Dinitrophenol		ND	~~U, A2, C3, C4, J, Q2~~ UJ	20,000	"	"	"	"	8270D
4-Nitrophenol		ND	U, ~~A2, J~~	5,200	"	"	"	"	8270D
Dibenzofuran		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
2,4-Dinitrotoluene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
Diethyl phthalate		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
Fluorene		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
4-Chlorophenyl phenyl ether		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
4-Nitroaniline		ND	~~U, A2, J, Q2~~ UJ	5,200	"	"	"	"	8270D
4,6-Dinitro-2-methylphenol		ND	U, ~~A2, J~~	5,200	"	"	"	"	8270D
Diphenyl amine		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
4-Bromophenyl phenyl ether		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
Hexachlorobenzene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
Pentachlorophenol		ND	~~U, Q2, A2, C4, J~~ UJ	20,000	"	"	"	"	8270D
Phenanthrene		880	~~A2, C1,~~ J	1,000	"	"	"	"	8270D
Anthracene		ND	~~A2, J,~~ U	1,000	"	"	"	"	8270D
Carbazole		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
Di-n-butyl phthalate		ND	~~A2, J~~, U	1,000	"	"	"	"	8270D
Fluoranthene		1,000	~~A2,~~ J	1,000	"	"	"	"	8270D
Pyrene		1,600	~~A2,~~ J	1,000	"	"	"	"	8270D

KMC 7/9/18

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-03									**Soil - Sampled: 05/14/18 16:15**
Sample ID: R0-3-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Butyl benzyl phthalate		ND	U, ~~A2, I~~	1,000	ug/kg dry	B18E126	05/21/18	05/22/18	8270D
Benzo(a)anthracene		850	~~A2, C1~~, J	1,000	"	"	"	"	8270D
3,3'-Dichlorobenzidine		ND	U, ~~A2, I, Q2~~	5,200	"	"	"	"	8270D
Chrysene		1,100	~~A2~~, J	1,000	"	"	"	"	8270D
Bis(2-ethylhexyl) phthalate		ND	U, ~~A2, I~~	1,000	"	"	"	"	8270D
Di-n-octyl phthalate		ND	~~U, A2, C3, I~~ J	1,000	"	"	"	"	8270D
Benzo(b)fluoranthene		1,300	~~A2~~, J	1,000	"	"	"	"	8270D
Benzo(k)fluoranthene		ND	U, ~~A2, I~~	1,000	"	"	"	"	8270D
Benzo(a)pyrene		900	J, ~~A2, C1~~	1,000	"	"	"	"	8270D
Indeno(1,2,3-cd)pyrene		520	~~A2, C1~~, J	1,000	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	U, ~~A2~~, J	1,000	"	"	"	"	8270D
Benzo(g,h,i)perylene		700	~~A2, C1~~, J	1,000	"	"	"	"	8270D
Alkane: Straight-Chain		5,700	N TIC, J		"	"	"	"	8270D
Surrogate: 2-Fluorophenol			95 %	*20-111%*		"	"	"	
Surrogate: Phenol-d5			93 %	*20-111%*		"	"	"	
Surrogate: 2-Chlorophenol-d4			95 %	*20-121%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			87 %	*20-136%*		"	"	"	
Surrogate: Nitrobenzene-d5			89 %	*20-125%*		"	"	"	
Surrogate: 2-Fluorobiphenyl			86 %	*20-121%*		"	"	"	
Surrogate: 2,4,6-Tribromophenol			111 %	*20-146%*		"	"	"	
Surrogate: Terphenyl-d14			116 %	*20-131%*		"	"	"	
Sample ID: R0-3-0.5									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		99		1	%	B18E135	05/23/18	05/24/18	3550C
Lab ID: 1805029-04									**Soil - Sampled: 05/14/18 16:20**
Sample ID: R0-4-0.5									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.25	~~A2~~, J, ~~Q6~~	0.024	mg/kg dry	B18E116	05/17/18	05/17/18	7473
Arsenic		12		2	"	B18E115	05/16/18	05/23/18	6010C
Barium		150		5.1	"	"	"	"	6010C
Cadmium		1.5		0.51	"	"	"	"	6010C
Chromium		55	J, ~~Q4~~	1	"	"	"	"	6010C
Lead		610	J	3	"	"	"	"	6010C
Selenium		ND	U	2	"	"	"	"	6010C
Silver		ND	U	1	"	"	"	"	6010C
Sample ID: R0-4-0.5									**Purgeable Petroleum Hydrocarbons**
TPH - Gasoline Range Organics		ND	U, ~~A2, I, Q6~~	6	"	B18E117	05/15/18	05/17/18	8015C
Surrogate: a,a,a-Trifluorotoluene			90 %	*76-124%*		"	"	"	
Sample ID: R0-4-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Diesel Range Organics		92	J, ~~A2~~, F13	10	"	B18E114	05/16/18	05/21/18	8015C

EAC 7/9/18

United States Environmental Protection Agency
Region 9 Laboratory
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Project Manager: Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-04									**Soil - Sampled: 05/14/18 16:20**
Sample ID: R0-4-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Oil Range Organics		82	~~A2,~~ F13, J	41	mg/kg dry	B18E114	05/16/18	05/21/18	8015C
Surrogate: Hexacosane			54 %	*20-111%*		"	"	"	
Sample ID: R0-4-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1016		ND	U	13	ug/kg dry	B18E120	05/17/18	05/22/18	8082A
Aroclor 1221		ND	U	27	"	"	"	"	8082A
Aroclor 1232		ND	U	13	"	"	"	"	8082A
Aroclor 1242		ND	U	13	"	"	"	"	8082A
Aroclor 1248		ND	U	13	"	"	"	"	8082A
Aroclor 1254		ND	U	13	"	"	"	"	8082A
Aroclor-1260		3	J	13	"	"	"	"	8082A
Aroclor 1262		ND	U	13	"	"	"	"	8082A
Aroclor 1268		ND	U	13	"	"	"	"	8082A
Surrogate: Tetrachloro-m-xylene			61 %	*20-140%*		"	"	"	
Surrogate: Decachlorobiphenyl			49 %	*20-125%*		"	"	"	
Sample ID: R0-4-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Dichlorodifluoromethane		ND	~~A2, C3, J, U~~ UJ	3.3	"	B18E111	05/15/18	05/16/18	8260C
Chloromethane		ND	U, ~~A2, J~~	3.3	"	"	"	"	8260C
Vinyl chloride		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
Bromomethane		ND	~~J, A2~~, U	3.3	"	"	"	"	8260C
Chloroethane		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
Trichlorofluoromethane		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
1,1-Dichloroethene		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
Acetone		54	~~A2~~, J	27	"	"	"	"	8260C
Carbon disulfide		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
Dichloromethane		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
trans-1,2-Dichloroethene		ND	U, ~~A2, J~~	3.3	"	"	"	"	8260C
tert-Butyl methyl ether (MTBE)		ND	~~A2, J~~, U	13	"	"	"	"	8260C
1,1-Dichloroethane		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
cis-1,2-Dichloroethene		ND	U, ~~A2, J~~	3.3	"	"	"	"	8260C
2-Butanone (MEK)		ND	U, ~~A2, J~~	27	"	"	"	"	8260C
Chloroform		ND	U, ~~A2, J~~	3.3	"	"	"	"	8260C
1,1,1-Trichloroethane		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
Carbon tetrachloride		ND	U, ~~A2, J~~	3.3	"	"	"	"	8260C
1,1-Dichloropropene		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
Benzene		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C

KR2 7/9/18

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-04									**Soil - Sampled: 05/14/18 16:20**
Sample ID: R0-4-0.5									**Volatile Organic Compounds by EPA Method 8260C**
1,2-Dichloroethane		ND	~~A2, J, U~~	3.3	ug/kg dry	B18E111	05/15/18	05/16/18	8260C
Trichloroethene		ND	~~A2, J, Q4, U~~ UJ	3.3	"	"	"	"	8260C
1,2-Dichloropropane		ND	~~A2, J, U~~	3.3	"	"	"	"	8260C
Bromodichloromethane		ND	~~A2, J, U~~	3.3	"	"	"	"	8260C
cis-1,3-Dichloropropene		ND	~~A2, J, U~~	3.3	"	"	"	"	8260C
4-Methyl-2-pentanone (MIBK)		ND	~~A2, J, Q4, U~~ UJ	27	"	"	"	"	8260C
Toluene		ND	U, ~~A2, J~~	3.3	"	"	"	"	8260C
trans-1,3-Dichloropropene		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
1,1,2-Trichloroethane		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
Tetrachloroethene		ND	U, ~~A2, J~~	3.3	"	"	"	"	8260C
1,3-Dichloropropane		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
2-Hexanone		ND	~~A2, J~~, U	27	"	"	"	"	8260C
Chlorodibromomethane		ND	U, ~~A2, J~~	3.3	"	"	"	"	8260C
1,2-Dibromoethane (EDB)		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
Chlorobenzene		ND	U, ~~A2, J~~	3.3	"	"	"	"	8260C
Ethylbenzene		ND	U, ~~A2, J~~	3.3	"	"	"	"	8260C
m&p-Xylene		ND	U, ~~A2, J~~	6.7	"	"	"	"	8260C
o-Xylene		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
Styrene		ND	U, ~~A2, J~~	3.3	"	"	"	"	8260C
Bromoform		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
1,1,2,2-Tetrachloroethane		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
1,2,3-Trichloropropane		ND	~~A2, J~~, U	3.3	"	"	"	"	8260C
1,3-Dichlorobenzene		ND	~~U, A2, J, Q4~~ UJ	3.3	"	"	"	"	8260C
1,4-Dichlorobenzene		ND	~~A2, J, Q4, U~~ UJ	3.3	"	"	"	"	8260C
1,2-Dichlorobenzene		ND	~~A2, J, Q4, U~~ UJ	3.3	"	"	"	"	8260C
1,2-Dibromo-3-chloropropane		ND	U, ~~A2, J~~	13	"	"	"	"	8260C
Surrogate: 1,2-Dichloroethane-d4			124 %	*63-144%*		"	"	"	
Surrogate: Toluene-d8			91 %	*86-111%*		"	"	"	
Surrogate: 4-Bromofluorobenzene			93 %	*81-110%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			106 %	*75-112%*		"	"	"	
Sample ID: R0-4-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Phenol		ND	U, ~~A2, J~~	5,200	"	B18E126	05/21/18	05/22/18	8270D
Bis(2-chloroethyl)ether		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D
2-Chlorophenol		ND	U, ~~A2, J~~	5,200	"	"	"	"	8270D
1,3-Dichlorobenzene		ND	U, ~~J, A2~~	1,000	"	"	"	"	8270D
1,4-Dichlorobenzene		ND	U, ~~A2, J~~	1,000	"	"	"	"	8270D

EAL 7/9/18

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: Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-04									**Soil - Sampled: 05/14/18 16:20**
Sample ID: R0-4-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Benzyl alcohol		ND	~~U, A2, J~~	5,200	ug/kg dry	B18E126	05/21/18	05/22/18	8270D
1,2-Dichlorobenzene		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
2-Methylphenol		ND	~~U, A2, J~~	5,200	"	"	"	"	8270D
Bis(2-chloro-1-methylethyl) ether		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
3&4-Methylphenol		ND	~~U, A2, J~~	5,200	"	"	"	"	8270D
N-Nitrosodipropylamine		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
Hexachloroethane		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
Nitrobenzene		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
Isophorone		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
2-Nitrophenol		ND	~~U, A2, J~~	5,200	"	"	"	"	8270D
2,4-Dimethylphenol		ND	~~U, A2, J~~	5,200	"	"	"	"	8270D
Bis(2-chloroethoxy)methane		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
2,4-Dichlorophenol		ND	~~U, A2, J~~	5,200	"	"	"	"	8270D
1,2,4-Trichlorobenzene		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
Naphthalene		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
4-Chloroaniline		ND	~~U, A2, J, Q4~~ UJ	5,200	"	"	"	"	8270D
Hexachlorobutadiene		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
4-Chloro-3-methylphenol		ND	~~U, A2, J~~	5,200	"	"	"	"	8270D
2-Methylnaphthalene		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
Hexachlorocyclopentadiene		ND	~~U, Q4, A2, J~~ UJ	5,200	"	"	"	"	8270D
2,4,6-Trichlorophenol		ND	~~U, A2, J~~	5,200	"	"	"	"	8270D
2,4,5-Trichlorophenol		ND	~~U, A2, J~~	5,200	"	"	"	"	8270D
2-Chloronaphthalene		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
2-Nitroaniline		ND	~~U, A2, J~~	5,200	"	"	"	"	8270D
Dimethyl phthalate		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
2,6-Dinitrotoluene		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
Acenaphthylene		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
3-Nitroaniline		ND	~~U, A2, J, Q4~~ UJ	5,200	"	"	"	"	8270D
Acenaphthene		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
2,4-Dinitrophenol		ND	~~U, A2, C3, C4, J, Q2, Q4~~ UJ	20,000	"	"	"	"	8270D
4-Nitrophenol		ND	~~U, A2, J~~	5,200	"	"	"	"	8270D
Dibenzofuran		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
2,4-Dinitrotoluene		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
Diethyl phthalate		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
Fluorene		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
4-Chlorophenyl phenyl ether		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D

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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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-04									**Soil - Sampled: 05/14/18 16:20**
Sample ID: R0-4-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
4-Nitroaniline		ND	~~U, Q4, A2, J, Q2~~ UJ	5,200	ug/kg dry	B18E126	05/21/18	05/22/18	8270D
4,6-Dinitro-2-methylphenol		ND	~~U, A2, J, Q4~~ UJ	5,200	"	"	"	"	8270D
Diphenyl amine		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
4-Bromophenyl phenyl ether		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
Hexachlorobenzene		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
Pentachlorophenol		ND	~~U, A2, C4, J, Q2, Q4~~ UJ	20,000	"	"	"	"	8270D
Phenanthrene		570	~~A2, C1,~~ J	1,000	"	"	"	"	8270D
Anthracene		ND	~~U, A2, J~~	1,000	"	"	"	"	8270D
Carbazole		ND	~~U, A2, J, Q4~~ UJ	1,000	"	"	"	"	8270D
Di-n-butyl phthalate		580	~~A2, C1,~~ J	1,000	"	"	"	"	8270D
Fluoranthene		1,300	~~A2, J, Q4~~	1,000	"	"	"	"	8270D
Pyrene		1,600	~~A2,~~ J	1,000	"	"	"	"	8270D
Butyl benzyl phthalate		18,000	~~A2,~~ J	1,000	"	"	"	"	8270D
Benzo(a)anthracene		600	~~A2, C1,~~ J	1,000	"	"	"	"	8270D
3,3'-Dichlorobenzidine		ND	~~U, Q4, A2, J, Q2~~ UJ	5,200	"	"	"	"	8270D
Chrysene		1,400	J, ~~Q6, A2~~	1,000	"	"	"	"	8270D
Bis(2-ethylhexyl) phthalate		4,400	~~A2,~~ J	1,000	"	"	"	"	8270D
Di-n-octyl phthalate		ND	~~U, A2, C3, J, Q4~~ UJ	1,000	"	"	"	"	8270D
Benzo(b)fluoranthene		1,400	~~A2,~~ J	1,000	"	"	"	"	8270D
Benzo(k)fluoranthene		ND	~~U, A2, J, Q4~~ UJ	1,000	"	"	"	"	8270D
Benzo(a)pyrene		550	~~A2, C1,~~ J, ~~Q4~~	1,000	"	"	"	"	8270D
Indeno(1,2,3-cd)pyrene		ND	~~U, A2, J, Q6~~ UJ	1,000	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	~~U, A2, J, Q4~~ UJ	1,000	"	"	"	"	8270D
Benzo(g,h,i)perylene		880	~~Q4, Q6, A2, C1,~~ J	1,000	"	"	"	"	8270D
Hexadecanoic acid		6,500	N TIC, J		"	"	"	"	8270D
Octadecanoic acid		4,100	N TIC, J		"	"	"	"	8270D
Surrogate: 2-Fluorophenol			98 %	*20-111%*		"	"	"	
Surrogate: Phenol-d5			95 %	*20-111%*		"	"	"	
Surrogate: 2-Chlorophenol-d4			98 %	*20-121%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			90 %	*20-136%*		"	"	"	
Surrogate: Nitrobenzene-d5			91 %	*20-125%*		"	"	"	
Surrogate: 2-Fluorobiphenyl			87 %	*20-121%*		"	"	"	
Surrogate: 2,4,6-Tribromophenol			116 %	*20-146%*		"	"	"	
Surrogate: Terphenyl-d14			126 %	*20-131%*		"	"	"	
Sample ID: R0-4-0.5									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		99		1	%	B18E135	05/23/18	05/24/18	3550C

7/9/18

United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street Building 201
Richmond, CA 94804

Date: **5/15/2018**

Subject: **Analytical Testing Results - Project R18S51**
SDG: 18108E

From: **Peter Husby, Director**
EPA Region 9 Laboratory
EMD-3-1

To: **Eric Nuchims**
Emergency Response Section
SFD-9-2

Attached are the results from the analysis of samples from the **Bercovich Smelter April 2018 Removal Action** 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: Greg Roussos, Weston Solutions, Inc.

Analyses included in this report:

Mercury by EPA method 7473	Metals by ICP
PAHs by GC/MS SIM	PCB Aroclors by GC/ECD
PCB Aroclors by GC/ECD	Percent Solids
Semivolatile Organic Compounds by GC/MS	Semivolatile Organic Compounds by GC/MS
Extractable Petroleum Hydrocarbons by GC/FID	Extractable Petroleum Hydrocarbons by GC/FID
Purgeable Petroleum Hydrocarbons by GC/FID	Volatile Organic Compounds by GC/MS
Volatile Organic Compounds by GC/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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
R0-1-0.5	1804031-01	Soil	04/18/18 09:05	04/18/18 13:34
R0-2-0.5	1804031-02	Soil	04/18/18 09:15	04/18/18 13:34
R0-3-0.5	1804031-03	Soil	04/18/18 09:30	04/18/18 13:34
R0-4-0.5	1804031-04	Soil	04/18/18 10:30	04/18/18 13:34

Work Order 1804031

TPH-DRO/ORO: The samples contain heavy hydrocarbon mixtures that are outside the range of this analysis. The nature of the samples necessitated dilutions for samples 1804031-01, -03, and -04. The surrogate spikes were diluted out and are not reported.

SVOCs: Matrix QC samples (MS/MSD) were prepared but not analyzed. The samples are highly contaminated with heavy hydrocarbons which necessitated dilutions that would render the MS/MSD results meaningless.

United States Environmental Protection Agency
Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID:	**1804031-01**								**Soil - Sampled: 04/18/18 09:05**
Sample ID:	**R0-1-0.5**								**Metals by EPA 6000/7000 Series Methods**
Mercury		0.39		0.16	mg/kg dry	B18D127	04/26/18	04/26/18	7473
Arsenic		17		3	"	B18D103	04/23/18	05/01/18	6010C
Barium		250		7.4	"	"	"	"	6010C
Cadmium		1.9		0.74	"	"	"	"	6010C
Chromium		76		1.5	"	"	"	"	6010C
Lead		220		4.4	"	"	"	"	6010C
Selenium		ND	U	3	"	"	"	"	6010C
Silver		ND	U	1.5	"	"	"	"	6010C
Sample ID:	**R0-1-0.5**								**Purgeable Petroleum Hydrocarbons**
TPH - Gasoline Range Organics		9.7	F13	8.2	"	B18D111	04/18/18	04/24/18	8015C
Surrogate: a,a,a-Trifluorotoluene			86 %	*76-124%*		"	"	"	
Sample ID:	**R0-1-0.5**								**Extractable Petroleum Hydrocarbons**
TPH - Diesel Range Organics		490	F13	37	"	B18D099	04/20/18	04/24/18	8015C
TPH - Oil Range Organics		3,900	F5	150	"	"	"	"	8015C
Sample ID:	**R0-1-0.5**								**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1016		ND	U	19	ug/kg dry	B18D129	04/27/18	05/04/18	8082A
Aroclor 1221		ND	U	40	"	"	"	"	8082A
Aroclor 1232		ND	U	19	"	"	"	"	8082A
Aroclor 1242		ND	U	19	"	"	"	"	8082A
Aroclor 1248		ND	U	19	"	"	"	"	8082A
Aroclor 1254		ND	U	19	"	"	"	"	8082A
Aroclor-1260		18	C1, G1, J	19	"	"	"	"	8082A
Aroclor 1262		ND	U	19	"	"	"	"	8082A
Aroclor 1268		ND	U	19	"	"	"	"	8082A
Surrogate: Tetrachloro-m-xylene			55 %	*20-140%*		"	"	"	
Surrogate: Decachlorobiphenyl			45 %	*20-125%*		"	"	"	
Sample ID:	**R0-1-0.5**								**Volatile Organic Compounds by EPA Method 8260C**
Dichlorodifluoromethane		ND	U	4.7	"	B18D145	04/18/18	04/30/18	8260C
Chloromethane		ND	U	4.7	"	"	"	"	8260C
Vinyl chloride		ND	U	4.7	"	"	"	"	8260C
Bromomethane		ND	C3, J, U	4.7	"	"	"	"	8260C
Chloroethane		ND	U	4.7	"	"	"	"	8260C
Trichlorofluoromethane		ND	U	4.7	"	"	"	"	8260C
1,1-Dichloroethene		ND	U	4.7	"	"	"	"	8260C
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	U	4.7	"	"	"	"	8260C
Acetone		30	C1, J	37	"	"	"	"	8260C
Carbon disulfide		ND	C3, J, U	4.7	"	"	"	"	8260C

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1804031-01**									**Soil - Sampled: 04/18/18 09:05**
Sample ID: **R0-1-0.5**									**Volatile Organic Compounds by EPA Method 8260C**
Dichloromethane		ND	U	4.7	ug/kg dry	B18D145	04/18/18	04/30/18	8260C
trans-1,2-Dichloroethene		ND	U	4.7	"	"	"	"	8260C
tert-Butyl methyl ether (MTBE)		ND	U	19	"	"	"	"	8260C
1,1-Dichloroethane		ND	U	4.7	"	"	"	"	8260C
cis-1,2-Dichloroethene		ND	U	4.7	"	"	"	"	8260C
2-Butanone (MEK)		ND	U	37	"	"	"	"	8260C
Chloroform		ND	U	4.7	"	"	"	"	8260C
1,1,1-Trichloroethane		ND	U	4.7	"	"	"	"	8260C
Carbon tetrachloride		ND	U	4.7	"	"	"	"	8260C
1,1-Dichloropropene		ND	U	4.7	"	"	"	"	8260C
Benzene		ND	J, Q7, U	4.7	"	"	"	"	8260C
1,2-Dichloroethane		ND	U	4.7	"	"	"	"	8260C
Trichloroethene		ND	U	4.7	"	"	"	"	8260C
1,2-Dichloropropane		ND	U	4.7	"	"	"	"	8260C
Bromodichloromethane		ND	C3, J, U	4.7	"	"	"	"	8260C
cis-1,3-Dichloropropene		ND	C3, J, U	4.7	"	"	"	"	8260C
4-Methyl-2-pentanone (MIBK)		ND	Q1, J, Q7, U	37	"	"	"	"	8260C
Toluene		ND	Q1, J, Q7, U	4.7	"	"	"	"	8260C
trans-1,3-Dichloropropene		ND	C3, J, U	4.7	"	"	"	"	8260C
1,1,2-Trichloroethane		ND	Q7, J, U	4.7	"	"	"	"	8260C
Tetrachloroethene		ND	Q1, J, Q7, U	4.7	"	"	"	"	8260C
1,3-Dichloropropane		ND	Q7, Q1, J, U	4.7	"	"	"	"	8260C
2-Hexanone		ND	Q7, Q1, J, U	37	"	"	"	"	8260C
Chlorodibromomethane		ND	C3, Q1, Q7, J, U	4.7	"	"	"	"	8260C
1,2-Dibromoethane (EDB)		ND	Q7, Q1, J, U	4.7	"	"	"	"	8260C
Chlorobenzene		ND	Q1, Q7, J, U	4.7	"	"	"	"	8260C
Ethylbenzene		ND	Q1, Q7, J, U	4.7	"	"	"	"	8260C
m&p-Xylene		5.4	C1, Q1, J, Q7	9.4	"	"	"	"	8260C
o-Xylene		ND	Q1, J, Q7, U	4.7	"	"	"	"	8260C
Styrene		ND	J, Q1, Q7, U	4.7	"	"	"	"	8260C
Bromoform		ND	C3, Q1, Q7, J, U	4.7	"	"	"	"	8260C
1,1,2,2-Tetrachloroethane		ND	Q7, Q1, J, U	4.7	"	"	"	"	8260C
1,2,3-Trichloropropane		ND	Q7, Q1, J, U	4.7	"	"	"	"	8260C
1,3-Dichlorobenzene		ND	Q7, Q1, J, U	4.7	"	"	"	"	8260C
1,4-Dichlorobenzene		ND	Q7, Q1, J, U	4.7	"	"	"	"	8260C
1,2-Dichlorobenzene		ND	Q7, Q1, J, U	4.7	"	"	"	"	8260C

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1804031-01**									**Soil - Sampled: 04/18/18 09:05**
Sample ID: **R0-1-0.5**									**Volatile Organic Compounds by EPA Method 8260C**
1,2-Dibromo-3-chloropropane		ND	Q7, C3, Q1, J, U	19	ug/kg dry	B18D145	04/18/18	04/30/18	8260C
Ethanol		230	N TIC, J		"	"	"	"	8260C
Ethene, difluoro		10	N TIC, J		"	"	"	"	8260C
Propene, methyl		14	N TIC, J		"	"	"	"	8260C
Surrogate: 1,2-Dichloroethane-d4			111 %	*63-144%*		"	"	"	
Surrogate: Toluene-d8			**117 %**	*86-111%*		"	"	"	
Surrogate: 4-Bromofluorobenzene			**79 %**	*81-110%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			**57 %**	*75-112%*		"	"	"	
Sample ID: **R0-1-0.5**									**Semivolatile Organic Compounds by EPA Method 8270D**
Phenol		ND	U	2,500	"	B18D112	04/23/18	05/07/18	8270D
Bis(2-chloroethyl)ether		ND	U	490	"	"	"	"	8270D
2-Chlorophenol		ND	U	2,500	"	"	"	"	8270D
1,3-Dichlorobenzene		ND	U	490	"	"	"	"	8270D
1,4-Dichlorobenzene		ND	U	490	"	"	"	"	8270D
Benzyl alcohol		ND	U	2,500	"	"	"	"	8270D
1,2-Dichlorobenzene		ND	U	490	"	"	"	"	8270D
2-Methylphenol		ND	U	2,500	"	"	"	"	8270D
Bis(2-chloro-1-methylethyl) ether		ND	U	490	"	"	"	"	8270D
3&4-Methylphenol		ND	U	2,500	"	"	"	"	8270D
N-Nitrosodipropylamine		ND	U	490	"	"	"	"	8270D
Hexachloroethane		ND	U	490	"	"	"	"	8270D
Nitrobenzene		ND	U	490	"	"	"	"	8270D
Isophorone		ND	U	490	"	"	"	"	8270D
2-Nitrophenol		ND	U	2,500	"	"	"	"	8270D
2,4-Dimethylphenol		ND	J, Q2, U	2,500	"	"	"	"	8270D
Bis(2-chloroethoxy)methane		ND	U	490	"	"	"	"	8270D
2,4-Dichlorophenol		ND	U	2,500	"	"	"	"	8270D
1,2,4-Trichlorobenzene		ND	U	490	"	"	"	"	8270D
Naphthalene		ND	U	490	"	"	"	"	8270D
4-Chloroaniline		ND	U	2,500	"	"	"	"	8270D
Hexachlorobutadiene		ND	U	490	"	"	"	"	8270D
4-Chloro-3-methylphenol		ND	U	2,500	"	"	"	"	8270D
2-Methylnaphthalene		ND	U	490	"	"	"	"	8270D
Hexachlorocyclopentadiene		ND	U	2,500	"	"	"	"	8270D
2,4,6-Trichlorophenol		ND	U	2,500	"	"	"	"	8270D
2,4,5-Trichlorophenol		ND	U	2,500	"	"	"	"	8270D

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1804031-01**									**Soil - Sampled: 04/18/18 09:05**
Sample ID: **R0-1-0.5**									**Semivolatile Organic Compounds by EPA Method 8270D**
2-Chloronaphthalene		ND	U	490	ug/kg dry	B18D112	04/23/18	05/07/18	8270D
2-Nitroaniline		ND	U	2,500	"	"	"	"	8270D
Dimethyl phthalate		ND	U	490	"	"	"	"	8270D
2,6-Dinitrotoluene		ND	U	490	"	"	"	"	8270D
Acenaphthylene		ND	U	490	"	"	"	"	8270D
3-Nitroaniline		ND	U	2,500	"	"	"	"	8270D
Acenaphthene		ND	U	490	"	"	"	"	8270D
2,4-Dinitrophenol		ND	C3, J, U	10,000	"	"	"	"	8270D
4-Nitrophenol		ND	U	2,500	"	"	"	"	8270D
Dibenzofuran		ND	U	490	"	"	"	"	8270D
2,4-Dinitrotoluene		ND	U	490	"	"	"	"	8270D
Diethyl phthalate		ND	U	490	"	"	"	"	8270D
Fluorene		ND	U	490	"	"	"	"	8270D
4-Chlorophenyl phenyl ether		ND	U	490	"	"	"	"	8270D
4-Nitroaniline		ND	J, Q2, U	2,500	"	"	"	"	8270D
4,6-Dinitro-2-methylphenol		ND	C3, J, U	2,500	"	"	"	"	8270D
Diphenyl amine		ND	J, Q2, U	490	"	"	"	"	8270D
4-Bromophenyl phenyl ether		ND	U	490	"	"	"	"	8270D
Hexachlorobenzene		ND	U	490	"	"	"	"	8270D
Pentachlorophenol		ND	C3, J, U	10,000	"	"	"	"	8270D
Phenanthrene		290	C1, J	490	"	"	"	"	8270D
Anthracene		ND	U	490	"	"	"	"	8270D
Carbazole		ND	J, Q2, U	490	"	"	"	"	8270D
Di-n-butyl phthalate		ND	U	490	"	"	"	"	8270D
Fluoranthene		360	C1, J	490	"	"	"	"	8270D
Pyrene		540		490	"	"	"	"	8270D
Butyl benzyl phthalate		570		490	"	"	"	"	8270D
Benzo(a)anthracene		ND	U	490	"	"	"	"	8270D
3,3'-Dichlorobenzidine		ND	C4, J, Q2, U	490	"	"	"	"	8270D
Chrysene		680		490	"	"	"	"	8270D
Bis(2-ethylhexyl) phthalate		8,000		490	"	"	"	"	8270D
Di-n-octyl phthalate		ND	J, Q2, Q3, U	490	"	"	"	"	8270D
Benzo(b)fluoranthene		600		490	"	"	"	"	8270D
Benzo(k)fluoranthene		250	C1, J	490	"	"	"	"	8270D
Benzo(a)pyrene		ND	U	490	"	"	"	"	8270D
Indeno(1,2,3-cd)pyrene		ND	U	490	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	U	490	"	"	"	"	8270D

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Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-01									**Soil - Sampled: 04/18/18 09:05**
Sample ID: R0-1-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Benzo(g,h,i)perylene		340	C1, J	490	ug/kg dry	B18D112	04/23/18	05/07/18	8270D
Benzenedicarboxylic acid, diis		29,000	N TIC, J		"	"	"	"	8270D
Hexadecanoic acid		2,300	N TIC, J		"	"	"	"	8270D
Octacosane		13,000	N TIC, J		"	"	"	"	8270D
Surrogate: 2-Fluorophenol			74 %	*20-111%*		"	"	"	
Surrogate: Phenol-d5			80 %	*20-111%*		"	"	"	
Surrogate: 2-Chlorophenol-d4			81 %	*20-121%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			67 %	*20-136%*		"	"	"	
Surrogate: Nitrobenzene-d5			78 %	*20-125%*		"	"	"	
Surrogate: 2-Fluorobiphenyl			72 %	*20-121%*		"	"	"	
Surrogate: 2,4,6-Tribromophenol			93 %	*20-146%*		"	"	"	
Surrogate: Terphenyl-d14			75 %	*20-131%*		"	"	"	
Sample ID: R0-1-0.5									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		68		1	%	B18D123	04/25/18	04/26/18	3550C
Lab ID: 1804031-02									**Soil - Sampled: 04/18/18 09:15**
Sample ID: R0-2-0.5									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.19	C1, J	0.20	mg/kg dry	B18D127	04/26/18	04/26/18	7473
Arsenic		11		2.2	"	B18D103	04/23/18	05/01/18	6010C
Barium		250		5.6	"	"	"	"	6010C
Cadmium		2.5		0.56	"	"	"	"	6010C
Chromium		55		1.1	"	"	"	"	6010C
Lead		250	J, Q4	3.3	"	"	"	"	6010C
Selenium		ND	U	2.2	"	"	"	"	6010C
Silver		ND	U	1.1	"	"	"	"	6010C
Sample ID: R0-2-0.5									**Purgeable Petroleum Hydrocarbons**
TPH - Gasoline Range Organics		ND	U	9.9	"	B18D111	04/18/18	04/24/18	8015C
Surrogate: a,a,a-Trifluorotoluene			88 %	*76-124%*		"	"	"	
Sample ID: R0-2-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Diesel Range Organics	RE1	160	F13	33	"	B18D138	04/20/18	05/01/18	8015C
TPH - Oil Range Organics	RE1	1,900	F5	130	"	"	"	"	8015C
Surrogate: Hexacosane	*RE1*		26 %	*20-111%*		"	"	"	
Sample ID: R0-2-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1016		ND	U	15	ug/kg dry	B18D129	04/27/18	05/04/18	8082A
Aroclor 1221		ND	U	30	"	"	"	"	8082A
Aroclor 1232		ND	U	15	"	"	"	"	8082A
Aroclor 1242		ND	U	15	"	"	"	"	8082A
Aroclor 1248		ND	U	15	"	"	"	"	8082A
Aroclor 1254		ND	U	15	"	"	"	"	8082A

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Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1804031-02**									**Soil - Sampled: 04/18/18 09:15**
Sample ID: **R0-2-0.5**									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor-1260		19		15	ug/kg dry	B18D129	04/27/18	05/04/18	8082A
Aroclor 1262		ND	U	15	"	"	"	"	8082A
Aroclor 1268		ND	U	15	"	"	"	"	8082A
Surrogate: Tetrachloro-m-xylene			62 %	*20-140%*		"	"	"	
Surrogate: Decachlorobiphenyl			49 %	*20-125%*		"	"	"	
Sample ID: **R0-2-0.5**									**Volatile Organic Compounds by EPA Method 8260C**
Dichlorodifluoromethane		ND	Q7, J, Q4, U	2.8	"	B18D145	04/18/18	05/01/18	8260C
Chloromethane		ND	Q7, J, U	2.8	"	"	"	"	8260C
Vinyl chloride		ND	J, Q7, U	2.8	"	"	"	"	8260C
Bromomethane		ND	J, C3, Q7, Q4, Q6, U	2.8	"	"	"	"	8260C
Chloroethane		ND	J, Q7, U	2.8	"	"	"	"	8260C
Trichlorofluoromethane		ND	J, Q7, Q4, U	2.8	"	"	"	"	8260C
1,1-Dichloroethene		ND	Q7, J, Q4, U	2.8	"	"	"	"	8260C
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	Q7, Q4, J, U	2.8	"	"	"	"	8260C
Acetone		11	Q7, J, C1, Q6, Q4	22	"	"	"	"	8260C
Carbon disulfide		ND	J, C3, Q7, Q4, U	2.8	"	"	"	"	8260C
Dichloromethane		ND	Q7, J, U	2.8	"	"	"	"	8260C
trans-1,2-Dichloroethene		ND	J, Q7, Q4, U	2.8	"	"	"	"	8260C
tert-Butyl methyl ether (MTBE)		ND	J, Q7, U	11	"	"	"	"	8260C
1,1-Dichloroethane		ND	Q7, J, U	2.8	"	"	"	"	8260C
cis-1,2-Dichloroethene		ND	Q7, J, Q4, U	2.8	"	"	"	"	8260C
2-Butanone (MEK)		ND	Q7, J, Q4, Q6, U	22	"	"	"	"	8260C
Chloroform		ND	J, Q7, U	2.8	"	"	"	"	8260C
1,1,1-Trichloroethane		ND	Q7, Q4, J, U	2.8	"	"	"	"	8260C
Carbon tetrachloride		ND	J, Q7, Q4, U	2.8	"	"	"	"	8260C
1,1-Dichloropropene		ND	Q7, J, Q4, U	2.8	"	"	"	"	8260C
Benzene		ND	Q7, J, U	2.8	"	"	"	"	8260C
1,2-Dichloroethane		ND	Q7, J, U	2.8	"	"	"	"	8260C
Trichloroethene		ND	J, Q7, Q4, U	2.8	"	"	"	"	8260C
1,2-Dichloropropane		ND	Q7, J, Q4, U	2.8	"	"	"	"	8260C
Bromodichloromethane		ND	J, C3, Q7, Q4, U	2.8	"	"	"	"	8260C
cis-1,3-Dichloropropene		ND	C3, Q7, J, Q4, Q6, U	2.8	"	"	"	"	8260C
4-Methyl-2-pentanone (MIBK)		ND	J, Q1, Q7, Q4, Q6, U	22	"	"	"	"	8260C

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Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1804031-02**									**Soil - Sampled: 04/18/18 09:15**
Sample ID: **R0-2-0.5**									**Volatile Organic Compounds by EPA Method 8260C**
Toluene		ND	Q1, J, Q7, Q4, U	2.8	ug/kg dry	B18D145	04/18/18	05/01/18	8260C
trans-1,3-Dichloropropene		ND	J, C3, Q7, Q4, Q6, U	2.8	"	"	"	"	8260C
1,1,2-Trichloroethane		ND	J, Q7, U	2.8	"	"	"	"	8260C
Tetrachloroethene		ND	Q1, J, Q7, Q4, U	2.8	"	"	"	"	8260C
1,3-Dichloropropane		ND	Q1, J, Q7, U	2.8	"	"	"	"	8260C
2-Hexanone		ND	Q1, J, Q7, Q4, U	22	"	"	"	"	8260C
Chlorodibromomethane		ND	Q7, J, Q1, C3, Q4, U	2.8	"	"	"	"	8260C
1,2-Dibromoethane (EDB)		ND	Q1, J, Q7, Q4, U	2.8	"	"	"	"	8260C
Chlorobenzene		ND	Q7, J, Q1, Q4, U	2.8	"	"	"	"	8260C
Ethylbenzene		ND	Q7, J, Q1, Q4, U	2.8	"	"	"	"	8260C
m&p-Xylene		ND	Q7, J, Q1, Q4, U	5.6	"	"	"	"	8260C
o-Xylene		ND	Q1, J, Q7, Q4, U	2.8	"	"	"	"	8260C
Styrene		ND	Q1, J, Q7, Q4, U	2.8	"	"	"	"	8260C
Bromoform		ND	Q7, J, Q1, C3, Q4, Q6, U	2.8	"	"	"	"	8260C
1,1,2,2-Tetrachloroethane		ND	J, Q1, Q7, Q4, U	2.8	"	"	"	"	8260C
1,2,3-Trichloropropane		ND	J, Q1, Q7, Q4, U	2.8	"	"	"	"	8260C
1,3-Dichlorobenzene		ND	Q1, J, Q7, Q4, U	2.8	"	"	"	"	8260C
1,4-Dichlorobenzene		ND	Q1, J, Q7, Q4, U	2.8	"	"	"	"	8260C
1,2-Dichlorobenzene		ND	Q1, Q7, J, Q4, U	2.8	"	"	"	"	8260C
1,2-Dibromo-3-chloropropane		ND	J, Q1, C3, Q7, Q6, Q4, U	11	"	"	"	"	8260C
Ethanol		37	N TIC, J		"	"	"	"	8260C
Surrogate: 1,2-Dichloroethane-d4			**164 %**	*63-144%*		"	"	"	
Surrogate: Toluene-d8			**123 %**	*86-111%*		"	"	"	
Surrogate: 4-Bromofluorobenzene			**79 %**	*81-110%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			**56 %**	*75-112%*		"	"	"	
Sample ID: **R0-2-0.5**									**Semivolatile Organic Compounds by EPA Method 8270D**
Phenol		ND	U	1,900	"	B18D112	04/23/18	05/07/18	8270D
Bis(2-chloroethyl)ether		ND	U	370	"	"	"	"	8270D
2-Chlorophenol		ND	U	1,900	"	"	"	"	8270D

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Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1804031-02**									**Soil - Sampled: 04/18/18 09:15**
Sample ID: **R0-2-0.5**									**Semivolatile Organic Compounds by EPA Method 8270D**
1,3-Dichlorobenzene		ND	U	370	ug/kg dry	B18D112	04/23/18	05/07/18	8270D
1,4-Dichlorobenzene		ND	U	370	"	"	"	"	8270D
Benzyl alcohol		ND	U	1,900	"	"	"	"	8270D
1,2-Dichlorobenzene		ND	U	370	"	"	"	"	8270D
2-Methylphenol		ND	U	1,900	"	"	"	"	8270D
Bis(2-chloro-1-methylethyl) ether		ND	U	370	"	"	"	"	8270D
3&4-Methylphenol		ND	U	1,900	"	"	"	"	8270D
N-Nitrosodipropylamine		ND	U	370	"	"	"	"	8270D
Hexachloroethane		ND	U	370	"	"	"	"	8270D
Nitrobenzene		ND	U	370	"	"	"	"	8270D
Isophorone		ND	U	370	"	"	"	"	8270D
2-Nitrophenol		ND	U	1,900	"	"	"	"	8270D
2,4-Dimethylphenol		ND	J, Q2, U	1,900	"	"	"	"	8270D
Bis(2-chloroethoxy)methane		ND	U	370	"	"	"	"	8270D
2,4-Dichlorophenol		ND	U	1,900	"	"	"	"	8270D
1,2,4-Trichlorobenzene		ND	U	370	"	"	"	"	8270D
Naphthalene		ND	U	370	"	"	"	"	8270D
4-Chloroaniline		ND	U	1,900	"	"	"	"	8270D
Hexachlorobutadiene		ND	U	370	"	"	"	"	8270D
4-Chloro-3-methylphenol		ND	U	1,900	"	"	"	"	8270D
2-Methylnaphthalene		ND	U	370	"	"	"	"	8270D
Hexachlorocyclopentadiene		ND	U	1,900	"	"	"	"	8270D
2,4,6-Trichlorophenol		ND	U	1,900	"	"	"	"	8270D
2,4,5-Trichlorophenol		ND	U	1,900	"	"	"	"	8270D
2-Chloronaphthalene		ND	U	370	"	"	"	"	8270D
2-Nitroaniline		ND	U	1,900	"	"	"	"	8270D
Dimethyl phthalate		ND	U	370	"	"	"	"	8270D
2,6-Dinitrotoluene		ND	U	370	"	"	"	"	8270D
Acenaphthylene		ND	U	370	"	"	"	"	8270D
3-Nitroaniline		ND	U	1,900	"	"	"	"	8270D
Acenaphthene		ND	U	370	"	"	"	"	8270D
2,4-Dinitrophenol		ND	U, C3, J	7,600	"	"	"	"	8270D
4-Nitrophenol		ND	U	1,900	"	"	"	"	8270D
Dibenzofuran		ND	U	370	"	"	"	"	8270D
2,4-Dinitrotoluene		ND	U	370	"	"	"	"	8270D
Diethyl phthalate		ND	U	370	"	"	"	"	8270D

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID:	**1804031-02**								**Soil - Sampled: 04/18/18 09:15**
Sample ID:	**R0-2-0.5**								**Semivolatile Organic Compounds by EPA Method 8270D**
Fluorene		ND	U	370	ug/kg dry	B18D112	04/23/18	05/07/18	8270D
4-Chlorophenyl phenyl ether		ND	U	370	"	"	"	"	8270D
4-Nitroaniline		ND	J, Q2, U	1,900	"	"	"	"	8270D
4,6-Dinitro-2-methylphenol		ND	C3, J, U	1,900	"	"	"	"	8270D
Diphenyl amine		ND	J, Q2, U	370	"	"	"	"	8270D
4-Bromophenyl phenyl ether		ND	U	370	"	"	"	"	8270D
Hexachlorobenzene		ND	U	370	"	"	"	"	8270D
Pentachlorophenol		ND	U, C3, J	7,600	"	"	"	"	8270D
Phenanthrene		380		370	"	"	"	"	8270D
Anthracene		ND	U	370	"	"	"	"	8270D
Carbazole		ND	J, Q2, U	370	"	"	"	"	8270D
Di-n-butyl phthalate		ND	U	370	"	"	"	"	8270D
Fluoranthene		570		370	"	"	"	"	8270D
Pyrene		730		370	"	"	"	"	8270D
Butyl benzyl phthalate		2,600		370	"	"	"	"	8270D
Benzo(a)anthracene		260	C1, J	370	"	"	"	"	8270D
3,3'-Dichlorobenzidine		ND	C4, J, Q2, U	370	"	"	"	"	8270D
Chrysene		800		370	"	"	"	"	8270D
Bis(2-ethylhexyl) phthalate		1,800		370	"	"	"	"	8270D
Di-n-octyl phthalate		ND	J, Q2, Q3, U	370	"	"	"	"	8270D
Benzo(b)fluoranthene		940		370	"	"	"	"	8270D
Benzo(k)fluoranthene		240	C1, J	370	"	"	"	"	8270D
Benzo(a)pyrene		310	C1, J	370	"	"	"	"	8270D
Indeno(1,2,3-cd)pyrene		200	C1, J	370	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	U	370	"	"	"	"	8270D
Benzo(g,h,i)perylene		420		370	"	"	"	"	8270D
Hentriacontane		12,000	N TIC, J		"	"	"	"	8270D
Hexadecanoic acid		4,500	N TIC, J		"	"	"	"	8270D
Sitosterol		7,300	N TIC, J		"	"	"	"	8270D
Surrogate: 2-Fluorophenol			84 %	*20-111%*		"	"	"	
Surrogate: Phenol-d5			88 %	*20-111%*		"	"	"	
Surrogate: 2-Chlorophenol-d4			88 %	*20-121%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			73 %	*20-136%*		"	"	"	
Surrogate: Nitrobenzene-d5			81 %	*20-125%*		"	"	"	
Surrogate: 2-Fluorobiphenyl			78 %	*20-121%*		"	"	"	
Surrogate: 2,4,6-Tribromophenol			101 %	*20-146%*		"	"	"	
Surrogate: Terphenyl-d14			95 %	*20-131%*		"	"	"	
Sample ID:	**R0-2-0.5**								**Conventional Chemistry Parameters by APHA/EPA Methods**

United States Environmental Protection Agency
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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-02									**Soil - Sampled: 04/18/18 09:15**
Sample ID: R0-2-0.5									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		90		1	%	B18D123	04/25/18	04/26/18	3550C
Lab ID: 1804031-03									**Soil - Sampled: 04/18/18 09:30**
Sample ID: R0-3-0.5									**Metals by EPA 6000/7000 Series Methods**
Mercury	RE1	0.40		0.032	mg/kg dry	B18D127	04/26/18	04/26/18	7473
Arsenic		15		2.9	"	B18D103	04/23/18	05/01/18	6010C
Barium		220		7.2	"	"	"	"	6010C
Cadmium		3.2		0.72	"	"	"	"	6010C
Chromium		58		1.4	"	"	"	"	6010C
Lead		340		4.3	"	"	"	"	6010C
Selenium		ND	U	2.9	"	"	"	"	6010C
Silver		ND	U	1.4	"	"	"	"	6010C
Sample ID: R0-3-0.5									**Purgeable Petroleum Hydrocarbons**
TPH - Gasoline Range Organics		ND	U	6.8	"	B18D111	04/18/18	04/24/18	8015C
Surrogate: a,a,a-Trifluorotoluene			87 %	*76-124%*		"	"	"	
Sample ID: R0-3-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Diesel Range Organics		98	F13	36	"	B18D099	04/20/18	04/24/18	8015C
TPH - Oil Range Organics		860	F5	140	"	"	"	"	8015C
Sample ID: R0-3-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1016		ND	U	19	ug/kg dry	B18D129	04/27/18	05/04/18	8082A
Aroclor 1221		ND	U	39	"	"	"	"	8082A
Aroclor 1232		ND	U	19	"	"	"	"	8082A
Aroclor 1242		ND	U	19	"	"	"	"	8082A
Aroclor 1248		ND	U	19	"	"	"	"	8082A
Aroclor 1254		ND	U	19	"	"	"	"	8082A
Aroclor-1260		15	C1, J	19	"	"	"	"	8082A
Aroclor 1262		ND	U	19	"	"	"	"	8082A
Aroclor 1268		ND	U	19	"	"	"	"	8082A
Surrogate: Tetrachloro-m-xylene			46 %	*20-140%*		"	"	"	
Surrogate: Decachlorobiphenyl			36 %	*20-125%*		"	"	"	
Sample ID: R0-3-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Dichlorodifluoromethane		ND	U	4	"	B18D145	04/18/18	04/30/18	8260C
Chloromethane		ND	U	4	"	"	"	"	8260C
Vinyl chloride		ND	U	4	"	"	"	"	8260C
Bromomethane		ND	C3, J, U	4	"	"	"	"	8260C
Chloroethane		ND	U	4	"	"	"	"	8260C
Trichlorofluoromethane		ND	U	4	"	"	"	"	8260C
1,1-Dichloroethene		ND	U	4	"	"	"	"	8260C

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1804031-03**									**Soil - Sampled: 04/18/18 09:30**
Sample ID: **R0-3-0.5**									**Volatile Organic Compounds by EPA Method 8260C**
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	U	4	ug/kg dry	B18D145	04/18/18	04/30/18	8260C
Acetone		900		32	"	"	"	"	8260C
Carbon disulfide		ND	C3, J, U	4	"	"	"	"	8260C
Dichloromethane		ND	U	4	"	"	"	"	8260C
trans-1,2-Dichloroethene		ND	U	4	"	"	"	"	8260C
tert-Butyl methyl ether (MTBE)		ND	U	16	"	"	"	"	8260C
1,1-Dichloroethane		ND	U	4	"	"	"	"	8260C
cis-1,2-Dichloroethene		ND	U	4	"	"	"	"	8260C
2-Butanone (MEK)		67		32	"	"	"	"	8260C
Chloroform		ND	U	4	"	"	"	"	8260C
1,1,1-Trichloroethane		ND	U	4	"	"	"	"	8260C
Carbon tetrachloride		ND	U	4	"	"	"	"	8260C
1,1-Dichloropropene		ND	U	4	"	"	"	"	8260C
Benzene		ND	J, Q7, U	4	"	"	"	"	8260C
1,2-Dichloroethane		ND	U	4	"	"	"	"	8260C
Trichloroethene		ND	U	4	"	"	"	"	8260C
1,2-Dichloropropane		ND	U	4	"	"	"	"	8260C
Bromodichloromethane		ND	C3, J, U	4	"	"	"	"	8260C
cis-1,3-Dichloropropene		ND	J, C3, U	4	"	"	"	"	8260C
4-Methyl-2-pentanone (MIBK)		ND	Q1, J, Q7, U	32	"	"	"	"	8260C
Toluene		ND	Q1, U, J, Q7	4	"	"	"	"	8260C
trans-1,3-Dichloropropene		ND	J, C3, U	4	"	"	"	"	8260C
1,1,2-Trichloroethane		ND	U, J, Q7	4	"	"	"	"	8260C
Tetrachloroethene		ND	U, Q1, J, Q7	4	"	"	"	"	8260C
1,3-Dichloropropane		ND	Q1, J, Q7, U	4	"	"	"	"	8260C
2-Hexanone		ND	Q1, J, Q7, U	32	"	"	"	"	8260C
Chlorodibromomethane		ND	Q1, J, C3, Q7, U	4	"	"	"	"	8260C
1,2-Dibromoethane (EDB)		ND	J, Q1, Q7, U	4	"	"	"	"	8260C
Chlorobenzene		ND	U, Q1, J, Q7	4	"	"	"	"	8260C
Ethylbenzene		ND	J, Q1, Q7, U	4	"	"	"	"	8260C
m&p-Xylene		4.3	J, C1, Q1, Q7	8	"	"	"	"	8260C
o-Xylene		ND	J, Q1, Q7, U	4	"	"	"	"	8260C
Styrene		ND	U, Q1, J, Q7	4	"	"	"	"	8260C
Bromoform		ND	Q1, J, C3, Q7, U	4	"	"	"	"	8260C
1,1,2,2-Tetrachloroethane		ND	J, Q7, Q1, U	4	"	"	"	"	8260C
1,2,3-Trichloropropane		ND	J, Q1, Q7, U	4	"	"	"	"	8260C

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1804031-03**									**Soil - Sampled: 04/18/18 09:30**
Sample ID: **R0-3-0.5**									**Volatile Organic Compounds by EPA Method 8260C**
1,3-Dichlorobenzene		ND	Q1, J, Q7, U	4	ug/kg dry	B18D145	04/18/18	04/30/18	8260C
1,4-Dichlorobenzene		ND	Q1, J, Q7, U	4	"	"	"	"	8260C
1,2-Dichlorobenzene		ND	J, Q1, Q7, U	4	"	"	"	"	8260C
1,2-Dibromo-3-chloropropane		ND	J, Q1, C3, Q7, U	16	"	"	"	"	8260C
Ethanol		510	N TIC, J		"	"	"	"	8260C
Isopropyl Alcohol		82	N TIC, J		"	"	"	"	8260C
Octanone		300	N TIC, J		"	"	"	"	8260C
Octene		52	N TIC, J		"	"	"	"	8260C
Propene, methyl		8.4	N TIC, J		"	"	"	"	8260C
Surrogate: 1,2-Dichloroethane-d4			108 %	*63-144%*		"	"	"	
Surrogate: Toluene-d8			**119 %**	*86-111%*		"	"	"	
Surrogate: 4-Bromofluorobenzene			**77 %**	*81-110%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			**62 %**	*75-112%*		"	"	"	
Sample ID: **R0-3-0.5**									**Semivolatile Organic Compounds by EPA Method 8270D**
Phenol		ND	U	2,500	"	B18D112	04/23/18	05/07/18	8270D
Bis(2-chloroethyl)ether		ND	U	480	"	"	"	"	8270D
2-Chlorophenol		ND	U	2,500	"	"	"	"	8270D
1,3-Dichlorobenzene		ND	U	480	"	"	"	"	8270D
1,4-Dichlorobenzene		ND	U	480	"	"	"	"	8270D
Benzyl alcohol		ND	U	2,500	"	"	"	"	8270D
1,2-Dichlorobenzene		ND	U	480	"	"	"	"	8270D
2-Methylphenol		ND	U	2,500	"	"	"	"	8270D
Bis(2-chloro-1-methylethyl) ether		ND	U	480	"	"	"	"	8270D
3&4-Methylphenol		ND	U	2,500	"	"	"	"	8270D
N-Nitrosodipropylamine		ND	U	480	"	"	"	"	8270D
Hexachloroethane		ND	U	480	"	"	"	"	8270D
Nitrobenzene		ND	U	480	"	"	"	"	8270D
Isophorone		ND	U	480	"	"	"	"	8270D
2-Nitrophenol		ND	U	2,500	"	"	"	"	8270D
2,4-Dimethylphenol		ND	U, J, Q2	2,500	"	"	"	"	8270D
Bis(2-chloroethoxy)methane		ND	U	480	"	"	"	"	8270D
2,4-Dichlorophenol		ND	U	2,500	"	"	"	"	8270D
1,2,4-Trichlorobenzene		ND	U	480	"	"	"	"	8270D
Naphthalene		ND	U	480	"	"	"	"	8270D
4-Chloroaniline		ND	U	2,500	"	"	"	"	8270D
Hexachlorobutadiene		ND	U	480	"	"	"	"	8270D
4-Chloro-3-methylphenol		ND	U	2,500	"	"	"	"	8270D

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1804031-03**									**Soil - Sampled: 04/18/18 09:30**
Sample ID: **R0-3-0.5**									**Semivolatile Organic Compounds by EPA Method 8270D**
2-Methylnaphthalene		ND	U	480	ug/kg dry	B18D112	04/23/18	05/07/18	8270D
Hexachlorocyclopentadiene		ND	U	2,500	"	"	"	"	8270D
2,4,6-Trichlorophenol		ND	U	2,500	"	"	"	"	8270D
2,4,5-Trichlorophenol		ND	U	2,500	"	"	"	"	8270D
2-Chloronaphthalene		ND	U	480	"	"	"	"	8270D
2-Nitroaniline		ND	U	2,500	"	"	"	"	8270D
Dimethyl phthalate		ND	U	480	"	"	"	"	8270D
2,6-Dinitrotoluene		ND	U	480	"	"	"	"	8270D
Acenaphthylene		ND	U	480	"	"	"	"	8270D
3-Nitroaniline		ND	U	2,500	"	"	"	"	8270D
Acenaphthene		ND	U	480	"	"	"	"	8270D
2,4-Dinitrophenol		ND	U, C3, J	9,700	"	"	"	"	8270D
4-Nitrophenol		ND	U	2,500	"	"	"	"	8270D
Dibenzofuran		ND	U	480	"	"	"	"	8270D
2,4-Dinitrotoluene		ND	U	480	"	"	"	"	8270D
Diethyl phthalate		ND	U	480	"	"	"	"	8270D
Fluorene		ND	U	480	"	"	"	"	8270D
4-Chlorophenyl phenyl ether		ND	U	480	"	"	"	"	8270D
4-Nitroaniline		ND	U, J, Q2	2,500	"	"	"	"	8270D
4,6-Dinitro-2-methylphenol		ND	U, C3, J	2,500	"	"	"	"	8270D
Diphenyl amine		ND	U, J, Q2	480	"	"	"	"	8270D
4-Bromophenyl phenyl ether		ND	U	480	"	"	"	"	8270D
Hexachlorobenzene		ND	U	480	"	"	"	"	8270D
Pentachlorophenol		ND	U, C3, J	9,700	"	"	"	"	8270D
Phenanthrene		730		480	"	"	"	"	8270D
Anthracene		ND	U	480	"	"	"	"	8270D
Carbazole		ND	U, J, Q2	480	"	"	"	"	8270D
Di-n-butyl phthalate		ND	U	480	"	"	"	"	8270D
Fluoranthene		760		480	"	"	"	"	8270D
Pyrene		1,300		480	"	"	"	"	8270D
Butyl benzyl phthalate		540		480	"	"	"	"	8270D
Benzo(a)anthracene		460	C1, J	480	"	"	"	"	8270D
3,3'-Dichlorobenzidine		ND	U, C4, J, Q2	480	"	"	"	"	8270D
Chrysene		1,200		480	"	"	"	"	8270D
Bis(2-ethylhexyl) phthalate		2,700		480	"	"	"	"	8270D
Di-n-octyl phthalate		ND	U, J, Q2, Q3	480	"	"	"	"	8270D
Benzo(b)fluoranthene		1,700		480	"	"	"	"	8270D

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-03									**Soil - Sampled: 04/18/18 09:30**
Sample ID: R0-3-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Benzo(k)fluoranthene		450	C1, J	480	ug/kg dry	B18D112	04/23/18	05/07/18	8270D
Benzo(a)pyrene		570		480	"	"	"	"	8270D
Indeno(1,2,3-cd)pyrene		310	C1, J	480	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	U	480	"	"	"	"	8270D
Benzo(g,h,i)perylene		500		480	"	"	"	"	8270D
Surrogate: 2-Fluorophenol			59 %	*20-111%*		"	"	"	
Surrogate: Phenol-d5			22 %	*20-111%*		"	"	"	
Surrogate: 2-Chlorophenol-d4			90 %	*20-121%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			78 %	*20-136%*		"	"	"	
Surrogate: Nitrobenzene-d5			82 %	*20-125%*		"	"	"	
Surrogate: 2-Fluorobiphenyl			75 %	*20-121%*		"	"	"	
Surrogate: 2,4,6-Tribromophenol			99 %	*20-146%*		"	"	"	
Surrogate: Terphenyl-d14			85 %	*20-131%*		"	"	"	
Sample ID: R0-3-0.5									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		70		1	%	B18D123	04/25/18	04/26/18	3550C
Lab ID: 1804031-04									**Soil - Sampled: 04/18/18 10:30**
Sample ID: R0-4-0.5									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.22		0.13	mg/kg dry	B18D127	04/26/18	04/26/18	7473
Arsenic		11		2.2	"	B18D103	04/23/18	05/01/18	6010C
Barium		160		5.5	"	"	"	"	6010C
Cadmium		1.4		0.55	"	"	"	"	6010C
Chromium		56		1.1	"	"	"	"	6010C
Lead		660		3.3	"	"	"	"	6010C
Selenium		ND	U	2.2	"	"	"	"	6010C
Silver		ND	U	1.1	"	"	"	"	6010C
Sample ID: R0-4-0.5									**Purgeable Petroleum Hydrocarbons**
TPH - Gasoline Range Organics		ND	U	5.2	"	B18D111	04/18/18	04/24/18	8015C
Surrogate: a,a,a-Trifluorotoluene			86 %	*76-124%*		"	"	"	
Sample ID: R0-4-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Diesel Range Organics		110	F13	27	"	B18D099	04/20/18	04/24/18	8015C
TPH - Oil Range Organics		1,100	F5	110	"	"	"	"	8015C
Sample ID: R0-4-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1016		ND	U	14	ug/kg dry	B18D129	04/27/18	05/04/18	8082A
Aroclor 1221		ND	U	30	"	"	"	"	8082A
Aroclor 1232		ND	U	14	"	"	"	"	8082A
Aroclor 1242		ND	U	14	"	"	"	"	8082A
Aroclor 1248		ND	U	14	"	"	"	"	8082A
Aroclor 1254		ND	U	14	"	"	"	"	8082A

United States Environmental Protection Agency
Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1804031-04**									**Soil - Sampled: 04/18/18 10:30**
Sample ID: **R0-4-0.5**									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1260		24		14	ug/kg dry	B18D129	04/27/18	05/04/18	8082A
Aroclor 1262		ND	U	14	"	"	"	"	8082A
Aroclor 1268		ND	U	14	"	"	"	"	8082A
Surrogate: Tetrachloro-m-xylene			50 %	*20-140%*		"	"	"	
Surrogate: Decachlorobiphenyl			40 %	*20-125%*		"	"	"	
Sample ID: **R0-4-0.5**									**Volatile Organic Compounds by EPA Method 8260C**
Dichlorodifluoromethane		ND	U	2.9	"	B18D145	04/18/18	04/30/18	8260C
Chloromethane		ND	U	2.9	"	"	"	"	8260C
Vinyl chloride		ND	U	2.9	"	"	"	"	8260C
Bromomethane		ND	J, C3, U	2.9	"	"	"	"	8260C
Chloroethane		ND	U	2.9	"	"	"	"	8260C
Trichlorofluoromethane		ND	U	2.9	"	"	"	"	8260C
1,1-Dichloroethene		ND	U	2.9	"	"	"	"	8260C
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	U	2.9	"	"	"	"	8260C
Acetone		ND	U	23	"	"	"	"	8260C
Carbon disulfide		ND	U, J, C3	2.9	"	"	"	"	8260C
Dichloromethane		ND	U	2.9	"	"	"	"	8260C
trans-1,2-Dichloroethene		ND	U	2.9	"	"	"	"	8260C
tert-Butyl methyl ether (MTBE)		ND	U	12	"	"	"	"	8260C
1,1-Dichloroethane		ND	U	2.9	"	"	"	"	8260C
cis-1,2-Dichloroethene		ND	U	2.9	"	"	"	"	8260C
2-Butanone (MEK)		ND	U	23	"	"	"	"	8260C
Chloroform		ND	U	2.9	"	"	"	"	8260C
1,1,1-Trichloroethane		ND	U	2.9	"	"	"	"	8260C
Carbon tetrachloride		ND	U	2.9	"	"	"	"	8260C
1,1-Dichloropropene		ND	U	2.9	"	"	"	"	8260C
Benzene		ND	U	2.9	"	"	"	"	8260C
1,2-Dichloroethane		ND	U	2.9	"	"	"	"	8260C
Trichloroethene		ND	U	2.9	"	"	"	"	8260C
1,2-Dichloropropane		ND	U	2.9	"	"	"	"	8260C
Bromodichloromethane		ND	U, J, C3	2.9	"	"	"	"	8260C
cis-1,3-Dichloropropene		ND	J, C3, U	2.9	"	"	"	"	8260C
4-Methyl-2-pentanone (MIBK)		ND	U	23	"	"	"	"	8260C
Toluene		ND	U	2.9	"	"	"	"	8260C
trans-1,3-Dichloropropene		ND	J, C3, U	2.9	"	"	"	"	8260C
1,1,2-Trichloroethane		ND	U	2.9	"	"	"	"	8260C

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1804031-04									**Soil - Sampled: 04/18/18 10:30**
Sample ID: R0-4-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Tetrachloroethene		ND	U	2.9	ug/kg dry	B18D145	04/18/18	04/30/18	8260C
1,3-Dichloropropane		ND	U	2.9	"	"	"	"	8260C
2-Hexanone		ND	U	23	"	"	"	"	8260C
Chlorodibromomethane		ND	J, C3, U	2.9	"	"	"	"	8260C
1,2-Dibromoethane (EDB)		ND	U	2.9	"	"	"	"	8260C
Chlorobenzene		ND	U	2.9	"	"	"	"	8260C
Ethylbenzene		ND	U	2.9	"	"	"	"	8260C
m&p-Xylene		4.6	C1, J	5.8	"	"	"	"	8260C
o-Xylene		ND	U	2.9	"	"	"	"	8260C
Styrene		ND	U	2.9	"	"	"	"	8260C
Bromoform		ND	J, C3, U	2.9	"	"	"	"	8260C
1,1,2,2-Tetrachloroethane		ND	U	2.9	"	"	"	"	8260C
1,2,3-Trichloropropane		ND	U	2.9	"	"	"	"	8260C
1,3-Dichlorobenzene		ND	U	2.9	"	"	"	"	8260C
1,4-Dichlorobenzene		ND	U	2.9	"	"	"	"	8260C
1,2-Dichlorobenzene		ND	U	2.9	"	"	"	"	8260C
1,2-Dibromo-3-chloropropane		ND	C3, J, U	12	"	"	"	"	8260C
Ethanol		150	N TIC, J		"	"	"	"	8260C
Surrogate: 1,2-Dichloroethane-d4			105 %	*63-144%*		"	"	"	
Surrogate: Toluene-d8			111 %	*86-111%*		"	"	"	
Surrogate: 4-Bromofluorobenzene			83 %	*81-110%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			**64 %**	*75-112%*		"	"	"	
Sample ID: R0-4-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Phenol		ND	U	1,900	"	B18D112	04/23/18	05/07/18	8270D
Bis(2-chloroethyl)ether		ND	U	370	"	"	"	"	8270D
2-Chlorophenol		ND	U	1,900	"	"	"	"	8270D
1,3-Dichlorobenzene		ND	U	370	"	"	"	"	8270D
1,4-Dichlorobenzene		ND	U	370	"	"	"	"	8270D
Benzyl alcohol		ND	U	1,900	"	"	"	"	8270D
1,2-Dichlorobenzene		ND	U	370	"	"	"	"	8270D
2-Methylphenol		ND	U	1,900	"	"	"	"	8270D
Bis(2-chloro-1-methylethyl) ether		ND	U	370	"	"	"	"	8270D
3&4-Methylphenol		ND	U	1,900	"	"	"	"	8270D
N-Nitrosodipropylamine		ND	U	370	"	"	"	"	8270D
Hexachloroethane		ND	U	370	"	"	"	"	8270D
Nitrobenzene		ND	U	370	"	"	"	"	8270D
Isophorone		ND	U	370	"	"	"	"	8270D

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID:	**1804031-04**								**Soil - Sampled: 04/18/18 10:30**
Sample ID:	**R0-4-0.5**								
						Semivolatile Organic Compounds by EPA Method 8270D			
2-Nitrophenol		ND	U	1,900	ug/kg dry	B18D112	04/23/18	05/07/18	8270D
2,4-Dimethylphenol		ND	U, Q2, J	1,900	"	"	"	"	8270D
Bis(2-chloroethoxy)methane		ND	U	370	"	"	"	"	8270D
2,4-Dichlorophenol		ND	U	1,900	"	"	"	"	8270D
1,2,4-Trichlorobenzene		ND	U	370	"	"	"	"	8270D
Naphthalene		550		370	"	"	"	"	8270D
4-Chloroaniline		ND	U	1,900	"	"	"	"	8270D
Hexachlorobutadiene		ND	U	370	"	"	"	"	8270D
4-Chloro-3-methylphenol		ND	U	1,900	"	"	"	"	8270D
2-Methylnaphthalene		210	C1, J	370	"	"	"	"	8270D
Hexachlorocyclopentadiene		ND	U	1,900	"	"	"	"	8270D
2,4,6-Trichlorophenol		ND	U	1,900	"	"	"	"	8270D
2,4,5-Trichlorophenol		ND	U	1,900	"	"	"	"	8270D
2-Chloronaphthalene		ND	U	370	"	"	"	"	8270D
2-Nitroaniline		ND	U	1,900	"	"	"	"	8270D
Dimethyl phthalate		ND	U	370	"	"	"	"	8270D
2,6-Dinitrotoluene		ND	U	370	"	"	"	"	8270D
Acenaphthylene		190	C1, J	370	"	"	"	"	8270D
3-Nitroaniline		ND	U	1,900	"	"	"	"	8270D
Acenaphthene		ND	U	370	"	"	"	"	8270D
2,4-Dinitrophenol		ND	U, C3, J	7,500	"	"	"	"	8270D
4-Nitrophenol		ND	U	1,900	"	"	"	"	8270D
Dibenzofuran		ND	U	370	"	"	"	"	8270D
2,4-Dinitrotoluene		ND	U	370	"	"	"	"	8270D
Diethyl phthalate		ND	U	370	"	"	"	"	8270D
Fluorene		ND	U	370	"	"	"	"	8270D
4-Chlorophenyl phenyl ether		ND	U	370	"	"	"	"	8270D
4-Nitroaniline		ND	U, Q2, J	1,900	"	"	"	"	8270D
4,6-Dinitro-2-methylphenol		ND	U, C3, J	1,900	"	"	"	"	8270D
Diphenyl amine		ND	U, J, Q2	370	"	"	"	"	8270D
4-Bromophenyl phenyl ether		ND	U	370	"	"	"	"	8270D
Hexachlorobenzene		ND	U	370	"	"	"	"	8270D
Pentachlorophenol		ND	U, C3, J	7,500	"	"	"	"	8270D
Phenanthrene		530		370	"	"	"	"	8270D
Anthracene		ND	U	370	"	"	"	"	8270D
Carbazole		ND	U, Q2, J	370	"	"	"	"	8270D
Di-n-butyl phthalate		ND	U	370	"	"	"	"	8270D

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1804031-04**									**Soil - Sampled: 04/18/18 10:30**
Sample ID: **R0-4-0.5**									**Semivolatile Organic Compounds by EPA Method 8270D**
Fluoranthene		680		370	ug/kg dry	B18D112	04/23/18	05/07/18	8270D
Pyrene		1,300		370	"	"	"	"	8270D
Butyl benzyl phthalate		ND	U	370	"	"	"	"	8270D
Benzo(a)anthracene		500		370	"	"	"	"	8270D
3,3'-Dichlorobenzidine		ND	U, C4, Q2, J	370	"	"	"	"	8270D
Chrysene		760		370	"	"	"	"	8270D
Bis(2-ethylhexyl) phthalate		660		370	"	"	"	"	8270D
Di-n-octyl phthalate		ND	U, Q2, Q3, J	370	"	"	"	"	8270D
Benzo(b)fluoranthene		1,400		370	"	"	"	"	8270D
Benzo(k)fluoranthene		360	C1, J	370	"	"	"	"	8270D
Benzo(a)pyrene		660		370	"	"	"	"	8270D
Indeno(1,2,3-cd)pyrene		310	C1, J	370	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	U	370	"	"	"	"	8270D
Benzo(g,h,i)perylene		350	C1, J	370	"	"	"	"	8270D
Heneicosanol		2,400	N TIC, J		"	"	"	"	8270D
Hentriacontane		2,800	N TIC, J		"	"	"	"	8270D
Surrogate: 2-Fluorophenol			81 %	*20-111%*		"	"	"	
Surrogate: Phenol-d5			81 %	*20-111%*		"	"	"	
Surrogate: 2-Chlorophenol-d4			85 %	*20-121%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			72 %	*20-136%*		"	"	"	
Surrogate: Nitrobenzene-d5			78 %	*20-125%*		"	"	"	
Surrogate: 2-Fluorobiphenyl			75 %	*20-121%*		"	"	"	
Surrogate: 2,4,6-Tribromophenol			100 %	*20-146%*		"	"	"	
Surrogate: Terphenyl-d14			92 %	*20-131%*		"	"	"	
Sample ID: **R0-4-0.5**									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		91		1	%	B18D123	04/25/18	04/26/18	3550C

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18D099 - 3545A ASE/PFE - TPH - Extractable										**Prepared: 04/20/18 Analyzed: 04/24/18**
										Extractable Petroleum Hydrocarbons - Quality Control
Blank (B18D099-BLK1)										
TPH - Diesel Range Organics	ND	U	5	mg/kg wet						
TPH - Oil Range Organics	ND	U	20	"						
Surrogate: Hexacosane	*3.96*			"	*5.00*		79	*20-111*		
LCS (B18D099-BS1)										
TPH - Diesel Range Organics	45.1		5	mg/kg wet	50.0		90	59-113		
Surrogate: Hexacosane	*3.55*			"	*5.00*		71	*20-111*		
Batch B18D103 - 3050B Sld Acid Dig - Metals by 6010										**Prepared: 04/23/18 Analyzed: 05/01/18**
										Metals by EPA 6000/7000 Series Methods - Quality Control
Blank (B18D103-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 (B18D103-MS1)		**Source: 1804031-02**								
Arsenic	477		2.2	mg/kg dry	442	11.4	105	75-125		
Barium	659		5.6	"	442	246	94	75-125		
Cadmium	13.2		0.56	"	11.0	2.51	97	75-125		
Chromium	94.7		1.1	"	44.2	55.1	90	75-125		
Lead	299		3.3	"	110	251	**43**	75-125		
Selenium	439		2.2	"	442	ND	99	75-125		
Silver	11.2		1.1	"	11.0	ND	101	75-125		
Matrix Spike Dup (B18D103-MSD1)		**Source: 1804031-02**								
Arsenic	460		2.2	mg/kg dry	442	11.4	102	75-125	4	20
Barium	646		5.6	"	442	246	91	75-125	2	20
Cadmium	12.7		0.56	"	11.0	2.51	93	75-125	4	20
Chromium	94.2		1.1	"	44.2	55.1	89	75-125	0.5	20
Lead	295		3.3	"	110	251	**39**	75-125	1	20
Selenium	427		2.2	"	442	ND	97	75-125	3	20
Silver	10.7		1.1	"	11.0	ND	96	75-125	5	20
Reference (B18D103-SRM1)										
Arsenic	283		2	mg/kg wet	253		112	60.9-139		
Barium	ND	U	5	"	1.60			62.5-138		

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Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18D103 - 3050B Sld Acid Dig - Metals by 6010								**Prepared: 04/23/18 Analyzed: 05/01/18**		
								Metals by EPA 6000/7000 Series Methods - Quality Control		
Reference (B18D103-SRM1)										
Cadmium	10.6		0.5	"	10.9		97	70.6-128		
Chromium	28.4		1	"	27.1		105	68.3-132		
Lead	57.3		3	"	56.9		101	72.8-127		
Selenium	8.21		2	"	10.0		82	41-159		
Silver	7.07		1	"	5.90		120	45.8-154		
Batch B18D111 - 5035A TPHG - TPH - Purgeable								**Prepared: 04/23/18 Analyzed: 04/24/18**		
								Purgeable Petroleum Hydrocarbons - Quality Control		
Blank (B18D111-BLK1)										
TPH - Gasoline Range Organics	ND	U	5	mg/kg wet						
Surrogate: a,a,a-Trifluorotoluene		*110*		"	*125*		88	*76-124*		
LCS (B18D111-BS1)										
TPH - Gasoline Range Organics	25,600			mg/kg wet	25000		102	78-119		
Surrogate: a,a,a-Trifluorotoluene		*110*		"	*125*		88	*76-124*		
Matrix Spike (B18D111-MS1)		**Source: 1804031-02**								
TPH - Gasoline Range Organics	28,100			mg/kg dry	25000	724	109	73-127		
Surrogate: a,a,a-Trifluorotoluene		*109*		"	*125*		87	*76-124*		
Matrix Spike Dup (B18D111-MSD1)		**Source: 1804031-02**								
TPH - Gasoline Range Organics	30,700			mg/kg dry	25000	724	120	73-127	9	10
Surrogate: a,a,a-Trifluorotoluene		*112*		"	*125*		89	*76-124*		
Batch B18D112 - Soxhlet Extraction - SVOCs								**Prepared: 04/23/18 Analyzed: 05/04/18**		
								Semivolatile Organic Compounds by EPA Method 8270D - Quality Control		
Blank (B18D112-BLK1)										
Phenol	ND	U	170	ug/kg wet						
Bis(2-chloroethyl)ether	ND	U	33	"						
2-Chlorophenol	ND	U	170	"						
1,3-Dichlorobenzene	ND	U	33	"						
1,4-Dichlorobenzene	ND	U	33	"						
Benzyl alcohol	ND	U	170	"						
1,2-Dichlorobenzene	ND	U	33	"						
2-Methylphenol	ND	U	170	"						
Bis(2-chloro-1-methylethyl) ether	ND	U	33	"						
3&4-Methylphenol	ND	U	170	"						
N-Nitrosodipropylamine	ND	U	33	"						

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Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18D112 - Soxhlet Extraction - SVOCs									**Prepared: 04/23/18 Analyzed: 05/04/18**	
									Semivolatile Organic Compounds by EPA Method 8270D - Quality Control	
Blank (B18D112-BLK1)										
Hexachloroethane	ND	U	33	"						
Nitrobenzene	ND	U	33	"						
Isophorone	ND	U	33	"						
2-Nitrophenol	ND	U	170	"						
2,4-Dimethylphenol	ND	J, Q2, U	170	"						
Bis(2-chloroethoxy)methane	ND	U	33	"						
2,4-Dichlorophenol	ND	U	170	"						
1,2,4-Trichlorobenzene	ND	U	33	"						
Naphthalene	ND	U	33	"						
4-Chloroaniline	ND	U	170	"						
Hexachlorobutadiene	ND	U	33	"						
4-Chloro-3-methylphenol	ND	U	170	"						
2-Methylnaphthalene	ND	U	33	"						
Hexachlorocyclopentadiene	ND	U	170	"						
2,4,6-Trichlorophenol	ND	U	170	"						
2,4,5-Trichlorophenol	ND	U	170	"						
2-Chloronaphthalene	ND	U	33	"						
2-Nitroaniline	ND	U	170	"						
Dimethyl phthalate	ND	U	33	"						
2,6-Dinitrotoluene	ND	U	33	"						
Acenaphthylene	ND	U	33	"						
3-Nitroaniline	ND	U	170	"						
Acenaphthene	ND	U	33	"						
2,4-Dinitrophenol	ND	C3, J, U	670	"						
4-Nitrophenol	ND	U	170	"						
Dibenzofuran	ND	U	33	"						
2,4-Dinitrotoluene	ND	U	33	"						
Diethyl phthalate	ND	U	33	"						
Fluorene	ND	U	33	"						
4-Chlorophenyl phenyl ether	ND	U	33	"						
4-Nitroaniline	ND	Q2, J, U	170	"						
4,6-Dinitro-2-methylphenol	ND	C3, J, U	170	"						
Diphenyl amine	ND	Q2, J, U	33	"						
4-Bromophenyl phenyl ether	ND	U	33	"						
Hexachlorobenzene	ND	U	33	"						
Pentachlorophenol	ND	C3, J, U	670	"						
Phenanthrene	ND	U	33	"						
Anthracene	ND	U	33	"						
Carbazole	ND	Q2, J, U	33	"						
Di-n-butyl phthalate	ND	U	33	"						
Fluoranthene	ND	U	33	"						
Pyrene	ND	U	33	"						

United States Environmental Protection Agency
Region 9 Laboratory

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Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18D112 - Soxhlet Extraction - SVOCs										**Prepared: 04/23/18 Analyzed: 05/04/18**
										Semivolatile Organic Compounds by EPA Method 8270D - Quality Control
Blank (B18D112-BLK1)										
Butyl benzyl phthalate	ND	Q3, J, U	33	"						
Benzo(a)anthracene	ND	U	33	"						
3,3'-Dichlorobenzidine	ND	Q2, C4, J, U	33	"						
Chrysene	ND	U	33	"						
Bis(2-ethylhexyl) phthalate	ND	U	33	"						
Di-n-octyl phthalate	ND	Q2, Q3, J, C4, U	33	"						
Benzo(b)fluoranthene	ND	U	33	"						
Benzo(k)fluoranthene	ND	U	33	"						
Benzo(a)pyrene	ND	U	33	"						
Indeno(1,2,3-cd)pyrene	ND	U	33	"						
Dibenz(a,h)anthracene	ND	U	33	"						
Benzo(g,h,i)perylene	ND	U	33	"						
Surrogate: 2-Fluorophenol	*869*			*"*	*1670*		52	*20-111*		
Surrogate: Phenol-d5	*1030*			*"*	*1670*		62	*20-111*		
Surrogate: 2-Chlorophenol-d4	*1040*			*"*	*1670*		62	*20-121*		
Surrogate: 1,2-Dichlorobenzene-d4	*1060*			*"*	*1670*		63	*20-136*		
Surrogate: Nitrobenzene-d5	*1210*			*"*	*1670*		73	*20-125*		
Surrogate: 2-Fluorobiphenyl	*1180*			*"*	*1670*		71	*20-121*		
Surrogate: 2,4,6-Tribromophenol	*710*			*"*	*1670*		43	*20-146*		
Surrogate: Terphenyl-d14	*1460*			*"*	*1670*		88	*20-131*		
LCS (B18D112-BS1)										
Phenol	1,170		170	ug/kg wet	1670		70	43-110		
Bis(2-chloroethyl)ether	246		33	"	333		74	47-110		
2-Chlorophenol	1,170		170	"	1670		70	42-110		
1,3-Dichlorobenzene	230		33	"	333		69	37-110		
1,4-Dichlorobenzene	231		33	"	333		69	39-110		
Benzyl alcohol	1,240		170	"	1670		74	31-110		
1,2-Dichlorobenzene	227		33	"	333		68	40-110		
2-Methylphenol	962		170	"	1670		58	42-110		
Bis(2-chloro-1-methylethyl) ether	204		33	"	333		61	44-110		
3&4-Methylphenol	936		170	"	1670		56	49-110		
N-Nitrosodipropylamine	241		33	"	333		72	42-110		
Hexachloroethane	225		33	"	333		67	38-110		
Nitrobenzene	269		33	"	333		81	48-110		
Isophorone	267		33	"	333		80	43-110		
2-Nitrophenol	1,360		170	"	1670		82	44-110		
2,4-Dimethylphenol	352		170	"	1670		**21**	24-110		
Bis(2-chloroethoxy)methane	258		33	"	333		77	45-110		
2,4-Dichlorophenol	1,270		170	"	1670		76	48-110		

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Project Manager: Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number: R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project: Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18D112 - Soxhlet Extraction - SVOCs									**Prepared: 04/23/18 Analyzed: 05/04/18**	
									Semivolatile Organic Compounds by EPA Method 8270D - Quality Control	
LCS (B18D112-BS1)										
1,2,4-Trichlorobenzene	262		33	"	333		79	43-110		
Naphthalene	236		33	"	333		71	45-110		
4-Chloroaniline	759		170	"	1670		46	20-110		
Hexachlorobutadiene	260		33	"	333		78	42-110		
4-Chloro-3-methylphenol	1,300		170	"	1670		78	50-110		
2-Methylnaphthalene	242		33	"	333		73	45-110		
Hexachlorocyclopentadiene	1,260		170	"	1670		76	32-110		
2,4,6-Trichlorophenol	1,260		170	"	1670		75	47-110		
2,4,5-Trichlorophenol	1,400		170	"	1670		84	52-112		
2-Chloronaphthalene	237		33	"	333		71	47-110		
2-Nitroaniline	1,440		170	"	1670		86	58-118		
Dimethyl phthalate	301		33	"	333		90	63-123		
2,6-Dinitrotoluene	300		33	"	333		90	56-116		
Acenaphthylene	208		33	"	333		62	49-110		
3-Nitroaniline	501		170	"	1670		30	29-110		
Acenaphthene	325		33	"	333		97	72-132		
2,4-Dinitrophenol	939		670	"	1670		56	30-110		
4-Nitrophenol	1,770		170	"	1670		106	67-127		
Dibenzofuran	246		33	"	333		74	52-112		
2,4-Dinitrotoluene	323		33	"	333		97	63-123		
Diethyl phthalate	294		33	"	333		88	70-130		
Fluorene	250		33	"	333		75	54-114		
4-Chlorophenyl phenyl ether	265		33	"	333		79	53-113		
4-Nitroaniline	651		170	"	1670		**39**	56-116		
4,6-Dinitro-2-methylphenol	2,080		170	"	1670		**125**	50-110		
Diphenyl amine	23	C1, J	33	"	333		**7**	39-110		
4-Bromophenyl phenyl ether	257		33	"	333		77	52-112		
Hexachlorobenzene	272		33	"	333		82	52-112		
Pentachlorophenol	1,720		670	"	1670		103	49-110		
Phenanthrene	270		33	"	333		81	55-115		
Anthracene	259		33	"	333		78	57-117		
Carbazole	140		33	"	333		**42**	53-113		
Di-n-butyl phthalate	282		33	"	333		85	72-132		
Fluoranthene	283		33	"	333		85	63-123		
Pyrene	263		33	"	333		79	60-120		
Butyl benzyl phthalate	267		33	"	333		80	64-124		
Benzo(a)anthracene	292		33	"	333		88	60-120		
3,3'-Dichlorobenzidine	ND	U	33	"	1330			20-110		
Chrysene	303		33	"	333		91	61-121		
Bis(2-ethylhexyl) phthalate	266		33	"	333		80	76-136		
Di-n-octyl phthalate	223		33	"	333		**67**	70-130		
Benzo(b)fluoranthene	270		33	"	333		81	60-120		

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18D112 - Soxhlet Extraction - SVOCs									**Prepared: 04/23/18 Analyzed: 05/04/18**	
									Semivolatile Organic Compounds by EPA Method 8270D - Quality Control	
LCS (B18D112-BS1)										
Benzo(k)fluoranthene	277		33	"	333		83	64-124		
Benzo(a)pyrene	261		33	"	333		78	57-117		
Indeno(1,2,3-cd)pyrene	319		33	"	333		96	62-122		
Dibenz(a,h)anthracene	311		33	"	333		93	64-124		
Benzo(g,h,i)perylene	329		33	"	333		99	58-118		
Surrogate: 2-Fluorophenol	*1080*			"	*1670*		65	*20-111*		
Surrogate: Phenol-d5	*1210*			"	*1670*		73	*20-111*		
Surrogate: 2-Chlorophenol-d4	*1200*			"	*1670*		72	*20-121*		
Surrogate: 1,2-Dichlorobenzene-d4	*1090*			"	*1670*		65	*20-136*		
Surrogate: Nitrobenzene-d5	*1230*			"	*1670*		74	*20-125*		
Surrogate: 2-Fluorobiphenyl	*1200*			"	*1670*		72	*20-121*		
Surrogate: 2,4,6-Tribromophenol	*1350*			"	*1670*		81	*20-146*		
Surrogate: Terphenyl-d14	*1330*			"	*1670*		80	*20-131*		
Batch B18D123 - Solids, Dry Weight (Prep) - Solids, Dry Weight									**Prepared: 04/25/18 Analyzed: 04/26/18**	
									Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control	
Blank (B18D123-BLK1)										
% Solids	ND	U	1	%						
Duplicate (B18D123-DUP1)		**Source: 1804031-01**								
% Solids	69		1	%		68			1	20
Batch B18D127 - 7473 Hg Prep - Mercury by 7473									**Prepared & Analyzed: 04/26/18**	
									Metals by EPA 6000/7000 Series Methods - Quality Control	
Blank (B18D127-BLK1)										
Mercury	ND	U	0.025	mg/kg wet						
Matrix Spike (B18D127-MS1)		**Source: 1804031-02**								
Mercury	3.45		0.19	mg/kg dry	3.14	0.188	104	80-120		
Matrix Spike Dup (B18D127-MSD1)		**Source: 1804031-02**								
Mercury	3.11		0.18	mg/kg dry	2.86	0.188	102	80-120	1	20
Reference (B18D127-SRM1)										
Mercury	1.14		0.034	mg/kg wet	1.10		104	80-120		
Batch B18D129 - 3545A ASE/PFE - PCBs									**Prepared: 04/27/18 Analyzed: 05/04/18**	
									Polychlorinated Biphenyls by EPA Method 8082A - Quality Control	
Blank (B18D129-BLK1)										
Aroclor 1016	ND	U	13	ug/kg wet						
Aroclor 1221	ND	U	27	"						
Aroclor 1232	ND	U	13	"						
Aroclor 1242	ND	U	13	"						

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18D129 - 3545A ASE/PFE - PCBs								**Prepared: 04/27/18 Analyzed: 05/04/18**		
								Polychlorinated Biphenyls by EPA Method 8082A - Quality Control		
Blank (B18D129-BLK1)										
Aroclor 1248	ND	U	13	"						
Aroclor 1254	ND	U	13	"						
Aroclor 1260	ND	U	13	"						
Aroclor 1262	ND	U	13	"						
Aroclor 1268	ND	U	13	"						
Surrogate: Tetrachloro-m-xylene	*56.3*			"	*66.7*		85	*20-140*		
Surrogate: Decachlorobiphenyl	*56.0*			"	*66.7*		84	*20-125*		
LCS (B18D129-BS1)										
Aroclor-1016	43.9		13	ug/kg wet	66.7		66	62-111		
Aroclor-1260	46.5		13	"	66.7		70	56-124		
Surrogate: Tetrachloro-m-xylene	*44.8*			"	*66.7*		67	*20-140*		
Surrogate: Decachlorobiphenyl	*47.0*			"	*66.7*		71	*20-125*		
Matrix Spike (B18D129-MS1)		**Source: 1804031-02**								
Aroclor 1016	74.7		15	ug/kg dry	75.3	ND	99	20-134		
Aroclor-1260	57.3		15	"	75.3	19.2	51	20-139		
Surrogate: Tetrachloro-m-xylene	*46.0*			"	*75.3*		61	*20-140*		
Surrogate: Decachlorobiphenyl	*37.9*			"	*75.3*		50	*20-125*		
Matrix Spike Dup (B18D129-MSD1)		**Source: 1804031-02**								
Aroclor 1016	74.1		15	ug/kg dry	75.4	ND	98	20-134	0.9	20
Aroclor-1260	60.1		15	"	75.4	19.2	54	20-139	5	20
Surrogate: Tetrachloro-m-xylene	*47.4*			"	*75.4*		63	*20-140*		
Surrogate: Decachlorobiphenyl	*38.4*			"	*75.4*		51	*20-125*		
Batch B18D138 - 3545A ASE/PFE - TPH - Extractable								**Prepared: 04/30/18 Analyzed: 05/01/18**		
								Extractable Petroleum Hydrocarbons - Quality Control		
Blank (B18D138-BLK1)										
TPH - Diesel Range Organics	ND	U	5	mg/kg wet						
TPH - Oil Range Organics	ND	U	20	"						
Surrogate: Hexacosane	*3.29*			"	*5.00*		66	*20-111*		
LCS (B18D138-BS1)										
TPH - Diesel Range Organics	43.2		5	mg/kg wet	50.0		86	59-113		

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Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18D138 - 3545A ASE/PFE - TPH - Extractable										**Prepared: 04/30/18 Analyzed: 05/01/18**
										Extractable Petroleum Hydrocarbons - Quality Control
LCS (B18D138-BS1)										
Surrogate: Hexacosane	*3.10*			"	*5.00*		62	*20-111*		
Matrix Spike (B18D138-MS1)		**Source: 1804031-02RE1**								
TPH - Diesel Range Organics	238		34	mg/kg dry	338	163	22	21-112		
Surrogate: Hexacosane	*7.46*			"	*33.8*		22	*20-111*		
Matrix Spike Dup (B18D138-MSD1)		**Source: 1804031-02RE1**								
TPH - Diesel Range Organics	290		34	mg/kg dry	340	163	37	21-112	20	50
Surrogate: Hexacosane	*9.60*			"	*34.0*		28	*20-111*		
Batch B18D145 - 5035A VOA Solid - VOCs, solids, low level										**Prepared & Analyzed: 04/30/18**
										Volatile Organic Compounds by EPA Method 8260C - Quality Control
Blank (B18D145-BLK1)										
Dichlorodifluoromethane	ND	U	2.5	ug/kg wet						
Chloromethane	ND	U	2.5	"						
Vinyl chloride	ND	U	2.5	"						
Bromomethane	ND	J, C3, U	2.5	"						
Chloroethane	ND	U	2.5	"						
Trichlorofluoromethane	ND	U	2.5	"						
1,1-Dichloroethene	ND	U	2.5	"						
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	2.5	"						
Acetone	ND	U	20	"						
Carbon disulfide	ND	J, C3, U	2.5	"						
Dichloromethane	ND	U	2.5	"						
trans-1,2-Dichloroethene	ND	U	2.5	"						
tert-Butyl methyl ether (MTBE)	ND	U	10	"						
1,1-Dichloroethane	ND	U	2.5	"						
cis-1,2-Dichloroethene	ND	U	2.5	"						
2-Butanone (MEK)	ND	U	20	"						
Chloroform	ND	U	2.5	"						
1,1,1-Trichloroethane	ND	U	2.5	"						
Carbon tetrachloride	ND	U	2.5	"						
1,1-Dichloropropene	ND	U	2.5	"						
Benzene	ND	U	2.5	"						
1,2-Dichloroethane	ND	U	2.5	"						
Trichloroethene	ND	U	2.5	"						
1,2-Dichloropropane	ND	U	2.5	"						
Bromodichloromethane	ND	J, C3, U	2.5	"						
cis-1,3-Dichloropropene	ND	J, C3, U	2.5	"						

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Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18D145 - 5035A VOA Solid - VOCs, solids, low level										**Prepared & Analyzed: 04/30/18**
										Volatile Organic Compounds by EPA Method 8260C - Quality Control
Blank (B18D145-BLK1)										
4-Methyl-2-pentanone (MIBK)	ND	U	20	"						
Toluene	ND	U	2.5	"						
trans-1,3-Dichloropropene	ND	J, C3, U	2.5	"						
1,1,2-Trichloroethane	ND	U	2.5	"						
Tetrachloroethene	ND	U	2.5	"						
1,3-Dichloropropane	ND	U	2.5	"						
2-Hexanone	ND	U	20	"						
Chlorodibromomethane	ND	J, C3, U	2.5	"						
1,2-Dibromoethane (EDB)	ND	U	2.5	"						
Chlorobenzene	ND	U	2.5	"						
Ethylbenzene	ND	U	2.5	"						
m&p-Xylene	ND	U	5	"						
o-Xylene	ND	U	2.5	"						
Styrene	ND	U	2.5	"						
Bromoform	ND	J, C3, U	2.5	"						
1,1,2,2-Tetrachloroethane	ND	U	2.5	"						
1,2,3-Trichloropropane	ND	U	2.5	"						
1,3-Dichlorobenzene	ND	U	2.5	"						
1,4-Dichlorobenzene	ND	U	2.5	"						
1,2-Dichlorobenzene	ND	U	2.5	"						
1,2-Dibromo-3-chloropropane	ND	J, C3, U	10	"						
Surrogate: 1,2-Dichloroethane-d4	*25.8*			*"*	*25.0*		103	*63-144*		
Surrogate: Toluene-d8	*24.8*			*"*	*25.0*		99	*86-111*		
Surrogate: 4-Bromofluorobenzene	*24.6*			*"*	*25.0*		98	*81-110*		
Surrogate: 1,2-Dichlorobenzene-d4	*23.5*			*"*	*25.0*		94	*75-112*		
LCS (B18D145-BS1)										
Dichlorodifluoromethane	26		2.5	ug/kg wet	25.0		104	75-120		
Chloromethane	26.9		2.5	"	25.0		107	69-137		
Vinyl chloride	27.5		2.5	"	25.0		110	79-116		
Bromomethane	30.7		2.5	"	25.0		123	76-132		
Chloroethane	30.4		2.5	"	25.0		122	74-130		
Trichlorofluoromethane	28.2		2.5	"	25.0		113	58-133		
1,1-Dichloroethene	27.6		2.5	"	25.0		110	74-119		
1,1,2-Trichloro-1,2,2-trifluoroethane	28.5		2.5	"	25.0		114	66-128		
Acetone	216		20	"	200		108	45-144		
Dichloromethane	26.2		2.5	"	25.0		105	20-200		
trans-1,2-Dichloroethene	26.8		2.5	"	25.0		107	77-117		
tert-Butyl methyl ether (MTBE)	106		10	"	100		106	79-122		
1,1-Dichloroethane	27.2		2.5	"	25.0		109	82-112		

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18D145 - 5035A VOA Solid - VOCs, solids, low level										**Prepared & Analyzed: 04/30/18**
										Volatile Organic Compounds by EPA Method 8260C - Quality Control
LCS (B18D145-BS1)										
cis-1,2-Dichloroethene	26.5		2.5	"	25.0		106	68-124		
2-Butanone (MEK)	230		20	"	200		115	65-124		
Chloroform	28		2.5	"	25.0		112	63-125		
1,1,1-Trichloroethane	26.6		2.5	"	25.0		106	65-124		
Carbon tetrachloride	25.3		2.5	"	25.0		101	54-130		
1,1-Dichloropropene	27.8		2.5	"	25.0		111	73-121		
Benzene	27.3		2.5	"	25.0		109	81-117		
1,2-Dichloroethane	27.4		2.5	"	25.0		110	78-117		
Trichloroethene	24.6		2.5	"	25.0		98	75-117		
1,2-Dichloropropane	24.6		2.5	"	25.0		99	76-120		
Bromodichloromethane	23.8		2.5	"	25.0		95	67-122		
cis-1,3-Dichloropropene	23.7		2.5	"	25.0		95	51-136		
4-Methyl-2-pentanone (MIBK)	227		20	"	200		114	73-123		
Toluene	27.6		2.5	"	25.0		110	78-115		
trans-1,3-Dichloropropene	26.4		2.5	"	25.0		106	42-140		
1,1,2-Trichloroethane	27.1		2.5	"	25.0		108	80-114		
Tetrachloroethene	26.9		2.5	"	25.0		108	75-116		
1,3-Dichloropropane	27.5		2.5	"	25.0		110	78-114		
2-Hexanone	228		20	"	200		114	59-132		
Chlorodibromomethane	25.4		2.5	"	25.0		102	56-132		
1,2-Dibromoethane (EDB)	27.8		2.5	"	25.0		111	70-123		
Chlorobenzene	27.2		2.5	"	25.0		109	80-113		
Ethylbenzene	27.9		2.5	"	25.0		112	64-127		
m&p-Xylene	54.6		5	"	50.0		109	64-124		
o-Xylene	27.6		2.5	"	25.0		111	48-137		
Styrene	27.9		2.5	"	25.0		111	49-133		
Bromoform	22.9		2.5	"	25.0		92	46-140		
1,1,2,2-Tetrachloroethane	28.6		2.5	"	25.0		114	70-121		
1,2,3-Trichloropropane	28.1		2.5	"	25.0		112	75-117		
1,3-Dichlorobenzene	26.5		2.5	"	25.0		106	65-122		
1,4-Dichlorobenzene	25.9		2.5	"	25.0		104	63-122		
1,2-Dichlorobenzene	26.3		2.5	"	25.0		105	72-118		
1,2-Dibromo-3-chloropropane	108		10	"	100		108	51-134		
Surrogate: 1,2-Dichloroethane-d4	*25.4*			*"*	*25.0*		102	*63-144*		
Surrogate: Toluene-d8	*25.4*			*"*	*25.0*		102	*86-111*		
Surrogate: 4-Bromofluorobenzene	*24.9*			*"*	*25.0*		100	*81-110*		
Surrogate: 1,2-Dichlorobenzene-d4	*24.6*			*"*	*25.0*		98	*75-112*		
Matrix Spike (B18D145-MS1)		**Source: 1804031-02**								
Dichlorodifluoromethane	19		3.4	ug/kg dry	34.0	ND	**56**	62-122		

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18D145 - 5035A VOA Solid - VOCs, solids, low level									**Prepared: 04/18/18 Analyzed: 05/01/18**	
									Volatile Organic Compounds by EPA Method 8260C - Quality Control	
Matrix Spike (B18D145-MS1)		**Source: 1804031-02**								
Chloromethane	27.8		3.4	"	34.0	ND	82	60-120		
Vinyl chloride	22.5		3.4	"	34.0	ND	66	62-122		
Bromomethane	23.1		3.4	"	34.0	ND	**68**	69-129		
Chloroethane	33.4		3.4	"	34.0	ND	98	66-126		
Trichlorofluoromethane	17.8		3.4	"	34.0	ND	**52**	64-124		
1,1-Dichloroethene	17.3		3.4	"	34.0	ND	**51**	63-123		
1,1,2-Trichloro-1,2,2-trifluoroethane	10.9		3.4	"	34.0	ND	**32**	63-123		
Acetone	92.1		27	"	272	ND	**34**	57-117		
Dichloromethane	27.2		3.4	"	34.0	ND	80	48-110		
trans-1,2-Dichloroethene	13.9		3.4	"	34.0	ND	**41**	63-123		
tert-Butyl methyl ether (MTBE)	121		14	"	136	ND	89	62-122		
1,1-Dichloroethane	24.3		3.4	"	34.0	ND	71	62-122		
cis-1,2-Dichloroethene	19.1		3.4	"	34.0	ND	**56**	62-122		
2-Butanone (MEK)	73.4		27	"	272	ND	**27**	61-121		
Chloroform	24.6		3.4	"	34.0	ND	72	61-121		
1,1,1-Trichloroethane	17		3.4	"	34.0	ND	**50**	59-119		
Carbon tetrachloride	7.88		3.4	"	34.0	ND	**23**	59-119		
1,1-Dichloropropene	15.9		3.4	"	34.0	ND	**47**	63-123		
Benzene	23.7		3.4	"	34.0	ND	70	65-125		
1,2-Dichloroethane	27.5		3.4	"	34.0	ND	81	62-122		
Trichloroethene	11.5		3.4	"	34.0	ND	**34**	79-139		
1,2-Dichloropropane	18.4		3.4	"	34.0	ND	**54**	63-123		
Bromodichloromethane	6.6		3.4	"	34.0	ND	**19**	61-121		
cis-1,3-Dichloropropene	8.1		3.4	"	34.0	ND	**24**	61-121		
4-Methyl-2-pentanone (MIBK)	138		27	"	272	ND	**51**	62-122		
Toluene	21.4		3.4	"	34.0	ND	**63**	66-126		
trans-1,3-Dichloropropene	12.6		3.4	"	34.0	ND	**37**	60-120		
1,1,2-Trichloroethane	27.3		3.4	"	34.0	ND	80	59-119		
Tetrachloroethene	11.1		3.4	"	34.0	ND	**33**	64-124		
1,3-Dichloropropane	28		3.4	"	34.0	ND	82	62-122		
2-Hexanone	75		27	"	272	ND	**28**	64-124		
Chlorodibromomethane	5.74		3.4	"	34.0	ND	**17**	62-122		
1,2-Dibromoethane (EDB)	19.8		3.4	"	34.0	ND	**58**	61-121		
Chlorobenzene	14.5		3.4	"	34.0	ND	**43**	63-123		
Ethylbenzene	13.4		3.4	"	34.0	ND	**39**	67-127		
m&p-Xylene	26.2		6.8	"	68.0	ND	**38**	66-126		
o-Xylene	12.9		3.4	"	34.0	ND	**38**	66-126		
Styrene	10.2		3.4	"	34.0	ND	**30**	64-124		
Bromoform	1.99	J	3.4	"	34.0	ND	**6**	61-121		
1,1,2,2-Tetrachloroethane	11		3.4	"	34.0	ND	**32**	70-130		
1,2,3-Trichloropropane	14.9		3.4	"	34.0	ND	**44**	59-119		
1,3-Dichlorobenzene	5.2		3.4	"	34.0	ND	**15**	61-121		

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18D145 - 5035A VOA Solid - VOCs, solids, low level								**Prepared: 04/18/18 Analyzed: 05/01/18**		
								Volatile Organic Compounds by EPA Method 8260C - Quality Control		
Matrix Spike (B18D145-MS1)		**Source: 1804031-02**								
1,4-Dichlorobenzene	5.37		3.4	"	34.0	ND	**16**	61-121		
1,2-Dichlorobenzene	5.09		3.4	"	34.0	ND	**15**	59-119		
1,2-Dibromo-3-chloropropane	10.4	J	14	"	136	ND	**8**	56-116		
Surrogate: 1,2-Dichloroethane-d4	*26.9*			*"*	*25.0*		108	*63-144*		
Surrogate: Toluene-d8	*31.7*			*"*	*25.0*		**127**	*86-111*		
Surrogate: 4-Bromofluorobenzene	*18.8*			*"*	*25.0*		**75**	*81-110*		
Surrogate: 1,2-Dichlorobenzene-d4	*12.5*			*"*	*25.0*		**50**	*75-112*		
Matrix Spike Dup (B18D145-MSD1)		**Source: 1804031-02**								
Dichlorodifluoromethane	24.2		3.7	ug/kg dry	36.9	ND	65	62-122	16	20
Chloromethane	27		3.7	"	36.9	ND	73	60-120	11	20
Vinyl chloride	24.3		3.7	"	36.9	ND	66	62-122	0.2	20
Bromomethane	18.8		3.7	"	36.9	ND	**51**	69-129	**29**	20
Chloroethane	35.8		3.7	"	36.9	ND	97	66-126	1	20
Trichlorofluoromethane	21.3		3.7	"	36.9	ND	**58**	64-124	10	20
1,1-Dichloroethene	20		3.7	"	36.9	ND	**54**	63-123	6	20
1,1,2-Trichloro-1,2,2-trifluoroethane	12.2		3.7	"	36.9	ND	**33**	63-123	3	20
Acetone	66.6		30	"	295	ND	**23**	57-117	**40**	20
Dichloromethane	28.3		3.7	"	36.9	ND	77	48-110	4	20
trans-1,2-Dichloroethene	13.9		3.7	"	36.9	ND	**38**	63-123	8	20
tert-Butyl methyl ether (MTBE)	127		15	"	148	ND	86	62-122	3	20
1,1-Dichloroethane	27		3.7	"	36.9	ND	73	62-122	2	20
cis-1,2-Dichloroethene	19.8		3.7	"	36.9	ND	**54**	62-122	4	20
2-Butanone (MEK)	45.9		30	"	295	ND	**16**	61-121	**54**	20
Chloroform	27.6		3.7	"	36.9	ND	75	61-121	3	20
1,1,1-Trichloroethane	17.4		3.7	"	36.9	ND	**47**	59-119	6	20
Carbon tetrachloride	8.18		3.7	"	36.9	ND	**22**	59-119	4	20
1,1-Dichloropropene	16.4		3.7	"	36.9	ND	**45**	63-123	5	20
Benzene	24.5		3.7	"	36.9	ND	66	65-125	5	20
1,2-Dichloroethane	27.3		3.7	"	36.9	ND	74	62-122	9	20
Trichloroethene	11.7		3.7	"	36.9	ND	**32**	79-139	6	20
1,2-Dichloropropane	19.2		3.7	"	36.9	ND	**52**	63-123	4	20
Bromodichloromethane	6.88		3.7	"	36.9	ND	**19**	61-121	4	20
cis-1,3-Dichloropropene	6.77		3.7	"	36.9	ND	**18**	61-121	**26**	20
4-Methyl-2-pentanone (MIBK)	96.7		30	"	295	ND	**33**	62-122	**43**	20
Toluene	22.6		3.7	"	36.9	ND	**61**	66-126	3	20
trans-1,3-Dichloropropene	11.1		3.7	"	36.9	ND	**30**	60-120	**21**	20
1,1,2-Trichloroethane	28.3		3.7	"	36.9	ND	77	59-119	4	20
Tetrachloroethene	10.8		3.7	"	36.9	ND	**29**	64-124	11	20
1,3-Dichloropropane	29.6		3.7	"	36.9	ND	80	62-122	3	20

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18D145 - 5035A VOA Solid - VOCs, solids, low level									**Prepared: 04/18/18 Analyzed: 05/01/18**	
									Volatile Organic Compounds by EPA Method 8260C - Quality Control	
Matrix Spike Dup (B18D145-MSD1)		**Source: 1804031-02**								
2-Hexanone	71.4		30	"	295	ND	**24**	64-124	13	20
Chlorodibromomethane	6.36		3.7	"	36.9	ND	**17**	62-122	2	20
1,2-Dibromoethane (EDB)	19.7		3.7	"	36.9	ND	**53**	61-121	9	20
Chlorobenzene	14.9		3.7	"	36.9	ND	**40**	63-123	5	20
Ethylbenzene	13.5		3.7	"	36.9	ND	**37**	67-127	7	20
m&p-Xylene	25.7		7.4	"	73.8	ND	**35**	66-126	10	20
o-Xylene	12.5		3.7	"	36.9	ND	**34**	66-126	12	20
Styrene	9.93		3.7	"	36.9	ND	**27**	64-124	11	20
Bromoform	3.08	J	3.7	"	36.9	ND	**8**	61-121	**35**	20
1,1,2,2-Tetrachloroethane	11.5		3.7	"	36.9	ND	**31**	70-130	4	20
1,2,3-Trichloropropane	16.4		3.7	"	36.9	ND	**44**	59-119	2	20
1,3-Dichlorobenzene	4.66		3.7	"	36.9	ND	**13**	61-121	19	20
1,4-Dichlorobenzene	4.83		3.7	"	36.9	ND	**13**	61-121	19	20
1,2-Dichlorobenzene	4.78		3.7	"	36.9	ND	**13**	59-119	14	20
1,2-Dibromo-3-chloropropane	8.5	J	15	"	148	ND	**6**	56-116	**28**	20
Surrogate: 1,2-Dichloroethane-d4	*27.2*			*"*	*25.0*		109	*63-144*		
Surrogate: Toluene-d8	*31.2*			*"*	*25.0*		**125**	*86-111*		
Surrogate: 4-Bromofluorobenzene	*19.5*			*"*	*25.0*		**78**	*81-110*		
Surrogate: 1,2-Dichlorobenzene-d4	*12.5*			*"*	*25.0*		**50**	*75-112*		
Batch B18E011 - 5035A VOA Solid - VOCs, solids, low level									**Prepared & Analyzed: 05/01/18**	
									Volatile Organic Compounds by EPA Method 8260C - Quality Control	
Blank (B18E011-BLK1)										
Dichlorodifluoromethane	ND	U	2.5	ug/kg wet						
Chloromethane	ND	U	2.5	"						
Vinyl chloride	ND	U	2.5	"						
Bromomethane	1.6	C3, J	2.5	"						
Chloroethane	ND	U	2.5	"						
Trichlorofluoromethane	ND	U	2.5	"						
1,1-Dichloroethene	ND	U	2.5	"						
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	2.5	"						
Acetone	ND	U	20	"						
Carbon disulfide	ND	C3, J, U	2.5	"						
Dichloromethane	ND	U	2.5	"						
trans-1,2-Dichloroethene	ND	U	2.5	"						
tert-Butyl methyl ether (MTBE)	ND	U	10	"						
1,1-Dichloroethane	ND	U	2.5	"						
cis-1,2-Dichloroethene	ND	U	2.5	"						
2-Butanone (MEK)	ND	U	20	"						
Chloroform	ND	U	2.5	"						

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E011 - 5035A VOA Solid - VOCs, solids, low level										**Prepared & Analyzed: 05/01/18**
										Volatile Organic Compounds by EPA Method 8260C - Quality Control
Blank (B18E011-BLK1)										
1,1,1-Trichloroethane	ND	J, C3, U	2.5	"						
Carbon tetrachloride	ND	C3, J, U	2.5	"						
1,1-Dichloropropene	ND	J, C3, U	2.5	"						
Benzene	ND	C3, J, U	2.5	"						
1,2-Dichloroethane	ND	J, C3, U	2.5	"						
Trichloroethene	ND	C3, J, U	2.5	"						
1,2-Dichloropropane	ND	C3, J, U	2.5	"						
Bromodichloromethane	ND	C3, J, U	2.5	"						
cis-1,3-Dichloropropene	ND	C3, J, U	2.5	"						
4-Methyl-2-pentanone (MIBK)	ND	U	20	"						
Toluene	ND	U	2.5	"						
trans-1,3-Dichloropropene	ND	C3, J, U	2.5	"						
1,1,2-Trichloroethane	ND	U	2.5	"						
Tetrachloroethene	ND	U	2.5	"						
1,3-Dichloropropane	ND	U	2.5	"						
2-Hexanone	ND	U	20	"						
Chlorodibromomethane	ND	C3, J, U	2.5	"						
1,2-Dibromoethane (EDB)	ND	U	2.5	"						
Chlorobenzene	ND	U	2.5	"						
Ethylbenzene	ND	U	2.5	"						
m&p-Xylene	ND	U	5	"						
o-Xylene	ND	U	2.5	"						
Styrene	ND	U	2.5	"						
Bromoform	ND	C3, J, U	2.5	"						
1,1,2,2-Tetrachloroethane	ND	U	2.5	"						
1,2,3-Trichloropropane	ND	U	2.5	"						
1,3-Dichlorobenzene	ND	U	2.5	"						
1,4-Dichlorobenzene	ND	U	2.5	"						
1,2-Dichlorobenzene	ND	U	2.5	"						
1,2-Dibromo-3-chloropropane	ND	C3, J, U	10	"						
Surrogate: 1,2-Dichloroethane-d4	*17.1*			*"*	*25.0*		68	*63-144*		
Surrogate: Toluene-d8	*24.8*			*"*	*25.0*		99	*86-111*		
Surrogate: 4-Bromofluorobenzene	*24.5*			*"*	*25.0*		98	*81-110*		
Surrogate: 1,2-Dichlorobenzene-d4	*25.7*			*"*	*25.0*		103	*75-112*		
LCS (B18E011-BS1)										
Dichlorodifluoromethane	29.9		2.5	ug/kg wet	25.0		120	75-120		
Chloromethane	28.7		2.5	"	25.0		115	69-137		
Vinyl chloride	30.6		2.5	"	25.0		**122**	79-116		
Bromomethane	25.8		2.5	"	25.0		103	76-132		

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Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E011 - 5035A VOA Solid - VOCs, solids, low level										**Prepared & Analyzed: 05/01/18**
										Volatile Organic Compounds by EPA Method 8260C - Quality Control
LCS (B18E011-BS1)										
Chloroethane	26.7		2.5	"	25.0		107	74-130		
Trichlorofluoromethane	31.5		2.5	"	25.0		126	58-133		
1,1-Dichloroethene	30.1		2.5	"	25.0		**121**	74-119		
1,1,2-Trichloro-1,2,2-trifluoroethane	30.7		2.5	"	25.0		123	66-128		
Acetone	227		20	"	200		113	45-144		
Dichloromethane	25.9		2.5	"	25.0		104	20-200		
trans-1,2-Dichloroethene	29.4		2.5	"	25.0		117	77-117		
tert-Butyl methyl ether (MTBE)	95.2		10	"	100		95	79-122		
1,1-Dichloroethane	28.3		2.5	"	25.0		**113**	82-112		
cis-1,2-Dichloroethene	28.1		2.5	"	25.0		113	68-124		
2-Butanone (MEK)	224		20	"	200		112	65-124		
Chloroform	28		2.5	"	25.0		112	63-125		
1,1,1-Trichloroethane	25.6		2.5	"	25.0		103	65-124		
Carbon tetrachloride	25		2.5	"	25.0		100	54-130		
1,1-Dichloropropene	26.4		2.5	"	25.0		106	73-121		
Benzene	24.7		2.5	"	25.0		99	81-117		
1,2-Dichloroethane	22.9		2.5	"	25.0		92	78-117		
Trichloroethene	25.9		2.5	"	25.0		104	75-117		
1,2-Dichloropropane	23.2		2.5	"	25.0		93	76-120		
Bromodichloromethane	21.5		2.5	"	25.0		86	67-122		
cis-1,3-Dichloropropene	20.9		2.5	"	25.0		84	51-136		
4-Methyl-2-pentanone (MIBK)	205		20	"	200		103	73-123		
Toluene	27.8		2.5	"	25.0		111	78-115		
trans-1,3-Dichloropropene	21.5		2.5	"	25.0		86	42-140		
1,1,2-Trichloroethane	24.2		2.5	"	25.0		97	80-114		
Tetrachloroethene	28.9		2.5	"	25.0		116	75-116		
1,3-Dichloropropane	24.7		2.5	"	25.0		99	78-114		
2-Hexanone	209		20	"	200		104	59-132		
Chlorodibromomethane	21.5		2.5	"	25.0		86	56-132		
1,2-Dibromoethane (EDB)	24.1		2.5	"	25.0		96	70-123		
Chlorobenzene	26.4		2.5	"	25.0		106	80-113		
Ethylbenzene	27.6		2.5	"	25.0		111	64-127		
m&p-Xylene	54.7		5	"	50.0		109	64-124		
o-Xylene	26.9		2.5	"	25.0		108	48-137		
Styrene	26.2		2.5	"	25.0		105	49-133		
Bromoform	19.9		2.5	"	25.0		79	46-140		
1,1,2,2-Tetrachloroethane	23.5		2.5	"	25.0		94	70-121		
1,2,3-Trichloropropane	24.5		2.5	"	25.0		98	75-117		
1,3-Dichlorobenzene	25.2		2.5	"	25.0		101	65-122		
1,4-Dichlorobenzene	25.1		2.5	"	25.0		101	63-122		
1,2-Dichlorobenzene	24.3		2.5	"	25.0		97	72-118		
1,2-Dibromo-3-chloropropane	88.7		10	"	100		89	51-134		

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E011 - 5035A VOA Solid - VOCs, solids, low level										**Prepared & Analyzed: 05/01/18**
										Volatile Organic Compounds by EPA Method 8260C - Quality Control
LCS (B18E011-BS1)										
Surrogate: 1,2-Dichloroethane-d4	*22.7*			*"*	*25.0*		91	*63-144*		
Surrogate: Toluene-d8	*25.7*			*"*	*25.0*		103	*86-111*		
Surrogate: 4-Bromofluorobenzene	*24.3*			*"*	*25.0*		97	*81-110*		
Surrogate: 1,2-Dichlorobenzene-d4	*24.0*			*"*	*25.0*		96	*75-112*		

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18108E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/15/18 12:22
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Qualifiers and Comments

Q7	Surrogate spike recoveries for this sample were outside control limits.
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)
Q3	The quantitation limit standard did not meet recovery criteria for this analyte.
Q2	The laboratory control standard associated with this sample did not meet recovery criteria for this analyte (see LCS results for this batch in QC summary).
Q1	The internal standard associated with this analyte did not meet area count criteria.
N TIC	Tentatively Idenitified Compound - This compound was identified only by match with mass spectral library. Identification and quantitation should be considered tentative and presumptive.
J	The reported result for this analyte should be considered an estimated value.
G1	The results from the two columns for this compound do not meet the dual column percent difference criteria for positive identification.
F5	Product Type: Motor Oil
F13	Fuel or Product Type: mixed or unknown
C4	The calibration verification check did not meet % difference criteria for this analyte.
C3	The initial calibration for this analyte did not meet calibration criteria.
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: **5/24/2018**

Subject: **Analytical Testing Results - Project R18S51**
SDG: 18123D

From: **Peter Husby, Director**
EPA Region 9 Laboratory
EMD-3-1

To: **Eric Nuchims**
Emergency Response Section
SFD-9-2

Attached are the results from the analysis of samples from the **Bercovich Smelter April 2018 Removal Action** 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: Greg Roussos, Weston Solutions, Inc.

Analyses included in this report:

Mercury by EPA method 7473
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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18123D
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/24/18 08:52
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
Topsoil-1	1805009-01	Solid	04/20/18 16:05	05/03/18 13:30
Backfill-1	1805009-02	Solid	04/23/18 14:37	05/03/18 13:30
R6-3-1	1805009-03	Solid	04/24/18 14:45	05/03/18 13:30
R6-3-1-dup	1805009-04	Solid	04/24/18 14:47	05/03/18 13:30
R6-2-1	1805009-05	Solid	04/24/18 15:37	05/03/18 13:30
Backfill-3	1805009-06	Solid	04/26/18 11:02	05/03/18 13:30
R1-1-1	1805009-07	Solid	04/27/18 16:15	05/03/18 13:30
R5-1-1	1805009-08	Solid	04/28/18 16:20	05/03/18 13:30
Topsoil-3	1805009-09	Solid	04/30/18 16:34	05/03/18 13:30

Work Order 1805009

Samples in work order 1805009 were received pre-dried and sieved in XRF cups. Sample results are reported on an "as received" basis. No precent solids determination was performed and no dry-weight correction applied.

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Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18123D
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/24/18 08:52
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805009-01									**Solid - Sampled: 04/20/18 16:05**
Sample ID: Topsoil-1									**Metals by EPA 6000/7000 Series Methods**
Mercury		ND	A2, J, U	0.029	mg/kg wet	B18E097	05/14/18	05/14/18	7473
Arsenic		4.9		2	"	B18E048	05/07/18	05/18/18	6010C
Barium		170		5	"	"	"	"	6010C
Cadmium		ND	U	0.50	"	"	"	"	6010C
Chromium		39		1	"	"	"	"	6010C
Lead		3.9		3	"	"	"	"	6010C
Selenium		ND	U	2	"	"	"	"	6010C
Silver		ND	U	1	"	"	"	"	6010C
Lab ID: 1805009-02									**Solid - Sampled: 04/23/18 14:37**
Sample ID: Backfill-1									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.56	A2, J	0.023	mg/kg wet	B18E097	05/14/18	05/14/18	7473
Arsenic		4.5		2	"	B18E048	05/07/18	05/18/18	6010C
Barium		160		5	"	"	"	"	6010C
Cadmium		ND	U	0.50	"	"	"	"	6010C
Chromium		28		1	"	"	"	"	6010C
Lead		4.5		3	"	"	"	"	6010C
Selenium		ND	U	2	"	"	"	"	6010C
Silver		ND	U	1	"	"	"	"	6010C
Lab ID: 1805009-03									**Solid - Sampled: 04/24/18 14:45**
Sample ID: R6-3-1									**Metals by EPA 6000/7000 Series Methods**
Lead		1,200		3	mg/kg wet	B18E048	05/07/18	05/18/18	6010C
Lab ID: 1805009-04									**Solid - Sampled: 04/24/18 14:47**
Sample ID: R6-3-1-dup									**Metals by EPA 6000/7000 Series Methods**
Lead		1,300		3	mg/kg wet	B18E048	05/07/18	05/18/18	6010C
Lab ID: 1805009-05									**Solid - Sampled: 04/24/18 15:37**
Sample ID: R6-2-1									**Metals by EPA 6000/7000 Series Methods**
Lead		570		3	mg/kg wet	B18E048	05/07/18	05/18/18	6010C
Lab ID: 1805009-06									**Solid - Sampled: 04/26/18 11:02**
Sample ID: Backfill-3									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.13	A2, J	0.029	mg/kg wet	B18E097	05/14/18	05/14/18	7473
Arsenic	RE1	4.7		2	"	B18E048	05/07/18	05/21/18	6010C
Barium		180		5	"	"	"	05/18/18	6010C
Cadmium	RE1	ND	U	0.50	"	"	"	05/21/18	6010C
Chromium	RE1	32		1	"	"	"	"	6010C
Lead	RE1	5.8		3	"	"	"	"	6010C
Selenium	RE1	ND	U	2	"	"	"	"	6010C
Silver	RE1	ND	U	1	"	"	"	"	6010C
Lab ID: 1805009-07									**Solid - Sampled: 04/27/18 16:15**

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Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18123D
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/24/18 08:52
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805009-07									**Solid - Sampled: 04/27/18 16:15**
Sample ID: R1-1-1									**Metals by EPA 6000/7000 Series Methods**
Lead	RE1	220		3	mg/kg wet	B18E048	05/07/18	05/21/18	6010C
Lab ID: 1805009-08									**Solid - Sampled: 04/28/18 16:20**
Sample ID: R5-1-1									**Metals by EPA 6000/7000 Series Methods**
Lead	RE1	840		3	mg/kg wet	B18E048	05/07/18	05/21/18	6010C
Lab ID: 1805009-09									**Solid - Sampled: 04/30/18 16:34**
Sample ID: Topsoil-3									**Metals by EPA 6000/7000 Series Methods**
Mercury		ND	A2, J, U	0.030	mg/kg wet	B18E097	05/14/18	05/14/18	7473
Arsenic	RE1	4.4		2	"	B18E048	05/07/18	05/21/18	6010C
Barium		170		5	"	"	"	05/18/18	6010C
Cadmium	RE1	ND	U	0.50	"	"	"	05/21/18	6010C
Chromium	RE1	40		1	"	"	"	"	6010C
Lead	RE1	4.1		3	"	"	"	"	6010C
Selenium	RE1	ND	U	2	"	"	"	"	6010C
Silver	RE1	ND	U	1	"	"	"	"	6010C

United States Environmental Protection Agency
Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18123D
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/24/18 08:52
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E048 - 3050B Sld Acid Dig - Metals by 6010										**Prepared: 05/07/18 Analyzed: 05/18/18**
										Metals by EPA 6000/7000 Series Methods - Quality Control
Blank (B18E048-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 (B18E048-MS1)		**Source: 1805009-05**								
Arsenic	469		2	mg/kg wet	388	7.75	119	75-125		
Barium	858		5	"	388	365	**127**	75-125		
Cadmium	11.9		0.5	"	9.71	1.34	109	75-125		
Chromium	91.3		1	"	38.8	47.8	112	75-125		
Lead	703	Q10	3	"	97.1	565	**142**	75-125		
Selenium	427		2	"	388	ND	110	75-125		
Silver	11		1	"	9.71	ND	113	75-125		
Matrix Spike Dup (B18E048-MSD1)		**Source: 1805009-05**								
Arsenic	442		2	mg/kg wet	385	7.75	113	75-125	6	20
Barium	814		5	"	385	365	117	75-125	5	20
Cadmium	11.3		0.5	"	9.62	1.34	104	75-125	5	20
Chromium	89.4		1	"	38.5	47.8	108	75-125	2	20
Lead	673	Q10	3	"	96.2	565	112	75-125	4	20
Selenium	402		2	"	385	ND	105	75-125	6	20
Silver	10.4		1	"	9.62	ND	109	75-125	5	20
Reference (B18E048-SRM1)										
Arsenic	335		2	mg/kg wet	253		132	60.9-139		
Barium	ND	U	5	"	1.60			62.5-138		
Cadmium	12		0.5	"	10.9		110	70.6-128		
Chromium	31.5		1	"	27.1		116	68.3-132		
Lead	63.4		3	"	56.9		111	72.8-127		
Selenium	9.63		2	"	10.0		96	41-159		
Silver	6.63		1	"	5.90		112	45.8-154		
Batch B18E097 - 7473 Hg Prep - Mercury by 7473										**Prepared & Analyzed: 05/14/18**
										Metals by EPA 6000/7000 Series Methods - Quality Control
Blank (B18E097-BLK1)										
Mercury	ND	U	0.025	mg/kg wet						
Matrix Spike (B18E097-MS1)		**Source: 1805009-01**								
Mercury	0.508		0.03	mg/kg wet	0.494	ND	103	80-120		

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18123D
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/24/18 08:52
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E097 - 7473 Hg Prep - Mercury by 7473										**Prepared & Analyzed: 05/14/18**
										Metals by EPA 6000/7000 Series Methods - Quality Control
Matrix Spike Dup (B18E097-MSD1)		**Source: 1805009-01**								
Mercury	0.527		0.03	mg/kg wet	0.501	ND	105	80-120	2	20
Reference (B18E097-SRM1)										
Mercury	1.06		0.034	mg/kg wet	1.10		97	80-120		

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18123D
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/24/18 08:52
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

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.
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: **5/24/2018**

Subject: **Analytical Testing Results - Project R18S51**
SDG: 18123E

From: **Peter Husby, Director**
EPA Region 9 Laboratory
EMD-3-1

To: **Eric Nuchims**
Emergency Response Section
SFD-9-2

Attached are the results from the analysis of samples from the **Bercovich Smelter April 2018 Removal Action** 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: Greg Roussos, Weston Solutions, Inc.

Analyses included in this report:

Lead on Air Filters

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18123E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/24/18 10:06
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
BR-23-041818	1805010-01	Air Filter	04/18/18 08:41	05/03/18 13:30
BR-25-041818	1805010-02	Air Filter	04/18/18 08:43	05/03/18 13:30
BR-PA1-042118	1805010-03	Air Filter	04/21/18 08:30	05/03/18 13:30
BR-PA2-042118	1805010-04	Air Filter	04/21/18 08:31	05/03/18 13:30
BR-22-042318	1805010-05	Air Filter	04/23/18 07:29	05/03/18 13:30
BR-24-042318	1805010-06	Air Filter	04/23/18 07:31	05/03/18 13:30
BR-22-050218	1805010-07	Air Filter	05/02/18 07:34	05/03/18 13:30
BR-21-050218	1805010-08	Air Filter	05/02/18 07:34	05/03/18 13:30
BR-24-050218	1805010-09	Air Filter	05/02/18 07:36	05/03/18 13:30

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18123E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/24/18 10:06
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805010-01									**Air Filter - Sampled: 04/18/18 08:41**
Sample ID: BR-23-041818									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: 1805010-02									**Air Filter - Sampled: 04/18/18 08:43**
Sample ID: BR-25-041818									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: 1805010-03									**Air Filter - Sampled: 04/21/18 08:30**
Sample ID: BR-PA1-042118									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: 1805010-04									**Air Filter - Sampled: 04/21/18 08:31**
Sample ID: BR-PA2-042118									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		0.19		0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: 1805010-05									**Air Filter - Sampled: 04/23/18 07:29**
Sample ID: BR-22-042318									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: 1805010-06									**Air Filter - Sampled: 04/23/18 07:31**
Sample ID: BR-24-042318									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: 1805010-07									**Air Filter - Sampled: 05/02/18 07:34**
Sample ID: BR-22-050218									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		0.46		0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: 1805010-08									**Air Filter - Sampled: 05/02/18 07:34**
Sample ID: BR-21-050218									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		0.41		0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: 1805010-09									**Air Filter - Sampled: 05/02/18 07:36**
Sample ID: BR-24-050218									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E119 - Air Filter Digestion - Lead on Air Filters										**Prepared: 05/18/18 Analyzed: 05/22/18**
										Federal Equivalent Methods for Ambient Air Monitoring - Quality Control
Blank (B18E119-BLK1)										
Lead	ND	U	0.18	ug/Filter						
LCS (B18E119-BS1)										
Lead	2		0.18	ug/Filter	2.00		100	80-120		
LCS Dup (B18E119-BSD1)										
Lead	2.01		0.18	ug/Filter	2.00		101	80-120	0.6	20

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18123E
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/24/18 10:06
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

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: **5/30/2018**

Subject: **Analytical Testing Results - Project R18S51**
SDG: 18131A

From: **Peter Husby, Director**
EPA Region 9 Laboratory
EMD-3-1

To: **Eric Nuchims**
Emergency Response Section
SFD-9-2

Attached are the results from the analysis of samples from the **Bercovich Smelter April 2018 Removal Action** 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: Greg Roussos, Weston Solutions, Inc.

Analyses included in this report:

Lead on Air Filters

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18131A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/30/18 13:55
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
BR-22-050718	1805026-01	Air Filter	05/07/18 07:35	05/11/18 14:43
BR-12-051018	1805026-02	Air Filter	05/10/18 10:58	05/11/18 14:43
BR-FB	1805026-03	Air Filter	05/11/18 08:00	05/11/18 14:43

United States Environmental Protection Agency
Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18131A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/30/18 13:55
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1805026-01**									**Air Filter - Sampled: 05/07/18 07:35**
Sample ID: **BR-22-050718**									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: **1805026-02**									**Air Filter - Sampled: 05/10/18 10:58**
Sample ID: **BR-12-051018**									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192
Lab ID: **1805026-03**									**Air Filter - Sampled: 05/11/18 08:00**
Sample ID: **BR-FB**									**Federal Equivalent Methods for Ambient Air Monitoring**
Lead		ND	U	0.18	ug/Filter	B18E119	05/18/18	05/22/18	EQL-0710-192

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E119 - Air Filter Digestion - Lead on Air Filters										**Prepared: 05/18/18 Analyzed: 05/22/18**
										Federal Equivalent Methods for Ambient Air Monitoring - Quality Control
Blank (B18E119-BLK1)										
Lead	ND	U	0.18	ug/Filter						
LCS (B18E119-BS1)										
Lead	2		0.18	ug/Filter	2.00		100	80-120		
LCS Dup (B18E119-BSD1)										
Lead	2.01		0.18	ug/Filter	2.00		101	80-120	0.6	20

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18131A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/30/18 13:55
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

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: **5/31/2018**

Subject: **Analytical Testing Results - Project R18S51**
SDG: 18131B

From: **Peter Husby, Director**
EPA Region 9 Laboratory
EMD-3-1

To: **Eric Nuchims**
Emergency Response Section
SFD-9-2

Attached are the results from the analysis of samples from the **Bercovich Smelter April 2018 Removal Action** 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: Greg Roussos, Weston Solutions, Inc.

Analyses included in this report:

Mercury by EPA method 7473
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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18131B
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/31/18 11:26
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
Backfill-6	1805027-01	Soil	05/10/18 14:34	05/11/18 14:43
R8-2-6	1805027-02	Soil	05/07/18 15:38	05/11/18 14:43
R12-1-1	1805027-03	Soil	05/10/18 15:24	05/11/18 14:43
R9-1-1	1805027-04	Soil	05/10/18 15:53	05/11/18 14:43
R9-1-1_dup	1805027-05	Soil	05/10/18 15:54	05/11/18 14:43

Work Order 1805027

Samples in work order 1805027 were received pre-dried and sieved in XRF cups. Sample results are reported on an "as received" basis. No precent solids determination was performed and no dry-weight correction applied.

Mercury: Samples received at 24 degrees C, outside the recommended temperature range of 0 - 6 degrees C for mercury. The mercury result is flagged as estimated.

United States Environmental Protection Agency
Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18131B
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/31/18 11:26
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID:	**1805027-01**								**Soil - Sampled: 05/10/18 14:34**
Sample ID:	**Backfill-6**								**Metals by EPA 6000/7000 Series Methods**
Mercury		0.12	A2, J	0.025	mg/kg wet	B18E097	05/14/18	05/14/18	7473
Arsenic		5.0		2	"	B18E115	05/16/18	05/23/18	6010C
Barium		250		5	"	"	"	"	6010C
Cadmium		ND	U	0.50	"	"	"	"	6010C
Chromium		30		1	"	"	"	"	6010C
Lead		4.7		3	"	"	"	"	6010C
Selenium		ND	U	2	"	"	"	"	6010C
Silver		ND	U	1	"	"	"	"	6010C
Lab ID:	**1805027-02**								**Soil - Sampled: 05/07/18 15:38**
Sample ID:	**R8-2-6**								**Metals by EPA 6000/7000 Series Methods**
Lead		3,200		3	mg/kg wet	B18E115	05/16/18	05/23/18	6010C
Lab ID:	**1805027-03**								**Soil - Sampled: 05/10/18 15:24**
Sample ID:	**R12-1-1**								**Metals by EPA 6000/7000 Series Methods**
Lead		810		3	mg/kg wet	B18E115	05/16/18	05/25/18	6010C
Lab ID:	**1805027-04**								**Soil - Sampled: 05/10/18 15:53**
Sample ID:	**R9-1-1**								**Metals by EPA 6000/7000 Series Methods**
Lead		910		3	mg/kg wet	B18E115	05/16/18	05/23/18	6010C
Lab ID:	**1805027-05**								**Soil - Sampled: 05/10/18 15:54**
Sample ID:	**R9-1-1_dup**								**Metals by EPA 6000/7000 Series Methods**
Lead		960		3	mg/kg wet	B18E115	05/16/18	05/23/18	6010C

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18131B
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/31/18 11:26
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E097 - 7473 Hg Prep - Mercury by 7473										**Prepared & Analyzed: 05/14/18**
										Metals by EPA 6000/7000 Series Methods - Quality Control
Blank (B18E097-BLK1)										
Mercury	ND	U	0.025	mg/kg wet						
Matrix Spike (B18E097-MS2)		**Source: 1805027-01**								
Mercury	0.688		0.031	mg/kg wet	0.503	0.12	113	80-120		
Matrix Spike Dup (B18E097-MSD2)		**Source: 1805027-01**								
Mercury	0.611		0.03	mg/kg wet	0.491	0.12	100	80-120	12	20
Reference (B18E097-SRM1)										
Mercury	1.06		0.034	mg/kg wet	1.10		97	80-120		
Batch B18E115 - 3050B Sld Acid Dig - Metals by 6010										**Prepared: 05/16/18 Analyzed: 05/23/18**
										Metals by EPA 6000/7000 Series Methods - Quality Control
Blank (B18E115-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 (B18E115-MS1)		**Source: 1805027-01**								
Arsenic	401		2	mg/kg wet	396	4.98	100	75-125		
Barium	640		5	"	396	250	99	75-125		
Cadmium	9.19		0.5	"	9.90	ND	93	75-125		
Chromium	69.5		1	"	39.6	30.4	99	75-125		
Lead	95		3	"	99.0	4.71	91	75-125		
Selenium	368		2	"	396	ND	93	75-125		
Silver	9.32		1	"	9.90	ND	94	75-125		
Matrix Spike Dup (B18E115-MSD1)		**Source: 1805027-01**								
Arsenic	399		2	mg/kg wet	396	4.98	100	75-125	0.5	20
Barium	619		5	"	396	250	93	75-125	3	20
Cadmium	9.17		0.5	"	9.90	ND	93	75-125	0.2	20
Chromium	68.7		1	"	39.6	30.4	97	75-125	1	20
Lead	94.2		3	"	99.0	4.71	90	75-125	0.8	20
Selenium	366		2	"	396	ND	92	75-125	0.6	20
Silver	9.27		1	"	9.90	ND	94	75-125	0.5	20
Reference (B18E115-SRM1)										
Arsenic	284		2	mg/kg wet	252		113	60.9-139		
Barium	ND	U	5	"	1.59			62.5-138		

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18131B
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/31/18 11:26
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E115 - 3050B Sld Acid Dig - Metals by 6010									**Prepared: 05/16/18 Analyzed: 05/23/18**	
									Metals by EPA 6000/7000 Series Methods - Quality Control	
Reference (B18E115-SRM1)										
Cadmium	10.7		0.5	"	10.9		98	70.6-128		
Chromium	28.5		1	"	27.0		106	68.3-132		
Lead	55.7		3	"	56.7		98	72.8-127		
Selenium	8.9		2	"	9.97		89	41-159		
Silver	5.81		1	"	5.88		99	45.8-154		

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Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18131B
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 05/31/18 11:26
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

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: **6/1/2018**

Subject: **Analytical Testing Results - Project R18S51**
SDG: 18135A

From: **Peter Husby, Director**
EPA Region 9 Laboratory
EMD-3-1

To: **Eric Nuchims**
Emergency Response Section
SFD-9-2

Attached are the results from the analysis of samples from the **Bercovich Smelter April 2018 Removal Action** 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: Greg Roussos, Weston Solutions, Inc.

Analyses included in this report:

Mercury by EPA method 7473	Metals by ICP
PAHs by GC/MS SIM	PCB Aroclors by GC/ECD
PCB Aroclors by GC/ECD	Percent Solids
Semivolatile Organic Compounds by GC/MS	Semivolatile Organic Compounds by GC/MS
Extractable Petroleum Hydrocarbons by GC/FID	Extractable Petroleum Hydrocarbons by GC/FID
Purgeable Petroleum Hydrocarbons by GC/FID	Volatile Organic Compounds by GC/MS
Volatile Organic Compounds by GC/MS	

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Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
R0-1-0.5	1805029-01	Soil	05/14/18 16:05	05/15/18 08:35
R0-2-0.5	1805029-02	Soil	05/14/18 16:10	05/15/18 08:35
R0-3-0.5	1805029-03	Soil	05/14/18 16:15	05/15/18 08:35
R0-4-0.5	1805029-04	Soil	05/14/18 16:20	05/15/18 08:35

Work Order 1805029

Samples hand delivered and received at 8 degrees C. Where applicable, results are flagged and qualified as estimated for exceeding 0 - 6 degee C recommended temperature criteria.

SVOCs: The samples and QC in batch B18E126 were brought to a final extract volume of 5 mL, instead of the SOP prescribed 1 mL, because the sample extracts are dark, foamy and viscous. Consequently some spiked compounds in the BS, MS and MSD are diluted out.

United States Environmental Protection Agency
Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-01									**Soil - Sampled: 05/14/18 16:05**
Sample ID: R0-1-0.5									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.58	A2, J	0.036	mg/kg dry	B18E116	05/17/18	05/17/18	7473
Arsenic		20		2.9	"	B18E115	05/16/18	05/23/18	6010C
Barium		310		7.2	"	"	"	"	6010C
Cadmium		3.9		0.72	"	"	"	"	6010C
Chromium		59		1.4	"	"	"	"	6010C
Lead		180		4.3	"	"	"	"	6010C
Selenium		ND	U	2.9	"	"	"	"	6010C
Silver		ND	U	1.4	"	"	"	"	6010C
Sample ID: R0-1-0.5									**Purgeable Petroleum Hydrocarbons**
TPH - Gasoline Range Organics		ND	A2, J, U	14	"	B18E117	05/15/18	05/17/18	8015C
Surrogate: a,a,a-Trifluorotoluene			82 %	*76-124%*		"	"	"	
Sample ID: R0-1-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Diesel Range Organics		500	A2, F13, J	14	"	B18E114	05/16/18	05/21/18	8015C
TPH - Oil Range Organics	RE1	3,900	A2, J, F13	290	"	"	"	05/22/18	8015C
Surrogate: Hexacosane			66 %	*20-111%*		"	"	*05/21/18*	
Sample ID: R0-1-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1016		ND	U	19	ug/kg dry	B18E120	05/17/18	05/22/18	8082A
Aroclor 1221		ND	U	39	"	"	"	"	8082A
Aroclor 1232		ND	U	19	"	"	"	"	8082A
Aroclor 1242		ND	U	19	"	"	"	"	8082A
Aroclor 1248		ND	U	19	"	"	"	"	8082A
Aroclor 1254		ND	U	19	"	"	"	"	8082A
Aroclor-1260		33		19	"	"	"	"	8082A
Aroclor 1262		ND	U	19	"	"	"	"	8082A
Aroclor 1268		ND	U	19	"	"	"	"	8082A
Surrogate: Tetrachloro-m-xylene			61 %	*20-140%*		"	"	"	
Surrogate: Decachlorobiphenyl			46 %	*20-125%*		"	"	"	
Sample ID: R0-1-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Dichlorodifluoromethane		ND	A2, C3, J, U	5	"	B18E111	05/15/18	05/16/18	8260C
Chloromethane		ND	A2, J, U	5	"	"	"	"	8260C
Vinyl chloride		ND	A2, J, U	5	"	"	"	"	8260C
Bromomethane		ND	A2, J, U	5	"	"	"	"	8260C
Chloroethane		ND	A2, J, U	5	"	"	"	"	8260C
Trichlorofluoromethane		ND	A2, J, U	5	"	"	"	"	8260C
1,1-Dichloroethene		ND	A2, J, U	5	"	"	"	"	8260C
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	A2, J, U	5	"	"	"	"	8260C
Acetone		ND	A2, J, U	40	"	"	"	"	8260C

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1805029-01**									**Soil - Sampled: 05/14/18 16:05**
Sample ID: **R0-1-0.5**									**Volatile Organic Compounds by EPA Method 8260C**
Carbon disulfide		ND	A2, J, U	5	ug/kg dry	B18E111	05/15/18	05/16/18	8260C
Dichloromethane		ND	A2, J, U	5	"	"	"	"	8260C
trans-1,2-Dichloroethene		ND	A2, J, U	5	"	"	"	"	8260C
tert-Butyl methyl ether (MTBE)		ND	A2, J, U	20	"	"	"	"	8260C
1,1-Dichloroethane		ND	A2, J, U	5	"	"	"	"	8260C
cis-1,2-Dichloroethene		ND	A2, J, U	5	"	"	"	"	8260C
2-Butanone (MEK)		ND	A2, J, U	40	"	"	"	"	8260C
Chloroform		ND	A2, J, U	5	"	"	"	"	8260C
1,1,1-Trichloroethane		ND	A2, J, U	5	"	"	"	"	8260C
Carbon tetrachloride		ND	A2, J, U	5	"	"	"	"	8260C
1,1-Dichloropropene		ND	A2, J, U	5	"	"	"	"	8260C
Benzene		ND	A2, Q7, J, U	5	"	"	"	"	8260C
1,2-Dichloroethane		ND	A2, J, U	5	"	"	"	"	8260C
Trichloroethene		ND	A2, J, U	5	"	"	"	"	8260C
1,2-Dichloropropane		ND	A2, J, U	5	"	"	"	"	8260C
Bromodichloromethane		ND	A2, J, U	5	"	"	"	"	8260C
cis-1,3-Dichloropropene		ND	A2, J, U	5	"	"	"	"	8260C
4-Methyl-2-pentanone (MIBK)		ND	A2, Q1, Q7, J, U	40	"	"	"	"	8260C
Toluene		ND	A2, Q1, J, Q7, U	5	"	"	"	"	8260C
trans-1,3-Dichloropropene		ND	A2, J, U	5	"	"	"	"	8260C
1,1,2-Trichloroethane		ND	A2, J, Q7, U	5	"	"	"	"	8260C
Tetrachloroethene		ND	A2, Q1, J, Q7, U	5	"	"	"	"	8260C
1,3-Dichloropropane		ND	A2, Q1, J, Q7, U	5	"	"	"	"	8260C
2-Hexanone		ND	A2, Q1, J, Q7, U	40	"	"	"	"	8260C
Chlorodibromomethane		ND	A2, Q1, J, Q7, U	5	"	"	"	"	8260C
1,2-Dibromoethane (EDB)		ND	A2, Q1, J, Q7, U	5	"	"	"	"	8260C
Chlorobenzene		ND	A2, Q1, J, Q7, U	5	"	"	"	"	8260C
Ethylbenzene		ND	A2, Q1, J, Q7, U	5	"	"	"	"	8260C
m&p-Xylene		ND	A2, Q1, J, Q7, U	10	"	"	"	"	8260C
o-Xylene		ND	A2, Q1, J, Q7, U	5	"	"	"	"	8260C
Styrene		ND	A2, Q1, J, Q7, U	5	"	"	"	"	8260C
Bromoform		ND	A2, Q1, J, Q7, U	5	"	"	"	"	8260C

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Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1805029-01**									**Soil - Sampled: 05/14/18 16:05**
Sample ID: **R0-1-0.5**									**Volatile Organic Compounds by EPA Method 8260C**
1,1,2,2-Tetrachloroethane		ND	A2, Q1, J, Q7, U	5	ug/kg dry	B18E111	05/15/18	05/16/18	8260C
1,2,3-Trichloropropane		ND	A2, Q1, J, Q7, U	5	"	"	"	"	8260C
1,3-Dichlorobenzene		ND	A2, Q1, J, Q7, U	5	"	"	"	"	8260C
1,4-Dichlorobenzene		ND	A2, Q1, J, Q7, U	5	"	"	"	"	8260C
1,2-Dichlorobenzene		ND	A2, Q1, J, Q7, U	5	"	"	"	"	8260C
1,2-Dibromo-3-chloropropane		ND	A2, Q1, J, Q7, U	20	"	"	"	"	8260C
Surrogate: 1,2-Dichloroethane-d4			131 %	*63-144%*		"	"	"	
Surrogate: Toluene-d8			**120 %**	*86-111%*		"	"	"	
Surrogate: 4-Bromofluorobenzene			**68 %**	*81-110%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			**42 %**	*75-112%*		"	"	"	
Sample ID: **R0-1-0.5**									**Semivolatile Organic Compounds by EPA Method 8270D**
Phenol		ND	A2, J, U	7,900	"	B18E126	05/21/18	05/22/18	8270D
Bis(2-chloroethyl)ether		ND	A2, J, U	1,500	"	"	"	"	8270D
2-Chlorophenol		ND	A2, J, U	7,900	"	"	"	"	8270D
1,3-Dichlorobenzene		ND	A2, J, U	1,500	"	"	"	"	8270D
1,4-Dichlorobenzene		ND	A2, J, U	1,500	"	"	"	"	8270D
Benzyl alcohol		ND	A2, J, U	7,900	"	"	"	"	8270D
1,2-Dichlorobenzene		ND	A2, J, U	1,500	"	"	"	"	8270D
2-Methylphenol		ND	A2, J, U	7,900	"	"	"	"	8270D
Bis(2-chloro-1-methylethyl) ether		ND	A2, J, U	1,500	"	"	"	"	8270D
3&4-Methylphenol		ND	A2, J, U	7,900	"	"	"	"	8270D
N-Nitrosodipropylamine		ND	A2, J, U	1,500	"	"	"	"	8270D
Hexachloroethane		ND	A2, J, U	1,500	"	"	"	"	8270D
Nitrobenzene		ND	A2, J, U	1,500	"	"	"	"	8270D
Isophorone		ND	A2, J, U	1,500	"	"	"	"	8270D
2-Nitrophenol		ND	A2, J, U	7,900	"	"	"	"	8270D
2,4-Dimethylphenol		ND	A2, J, U	7,900	"	"	"	"	8270D
Bis(2-chloroethoxy)methane		ND	A2, J, U	1,500	"	"	"	"	8270D
2,4-Dichlorophenol		ND	A2, J, U	7,900	"	"	"	"	8270D
1,2,4-Trichlorobenzene		ND	A2, J, U	1,500	"	"	"	"	8270D
Naphthalene		ND	A2, J, U	1,500	"	"	"	"	8270D
4-Chloroaniline		ND	A2, J, U	7,900	"	"	"	"	8270D
Hexachlorobutadiene		ND	A2, J, U	1,500	"	"	"	"	8270D
4-Chloro-3-methylphenol		ND	A2, J, U	7,900	"	"	"	"	8270D

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Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1805029-01**									**Soil - Sampled: 05/14/18 16:05**
Sample ID: **R0-1-0.5**									**Semivolatile Organic Compounds by EPA Method 8270D**
2-Methylnaphthalene		ND	A2, J, U	1,500	ug/kg dry	B18E126	05/21/18	05/22/18	8270D
Hexachlorocyclopentadiene		ND	A2, J, U	7,900	"	"	"	"	8270D
2,4,6-Trichlorophenol		ND	A2, J, U	7,900	"	"	"	"	8270D
2,4,5-Trichlorophenol		ND	A2, J, U	7,900	"	"	"	"	8270D
2-Chloronaphthalene		ND	A2, J, U	1,500	"	"	"	"	8270D
2-Nitroaniline		ND	A2, J, U	7,900	"	"	"	"	8270D
Dimethyl phthalate		ND	A2, J, U	1,500	"	"	"	"	8270D
2,6-Dinitrotoluene		ND	A2, J, U	1,500	"	"	"	"	8270D
Acenaphthylene		ND	A2, J, U	1,500	"	"	"	"	8270D
3-Nitroaniline		ND	A2, J, U	7,900	"	"	"	"	8270D
Acenaphthene		ND	A2, J, U	1,500	"	"	"	"	8270D
2,4-Dinitrophenol		ND	A2, C3, C4, J, Q2, U	31,000	"	"	"	"	8270D
4-Nitrophenol		ND	A2, J, U	7,900	"	"	"	"	8270D
Dibenzofuran		ND	A2, J, U	1,500	"	"	"	"	8270D
2,4-Dinitrotoluene		ND	A2, J, U	1,500	"	"	"	"	8270D
Diethyl phthalate		ND	A2, J, U	1,500	"	"	"	"	8270D
Fluorene		ND	A2, J, U	1,500	"	"	"	"	8270D
4-Chlorophenyl phenyl ether		ND	A2, J, U	1,500	"	"	"	"	8270D
4-Nitroaniline		ND	A2, J, Q2, U	7,900	"	"	"	"	8270D
4,6-Dinitro-2-methylphenol		ND	A2, J, U	7,900	"	"	"	"	8270D
Diphenyl amine		ND	A2, J, U	1,500	"	"	"	"	8270D
4-Bromophenyl phenyl ether		ND	A2, J, U	1,500	"	"	"	"	8270D
Hexachlorobenzene		ND	A2, J, U	1,500	"	"	"	"	8270D
Pentachlorophenol		ND	A2, C4, J, Q2, U	31,000	"	"	"	"	8270D
Phenanthrene		ND	A2, J, U	1,500	"	"	"	"	8270D
Anthracene		ND	A2, J, U	1,500	"	"	"	"	8270D
Carbazole		ND	A2, J, U	1,500	"	"	"	"	8270D
Di-n-butyl phthalate		ND	A2, J, U	1,500	"	"	"	"	8270D
Fluoranthene		1,000	A2, C1, J	1,500	"	"	"	"	8270D
Pyrene		1,400	A2, C1, J	1,500	"	"	"	"	8270D
Butyl benzyl phthalate		ND	A2, J, U	1,500	"	"	"	"	8270D
Benzo(a)anthracene		ND	A2, J, U	1,500	"	"	"	"	8270D
3,3'-Dichlorobenzidine		ND	A2, J, Q2, U	7,900	"	"	"	"	8270D
Chrysene		1,400	A2, C1, J	1,500	"	"	"	"	8270D
Bis(2-ethylhexyl) phthalate		3,900	A2, J	1,500	"	"	"	"	8270D
Di-n-octyl phthalate		ND	A2, C3, J, U	1,500	"	"	"	"	8270D

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Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-01									**Soil - Sampled: 05/14/18 16:05**
Sample ID: R0-1-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Benzo(b)fluoranthene		1,200	A2, C1, J	1,500	ug/kg dry	B18E126	05/21/18	05/22/18	8270D
Benzo(k)fluoranthene		ND	A2, J, U	1,500	"	"	"	"	8270D
Benzo(a)pyrene		ND	A2, J, U	1,500	"	"	"	"	8270D
Indeno(1,2,3-cd)pyrene		ND	A2, J, U	1,500	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	A2, J, U	1,500	"	"	"	"	8270D
Benzo(g,h,i)perylene		860	A2, C1, J	1,500	"	"	"	"	8270D
Dodecadien-one, -dimethy		4,100	N TIC, J		"	"	"	"	8270D
Hexadecanoic acid		5,300	N TIC, J		"	"	"	"	8270D
Sitosterol		18,000	N TIC, J		"	"	"	"	8270D
unknown hydrocarbon (01)		11,000	N TIC, J		"	"	"	"	8270D
unknown hydrocarbon (02)		15,000	N TIC, J		"	"	"	"	8270D
Surrogate: 2-Fluorophenol			85 %	*20-111%*		"	"	"	
Surrogate: Phenol-d5			89 %	*20-111%*		"	"	"	
Surrogate: 2-Chlorophenol-d4			90 %	*20-121%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			79 %	*20-136%*		"	"	"	
Surrogate: Nitrobenzene-d5			84 %	*20-125%*		"	"	"	
Surrogate: 2-Fluorobiphenyl			84 %	*20-121%*		"	"	"	
Surrogate: 2,4,6-Tribromophenol			113 %	*20-146%*		"	"	"	
Surrogate: Terphenyl-d14			115 %	*20-131%*		"	"	"	
Sample ID: R0-1-0.5									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		70		1	%	B18E135	05/23/18	05/24/18	3550C
Lab ID: 1805029-02									**Soil - Sampled: 05/14/18 16:10**
Sample ID: R0-2-0.5									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.22	A2, J	0.030	mg/kg dry	B18E116	05/17/18	05/17/18	7473
Arsenic		9.1		2	"	B18E115	05/16/18	05/23/18	6010C
Barium		220		5	"	"	"	"	6010C
Cadmium		2.0		0.50	"	"	"	"	6010C
Chromium		46		1	"	"	"	"	6010C
Lead		150		3	"	"	"	"	6010C
Selenium		ND	U	2	"	"	"	"	6010C
Silver		ND	U	1	"	"	"	"	6010C
Sample ID: R0-2-0.5									**Purgeable Petroleum Hydrocarbons**
TPH - Gasoline Range Organics		ND	A2, J, U	8.3	"	B18E117	05/15/18	05/17/18	8015C
Surrogate: a,a,a-Trifluorotoluene			89 %	*76-124%*		"	"	"	
Sample ID: R0-2-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Diesel Range Organics		200	A2, F13, J	10	"	B18E114	05/16/18	05/21/18	8015C
TPH - Oil Range Organics		1,500	A2, F13, J	40	"	"	"	"	8015C
Surrogate: Hexacosane			50 %	*20-111%*		"	"	"	

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1805029-02**									**Soil - Sampled: 05/14/18 16:10**
Sample ID: **R0-2-0.5**									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1016		ND	U	13	ug/kg dry	B18E120	05/17/18	05/22/18	8082A
Aroclor 1221		ND	U	27	"	"	"	"	8082A
Aroclor 1232		ND	U	13	"	"	"	"	8082A
Aroclor 1242		ND	U	13	"	"	"	"	8082A
Aroclor 1248		ND	U	13	"	"	"	"	8082A
Aroclor 1254		ND	U	13	"	"	"	"	8082A
Aroclor-1260		15		13	"	"	"	"	8082A
Aroclor 1262		ND	U	13	"	"	"	"	8082A
Aroclor 1268		ND	U	13	"	"	"	"	8082A
Surrogate: Tetrachloro-m-xylene			66 %	*20-140%*		"	"	"	
Surrogate: Decachlorobiphenyl			51 %	*20-125%*		"	"	"	
Sample ID: **R0-2-0.5**									**Volatile Organic Compounds by EPA Method 8260C**
Dichlorodifluoromethane		ND	A2, C3, J, U	4.2	"	B18E111	05/15/18	05/16/18	8260C
Chloromethane		ND	A2, J, U	4.2	"	"	"	"	8260C
Vinyl chloride		ND	A2, J, U	4.2	"	"	"	"	8260C
Bromomethane		ND	A2, J, U	4.2	"	"	"	"	8260C
Chloroethane		ND	A2, J, U	4.2	"	"	"	"	8260C
Trichlorofluoromethane		ND	A2, J, U	4.2	"	"	"	"	8260C
1,1-Dichloroethene		ND	A2, J, U	4.2	"	"	"	"	8260C
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	A2, J, U	4.2	"	"	"	"	8260C
Acetone		130	A2, J	34	"	"	"	"	8260C
Carbon disulfide		ND	A2, J, U	4.2	"	"	"	"	8260C
Dichloromethane		ND	A2, J, U	4.2	"	"	"	"	8260C
trans-1,2-Dichloroethene		ND	A2, J, U	4.2	"	"	"	"	8260C
tert-Butyl methyl ether (MTBE)		ND	A2, J, U	17	"	"	"	"	8260C
1,1-Dichloroethane		ND	A2, J, U	4.2	"	"	"	"	8260C
cis-1,2-Dichloroethene		ND	A2, J, U	4.2	"	"	"	"	8260C
2-Butanone (MEK)		34	A2, J	34	"	"	"	"	8260C
Chloroform		ND	A2, J, U	4.2	"	"	"	"	8260C
1,1,1-Trichloroethane		ND	A2, J, U	4.2	"	"	"	"	8260C
Carbon tetrachloride		ND	A2, J, U	4.2	"	"	"	"	8260C
1,1-Dichloropropene		ND	A2, J, U	4.2	"	"	"	"	8260C
Benzene		ND	A2, J, U	4.2	"	"	"	"	8260C
1,2-Dichloroethane		ND	A2, J, U	4.2	"	"	"	"	8260C
Trichloroethene		ND	A2, J, U	4.2	"	"	"	"	8260C
1,2-Dichloropropane		ND	A2, J, U	4.2	"	"	"	"	8260C

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1805029-02**									**Soil - Sampled: 05/14/18 16:10**
Sample ID: **R0-2-0.5**									**Volatile Organic Compounds by EPA Method 8260C**
Bromodichloromethane		ND	A2, J, U	4.2	ug/kg dry	B18E111	05/15/18	05/16/18	8260C
cis-1,3-Dichloropropene		ND	A2, J, U	4.2	"	"	"	"	8260C
4-Methyl-2-pentanone (MIBK)		ND	A2, Q1, Q7, J, U	34	"	"	"	"	8260C
Toluene		ND	A2, J, Q1, U	4.2	"	"	"	"	8260C
trans-1,3-Dichloropropene		ND	A2, J, U	4.2	"	"	"	"	8260C
1,1,2-Trichloroethane		ND	A2, Q7, J, U	4.2	"	"	"	"	8260C
Tetrachloroethene		ND	A2, J, Q7, Q1, U	4.2	"	"	"	"	8260C
1,3-Dichloropropane		ND	A2, Q1, J, U	4.2	"	"	"	"	8260C
2-Hexanone		ND	A2, Q1, J, Q7, U	34	"	"	"	"	8260C
Chlorodibromomethane		ND	A2, Q1, Q7, J, U	4.2	"	"	"	"	8260C
1,2-Dibromoethane (EDB)		ND	A2, Q1, J, Q7, U	4.2	"	"	"	"	8260C
Chlorobenzene		ND	A2, Q1, Q7, J, U	4.2	"	"	"	"	8260C
Ethylbenzene		ND	A2, Q1, J, U	4.2	"	"	"	"	8260C
m&p-Xylene		ND	A2, Q1, J, U	8.4	"	"	"	"	8260C
o-Xylene		ND	A2, Q1, J, U	4.2	"	"	"	"	8260C
Styrene		ND	A2, J, Q1, U	4.2	"	"	"	"	8260C
Bromoform		ND	A2, Q1, Q7, J, U	4.2	"	"	"	"	8260C
1,1,2,2-Tetrachloroethane		ND	A2, Q1, J, Q7, U	4.2	"	"	"	"	8260C
1,2,3-Trichloropropane		ND	A2, Q1, J, Q7, U	4.2	"	"	"	"	8260C
1,3-Dichlorobenzene		ND	A2, Q1, J, Q7, U	4.2	"	"	"	"	8260C
1,4-Dichlorobenzene		ND	A2, Q1, J, Q7, U	4.2	"	"	"	"	8260C
1,2-Dichlorobenzene		ND	A2, Q1, J, Q7, U	4.2	"	"	"	"	8260C
1,2-Dibromo-3-chloropropane		ND	A2, Q1, J, Q7, U	17	"	"	"	"	8260C
Hexanol, ethyl		13	N TIC, J		"	"	"	"	8260C
Octanone		16	N TIC, J		"	"	"	"	8260C
Surrogate: 1,2-Dichloroethane-d4			120 %	*63-144%*		"	"	"	
Surrogate: Toluene-d8			109 %	*86-111%*		"	"	"	
Surrogate: 4-Bromofluorobenzene			**71 %**	*81-110%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			**63 %**	*75-112%*		"	"	"	
Sample ID: **R0-2-0.5**									**Semivolatile Organic Compounds by EPA Method 8270D**
Phenol		ND	U, A2, J	5,200	"	B18E126	05/21/18	05/22/18	8270D
Bis(2-chloroethyl)ether		ND	A2, J, U	1,000	"	"	"	"	8270D

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Region 9 Laboratory

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Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1805029-02**									**Soil - Sampled: 05/14/18 16:10**
Sample ID: **R0-2-0.5**									**Semivolatile Organic Compounds by EPA Method 8270D**
2-Chlorophenol		ND	A2, J, U	5,200	ug/kg dry	B18E126	05/21/18	05/22/18	8270D
1,3-Dichlorobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
1,4-Dichlorobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
Benzyl alcohol		ND	A2, J, U	5,200	"	"	"	"	8270D
1,2-Dichlorobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
2-Methylphenol		ND	A2, J, U	5,200	"	"	"	"	8270D
Bis(2-chloro-1-methylethyl) ether		ND	U, A2, J	1,000	"	"	"	"	8270D
3&4-Methylphenol		ND	A2, J, U	5,200	"	"	"	"	8270D
N-Nitrosodipropylamine		ND	U, A2, J	1,000	"	"	"	"	8270D
Hexachloroethane		ND	U, A2, J	1,000	"	"	"	"	8270D
Nitrobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
Isophorone		ND	U, A2, J	1,000	"	"	"	"	8270D
2-Nitrophenol		ND	A2, J, U	5,200	"	"	"	"	8270D
2,4-Dimethylphenol		ND	A2, J, U	5,200	"	"	"	"	8270D
Bis(2-chloroethoxy)methane		ND	A2, J, U	1,000	"	"	"	"	8270D
2,4-Dichlorophenol		ND	U, A2, J	5,200	"	"	"	"	8270D
1,2,4-Trichlorobenzene		ND	A2, J, U	1,000	"	"	"	"	8270D
Naphthalene		ND	U, A2, J	1,000	"	"	"	"	8270D
4-Chloroaniline		ND	A2, J, U	5,200	"	"	"	"	8270D
Hexachlorobutadiene		ND	A2, J, U	1,000	"	"	"	"	8270D
4-Chloro-3-methylphenol		ND	A2, J, U	5,200	"	"	"	"	8270D
2-Methylnaphthalene		ND	A2, J, U	1,000	"	"	"	"	8270D
Hexachlorocyclopentadiene		ND	U, A2, J	5,200	"	"	"	"	8270D
2,4,6-Trichlorophenol		ND	U, A2, J	5,200	"	"	"	"	8270D
2,4,5-Trichlorophenol		ND	U, A2, J	5,200	"	"	"	"	8270D
2-Chloronaphthalene		ND	U, J, A2	1,000	"	"	"	"	8270D
2-Nitroaniline		ND	A2, J, U	5,200	"	"	"	"	8270D
Dimethyl phthalate		ND	A2, J, U	1,000	"	"	"	"	8270D
2,6-Dinitrotoluene		ND	U, A2, J	1,000	"	"	"	"	8270D
Acenaphthylene		ND	A2, J, U	1,000	"	"	"	"	8270D
3-Nitroaniline		ND	A2, J, U	5,200	"	"	"	"	8270D
Acenaphthene		ND	U, A2, J	1,000	"	"	"	"	8270D
2,4-Dinitrophenol		ND	A2, C3, C4, J, Q2, U	21,000	"	"	"	"	8270D
4-Nitrophenol		ND	A2, J, U	5,200	"	"	"	"	8270D
Dibenzofuran		ND	A2, J, U	1,000	"	"	"	"	8270D
2,4-Dinitrotoluene		ND	A2, J, U	1,000	"	"	"	"	8270D

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID:	**1805029-02**								**Soil - Sampled: 05/14/18 16:10**
Sample ID:	**R0-2-0.5**								**Semivolatile Organic Compounds by EPA Method 8270D**
Diethyl phthalate		ND	A2, J, U	1,000	ug/kg dry	B18E126	05/21/18	05/22/18	8270D
Fluorene		ND	A2, J, U	1,000	"	"	"	"	8270D
4-Chlorophenyl phenyl ether		ND	A2, J, U	1,000	"	"	"	"	8270D
4-Nitroaniline		ND	A2, J, Q2, U	5,200	"	"	"	"	8270D
4,6-Dinitro-2-methylphenol		ND	A2, J, U	5,200	"	"	"	"	8270D
Diphenyl amine		ND	A2, J, U	1,000	"	"	"	"	8270D
4-Bromophenyl phenyl ether		ND	A2, J, U	1,000	"	"	"	"	8270D
Hexachlorobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
Pentachlorophenol		ND	A2, C4, J, Q2, U	21,000	"	"	"	"	8270D
Phenanthrene		ND	U, A2, J	1,000	"	"	"	"	8270D
Anthracene		ND	A2, J, U	1,000	"	"	"	"	8270D
Carbazole		ND	A2, J, U	1,000	"	"	"	"	8270D
Di-n-butyl phthalate		ND	J, A2, U	1,000	"	"	"	"	8270D
Fluoranthene		620	A2, C1, J	1,000	"	"	"	"	8270D
Pyrene		610	A2, C1, J	1,000	"	"	"	"	8270D
Butyl benzyl phthalate		760	A2, C1, J	1,000	"	"	"	"	8270D
Benzo(a)anthracene		ND	A2, J, U	1,000	"	"	"	"	8270D
3,3'-Dichlorobenzidine		ND	U, A2, J, Q2	5,200	"	"	"	"	8270D
Chrysene		990	A2, C1, J	1,000	"	"	"	"	8270D
Bis(2-ethylhexyl) phthalate		7,700	A2, J	1,000	"	"	"	"	8270D
Di-n-octyl phthalate		ND	U, A2, C3, J	1,000	"	"	"	"	8270D
Benzo(b)fluoranthene		1,600	A2, J	1,000	"	"	"	"	8270D
Benzo(k)fluoranthene		ND	A2, J, U	1,000	"	"	"	"	8270D
Benzo(a)pyrene		ND	A2, J, U	1,000	"	"	"	"	8270D
Indeno(1,2,3-cd)pyrene		ND	U, A2, J	1,000	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	A2, J, U	1,000	"	"	"	"	8270D
Benzo(g,h,i)perylene		ND	J, A2, U	1,000	"	"	"	"	8270D
Phthalic acid, bis(methyloc... (01)		230,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, bis(methyloc... (02)		160,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, bis(methyloc... (03)		720,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, bis(methyloc... (04)		620,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, cyclohexyl n...		1,000,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, decyl ethylh...		390,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, ethylhexyl i...		160,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, hexyl tridec...		350,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, isoporpyl oc...		1,200,000	N TIC, J		"	"	"	"	8270D
Phthalic acid, neopentyl pe...		1,200,000	N TIC, J		"	"	"	"	8270D

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-02									**Soil - Sampled: 05/14/18 16:10**
Sample ID: R0-2-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Surrogate: 2-Fluorophenol			97 %	*20-111%*		*B18E126*	*05/21/18*	*05/22/18*	
Surrogate: Phenol-d5			98 %	*20-111%*		"	"	"	
Surrogate: 2-Chlorophenol-d4			99 %	*20-121%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			90 %	*20-136%*		"	"	"	
Surrogate: Nitrobenzene-d5			91 %	*20-125%*		"	"	"	
Surrogate: 2-Fluorobiphenyl			87 %	*20-121%*		"	"	"	
Surrogate: 2,4,6-Tribromophenol			120 %	*20-146%*		"	"	"	
Surrogate: Terphenyl-d14			127 %	*20-131%*		"	"	"	
Sample ID: R0-2-0.5									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		99		1	%	B18E135	05/23/18	05/24/18	3550C
Lab ID: 1805029-03									**Soil - Sampled: 05/14/18 16:15**
Sample ID: R0-3-0.5									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.50	A2, J	0.025	mg/kg dry	B18E116	05/17/18	05/17/18	7473
Arsenic	RE1	14		2	"	B18E118	05/17/18	05/23/18	6010C
Barium	RE1	250		5.1	"	"	"	"	6010C
Cadmium	RE1	3.2		0.51	"	"	"	"	6010C
Chromium	RE1	48		1	"	"	"	"	6010C
Lead	RE1	410		3	"	"	"	"	6010C
Selenium	RE1	ND	U	2	"	"	"	"	6010C
Silver	RE1	ND	U	1	"	"	"	"	6010C
Sample ID: R0-3-0.5									**Purgeable Petroleum Hydrocarbons**
TPH - Gasoline Range Organics		ND	A2, J, U	7.3	"	B18E117	05/15/18	05/17/18	8015C
Surrogate: a,a,a-Trifluorotoluene			89 %	*76-124%*		"	"	"	
Sample ID: R0-3-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Diesel Range Organics	RE2	320	A2, J, F13	5.1	"	B18E114	05/16/18	05/22/18	8015C
TPH - Oil Range Organics	RE1	2,900	A2, F13, J	200	"	"	"	05/22/18	8015C
Surrogate: Hexacosane	*RE2*		63 %	*20-111%*		"	"	*05/22/18*	
Sample ID: R0-3-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1016		ND	U	13	ug/kg dry	B18E120	05/17/18	05/22/18	8082A
Aroclor 1221		ND	U	27	"	"	"	"	8082A
Aroclor 1232		ND	U	13	"	"	"	"	8082A
Aroclor 1242		ND	U	13	"	"	"	"	8082A
Aroclor 1248		ND	U	13	"	"	"	"	8082A
Aroclor 1254		ND	U	13	"	"	"	"	8082A
Aroclor-1260		18		13	"	"	"	"	8082A
Aroclor 1262		ND	U	13	"	"	"	"	8082A
Aroclor 1268		ND	U	13	"	"	"	"	8082A

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-03									**Soil - Sampled: 05/14/18 16:15**
Sample ID: R0-3-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Surrogate: Tetrachloro-m-xylene		48 %		*20-140%*		*B18E120*	*05/17/18*	*05/22/18*	
Surrogate: Decachlorobiphenyl		38 %		*20-125%*		*"*	*"*	*"*	
Sample ID: R0-3-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Dichlorodifluoromethane		ND	A2, C3, J, U	3.6	"	B18E111	05/15/18	05/16/18	8260C
Chloromethane		ND	U, A2, J	3.6	"	"	"	"	8260C
Vinyl chloride		ND	A2, J, U	3.6	"	"	"	"	8260C
Bromomethane		ND	A2, J, U	3.6	"	"	"	"	8260C
Chloroethane		ND	A2, J, U	3.6	"	"	"	"	8260C
Trichlorofluoromethane		ND	A2, J, U	3.6	"	"	"	"	8260C
1,1-Dichloroethene		ND	A2, J, U	3.6	"	"	"	"	8260C
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	A2, J, U	3.6	"	"	"	"	8260C
Acetone		29	A2, J	29	"	"	"	"	8260C
Carbon disulfide		ND	A2, J, U	3.6	"	"	"	"	8260C
Dichloromethane		ND	J, A2, U	3.6	"	"	"	"	8260C
trans-1,2-Dichloroethene		ND	A2, J, U	3.6	"	"	"	"	8260C
tert-Butyl methyl ether (MTBE)		ND	A2, J, U	14	"	"	"	"	8260C
1,1-Dichloroethane		ND	A2, J, U	3.6	"	"	"	"	8260C
cis-1,2-Dichloroethene		ND	A2, J, U	3.6	"	"	"	"	8260C
2-Butanone (MEK)		ND	A2, J, U	29	"	"	"	"	8260C
Chloroform		ND	A2, J, U	3.6	"	"	"	"	8260C
1,1,1-Trichloroethane		ND	A2, J, U	3.6	"	"	"	"	8260C
Carbon tetrachloride		ND	A2, J, U	3.6	"	"	"	"	8260C
1,1-Dichloropropene		ND	A2, J, U	3.6	"	"	"	"	8260C
Benzene		ND	A2, J, U	3.6	"	"	"	"	8260C
1,2-Dichloroethane		ND	A2, J, U	3.6	"	"	"	"	8260C
Trichloroethene		ND	A2, J, U	3.6	"	"	"	"	8260C
1,2-Dichloropropane		ND	A2, J, U	3.6	"	"	"	"	8260C
Bromodichloromethane		ND	A2, J, U	3.6	"	"	"	"	8260C
cis-1,3-Dichloropropene		ND	A2, J, U	3.6	"	"	"	"	8260C
4-Methyl-2-pentanone (MIBK)		ND	A2, J, U	29	"	"	"	"	8260C
Toluene		ND	A2, J, U	3.6	"	"	"	"	8260C
trans-1,3-Dichloropropene		ND	A2, J, U	3.6	"	"	"	"	8260C
1,1,2-Trichloroethane		ND	A2, J, U	3.6	"	"	"	"	8260C
Tetrachloroethene		ND	A2, J, U	3.6	"	"	"	"	8260C
1,3-Dichloropropane		ND	A2, J, U	3.6	"	"	"	"	8260C
2-Hexanone		ND	A2, J, U	29	"	"	"	"	8260C
Chlorodibromomethane		ND	A2, J, U	3.6	"	"	"	"	8260C

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1805029-03**									**Soil - Sampled: 05/14/18 16:15**
Sample ID: **R0-3-0.5**									**Volatile Organic Compounds by EPA Method 8260C**
1,2-Dibromoethane (EDB)		ND	A2, J, U	3.6	ug/kg dry	B18E111	05/15/18	05/16/18	8260C
Chlorobenzene		ND	A2, J, U	3.6	"	"	"	"	8260C
Ethylbenzene		ND	A2, J, U	3.6	"	"	"	"	8260C
m&p-Xylene		ND	A2, J, U	7.2	"	"	"	"	8260C
o-Xylene		ND	A2, J, U	3.6	"	"	"	"	8260C
Styrene		ND	U, A2, J	3.6	"	"	"	"	8260C
Bromoform		ND	A2, J, U	3.6	"	"	"	"	8260C
1,1,2,2-Tetrachloroethane		ND	A2, J, U	3.6	"	"	"	"	8260C
1,2,3-Trichloropropane		ND	A2, J, U	3.6	"	"	"	"	8260C
1,3-Dichlorobenzene		ND	A2, J, U	3.6	"	"	"	"	8260C
1,4-Dichlorobenzene		ND	A2, J, U	3.6	"	"	"	"	8260C
1,2-Dichlorobenzene		ND	A2, J, U	3.6	"	"	"	"	8260C
1,2-Dibromo-3-chloropropane		ND	A2, J, U	14	"	"	"	"	8260C
Octanol		17	N TIC, J		"	"	"	"	8260C
Octanone		27	N TIC, J		"	"	"	"	8260C
Surrogate: 1,2-Dichloroethane-d4			126 %	*63-144%*		"	"	"	
Surrogate: Toluene-d8			93 %	*86-111%*		"	"	"	
Surrogate: 4-Bromofluorobenzene			89 %	*81-110%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			106 %	*75-112%*		"	"	"	
Sample ID: **R0-3-0.5**									**Semivolatile Organic Compounds by EPA Method 8270D**
Phenol		ND	U, A2, J	5,200	"	B18E126	05/21/18	05/22/18	8270D
Bis(2-chloroethyl)ether		ND	U, A2, J	1,000	"	"	"	"	8270D
2-Chlorophenol		ND	U, A2, J	5,200	"	"	"	"	8270D
1,3-Dichlorobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
1,4-Dichlorobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
Benzyl alcohol		ND	U, A2, J	5,200	"	"	"	"	8270D
1,2-Dichlorobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
2-Methylphenol		ND	U, A2, J	5,200	"	"	"	"	8270D
Bis(2-chloro-1-methylethyl) ether		ND	U, A2, J	1,000	"	"	"	"	8270D
3&4-Methylphenol		ND	U, J, A2	5,200	"	"	"	"	8270D
N-Nitrosodipropylamine		ND	U, A2, J	1,000	"	"	"	"	8270D
Hexachloroethane		ND	U, A2, J	1,000	"	"	"	"	8270D
Nitrobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
Isophorone		ND	U, A2, J	1,000	"	"	"	"	8270D
2-Nitrophenol		ND	U, A2, J	5,200	"	"	"	"	8270D
2,4-Dimethylphenol		ND	U, A2, J	5,200	"	"	"	"	8270D
Bis(2-chloroethoxy)methane		ND	U, A2, J	1,000	"	"	"	"	8270D

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1805029-03**									**Soil - Sampled: 05/14/18 16:15**
Sample ID: **R0-3-0.5**									**Semivolatile Organic Compounds by EPA Method 8270D**
2,4-Dichlorophenol		ND	U, A2, J	5,200	ug/kg dry	B18E126	05/21/18	05/22/18	8270D
1,2,4-Trichlorobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
Naphthalene		ND	U, A2, J	1,000	"	"	"	"	8270D
4-Chloroaniline		ND	U, A2, J	5,200	"	"	"	"	8270D
Hexachlorobutadiene		ND	A2, J, U	1,000	"	"	"	"	8270D
4-Chloro-3-methylphenol		ND	U, A2, J	5,200	"	"	"	"	8270D
2-Methylnaphthalene		ND	U, A2, J	1,000	"	"	"	"	8270D
Hexachlorocyclopentadiene		ND	U, A2, J	5,200	"	"	"	"	8270D
2,4,6-Trichlorophenol		ND	U, A2, J	5,200	"	"	"	"	8270D
2,4,5-Trichlorophenol		ND	U, A2, J	5,200	"	"	"	"	8270D
2-Chloronaphthalene		ND	U, A2, J	1,000	"	"	"	"	8270D
2-Nitroaniline		ND	U, A2, J	5,200	"	"	"	"	8270D
Dimethyl phthalate		ND	A2, J, U	1,000	"	"	"	"	8270D
2,6-Dinitrotoluene		ND	U, A2, J	1,000	"	"	"	"	8270D
Acenaphthylene		ND	A2, J, U	1,000	"	"	"	"	8270D
3-Nitroaniline		ND	U, A2, J	5,200	"	"	"	"	8270D
Acenaphthene		ND	U, A2, J	1,000	"	"	"	"	8270D
2,4-Dinitrophenol		ND	U, A2, C3, C4, J, Q2	20,000	"	"	"	"	8270D
4-Nitrophenol		ND	U, A2, J	5,200	"	"	"	"	8270D
Dibenzofuran		ND	A2, J, U	1,000	"	"	"	"	8270D
2,4-Dinitrotoluene		ND	U, A2, J	1,000	"	"	"	"	8270D
Diethyl phthalate		ND	U, A2, J	1,000	"	"	"	"	8270D
Fluorene		ND	A2, J, U	1,000	"	"	"	"	8270D
4-Chlorophenyl phenyl ether		ND	U, A2, J	1,000	"	"	"	"	8270D
4-Nitroaniline		ND	U, A2, J, Q2	5,200	"	"	"	"	8270D
4,6-Dinitro-2-methylphenol		ND	U, A2, J	5,200	"	"	"	"	8270D
Diphenyl amine		ND	A2, J, U	1,000	"	"	"	"	8270D
4-Bromophenyl phenyl ether		ND	U, A2, J	1,000	"	"	"	"	8270D
Hexachlorobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
Pentachlorophenol		ND	U, Q2, A2, C4, J	20,000	"	"	"	"	8270D
Phenanthrene		880	A2, C1, J	1,000	"	"	"	"	8270D
Anthracene		ND	A2, J, U	1,000	"	"	"	"	8270D
Carbazole		ND	A2, J, U	1,000	"	"	"	"	8270D
Di-n-butyl phthalate		ND	A2, J, U	1,000	"	"	"	"	8270D
Fluoranthene		1,000	A2, J	1,000	"	"	"	"	8270D
Pyrene		1,600	A2, J	1,000	"	"	"	"	8270D

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-03									**Soil - Sampled: 05/14/18 16:15**
Sample ID: R0-3-0.5									**Semivolatile Organic Compounds by EPA Method 8270D**
Butyl benzyl phthalate		ND	U, A2, J	1,000	ug/kg dry	B18E126	05/21/18	05/22/18	8270D
Benzo(a)anthracene		850	A2, C1, J	1,000	"	"	"	"	8270D
3,3'-Dichlorobenzidine		ND	U, A2, J, Q2	5,200	"	"	"	"	8270D
Chrysene		1,100	A2, J	1,000	"	"	"	"	8270D
Bis(2-ethylhexyl) phthalate		ND	U, A2, J	1,000	"	"	"	"	8270D
Di-n-octyl phthalate		ND	U, A2, C3, J	1,000	"	"	"	"	8270D
Benzo(b)fluoranthene		1,300	A2, J	1,000	"	"	"	"	8270D
Benzo(k)fluoranthene		ND	U, A2, J	1,000	"	"	"	"	8270D
Benzo(a)pyrene		900	J, A2, C1	1,000	"	"	"	"	8270D
Indeno(1,2,3-cd)pyrene		520	A2, C1, J	1,000	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	U, A2, J	1,000	"	"	"	"	8270D
Benzo(g,h,i)perylene		700	A2, C1, J	1,000	"	"	"	"	8270D
Alkane: Straight-Chain		5,700	N TIC, J		"	"	"	"	8270D
Surrogate: 2-Fluorophenol			95 %	*20-111%*		"	"	"	
Surrogate: Phenol-d5			93 %	*20-111%*		"	"	"	
Surrogate: 2-Chlorophenol-d4			95 %	*20-121%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			87 %	*20-136%*		"	"	"	
Surrogate: Nitrobenzene-d5			89 %	*20-125%*		"	"	"	
Surrogate: 2-Fluorobiphenyl			86 %	*20-121%*		"	"	"	
Surrogate: 2,4,6-Tribromophenol			111 %	*20-146%*		"	"	"	
Surrogate: Terphenyl-d14			116 %	*20-131%*		"	"	"	
Sample ID: R0-3-0.5									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		99		1	%	B18E135	05/23/18	05/24/18	3550C
Lab ID: 1805029-04									**Soil - Sampled: 05/14/18 16:20**
Sample ID: R0-4-0.5									**Metals by EPA 6000/7000 Series Methods**
Mercury		0.25	A2, J, Q6	0.024	mg/kg dry	B18E116	05/17/18	05/17/18	7473
Arsenic		12		2	"	B18E115	05/16/18	05/23/18	6010C
Barium		150		5.1	"	"	"	"	6010C
Cadmium		1.5		0.51	"	"	"	"	6010C
Chromium		55	J, Q4	1	"	"	"	"	6010C
Lead		610		3	"	"	"	"	6010C
Selenium		ND	U	2	"	"	"	"	6010C
Silver		ND	U	1	"	"	"	"	6010C
Sample ID: R0-4-0.5									**Purgeable Petroleum Hydrocarbons**
TPH - Gasoline Range Organics		ND	U, A2, J, Q6	6	"	B18E117	05/15/18	05/17/18	8015C
Surrogate: a,a,a-Trifluorotoluene			90 %	*76-124%*		"	"	"	
Sample ID: R0-4-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Diesel Range Organics		92	J, A2, F13	10	"	B18E114	05/16/18	05/21/18	8015C

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Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1805029-04									**Soil - Sampled: 05/14/18 16:20**
Sample ID: R0-4-0.5									**Extractable Petroleum Hydrocarbons**
TPH - Oil Range Organics		820	A2, F13, J	41	mg/kg dry	B18E114	05/16/18	05/21/18	8015C
Surrogate: Hexacosane			54 %	*20-111%*		"	"	"	
Sample ID: R0-4-0.5									**Polychlorinated Biphenyls by EPA Method 8082A**
Aroclor 1016		ND	U	13	ug/kg dry	B18E120	05/17/18	05/22/18	8082A
Aroclor 1221		ND	U	27	"	"	"	"	8082A
Aroclor 1232		ND	U	13	"	"	"	"	8082A
Aroclor 1242		ND	U	13	"	"	"	"	8082A
Aroclor 1248		ND	U	13	"	"	"	"	8082A
Aroclor 1254		ND	U	13	"	"	"	"	8082A
Aroclor-1260		23		13	"	"	"	"	8082A
Aroclor 1262		ND	U	13	"	"	"	"	8082A
Aroclor 1268		ND	U	13	"	"	"	"	8082A
Surrogate: Tetrachloro-m-xylene			61 %	*20-140%*		"	"	"	
Surrogate: Decachlorobiphenyl			49 %	*20-125%*		"	"	"	
Sample ID: R0-4-0.5									**Volatile Organic Compounds by EPA Method 8260C**
Dichlorodifluoromethane		ND	A2, C3, J, U	3.3	"	B18E111	05/15/18	05/16/18	8260C
Chloromethane		ND	U, A2, J	3.3	"	"	"	"	8260C
Vinyl chloride		ND	A2, J, U	3.3	"	"	"	"	8260C
Bromomethane		ND	J, A2, U	3.3	"	"	"	"	8260C
Chloroethane		ND	A2, J, U	3.3	"	"	"	"	8260C
Trichlorofluoromethane		ND	A2, J, U	3.3	"	"	"	"	8260C
1,1-Dichloroethene		ND	A2, J, U	3.3	"	"	"	"	8260C
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	A2, J, U	3.3	"	"	"	"	8260C
Acetone		54	A2, J	27	"	"	"	"	8260C
Carbon disulfide		ND	A2, J, U	3.3	"	"	"	"	8260C
Dichloromethane		ND	A2, J, U	3.3	"	"	"	"	8260C
trans-1,2-Dichloroethene		ND	U, A2, J	3.3	"	"	"	"	8260C
tert-Butyl methyl ether (MTBE)		ND	A2, J, U	13	"	"	"	"	8260C
1,1-Dichloroethane		ND	A2, J, U	3.3	"	"	"	"	8260C
cis-1,2-Dichloroethene		ND	U, A2, J	3.3	"	"	"	"	8260C
2-Butanone (MEK)		ND	U, A2, J	27	"	"	"	"	8260C
Chloroform		ND	U, A2, J	3.3	"	"	"	"	8260C
1,1,1-Trichloroethane		ND	A2, J, U	3.3	"	"	"	"	8260C
Carbon tetrachloride		ND	U, A2, J	3.3	"	"	"	"	8260C
1,1-Dichloropropene		ND	A2, J, U	3.3	"	"	"	"	8260C
Benzene		ND	A2, J, U	3.3	"	"	"	"	8260C

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Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1805029-04**									**Soil - Sampled: 05/14/18 16:20**
Sample ID: **R0-4-0.5**									**Volatile Organic Compounds by EPA Method 8260C**
1,2-Dichloroethane		ND	A2, J, U	3.3	ug/kg dry	B18E111	05/15/18	05/16/18	8260C
Trichloroethene		ND	A2, J, Q4, U	3.3	"	"	"	"	8260C
1,2-Dichloropropane		ND	A2, J, U	3.3	"	"	"	"	8260C
Bromodichloromethane		ND	A2, J, U	3.3	"	"	"	"	8260C
cis-1,3-Dichloropropene		ND	A2, J, U	3.3	"	"	"	"	8260C
4-Methyl-2-pentanone (MIBK)		ND	A2, J, Q4, U	27	"	"	"	"	8260C
Toluene		ND	U, A2, J	3.3	"	"	"	"	8260C
trans-1,3-Dichloropropene		ND	A2, J, U	3.3	"	"	"	"	8260C
1,1,2-Trichloroethane		ND	A2, J, U	3.3	"	"	"	"	8260C
Tetrachloroethene		ND	U, A2, J	3.3	"	"	"	"	8260C
1,3-Dichloropropane		ND	A2, J, U	3.3	"	"	"	"	8260C
2-Hexanone		ND	A2, J, U	27	"	"	"	"	8260C
Chlorodibromomethane		ND	U, A2, J	3.3	"	"	"	"	8260C
1,2-Dibromoethane (EDB)		ND	A2, J, U	3.3	"	"	"	"	8260C
Chlorobenzene		ND	U, A2, J	3.3	"	"	"	"	8260C
Ethylbenzene		ND	U, A2, J	3.3	"	"	"	"	8260C
m&p-Xylene		ND	U, A2, J	6.7	"	"	"	"	8260C
o-Xylene		ND	A2, J, U	3.3	"	"	"	"	8260C
Styrene		ND	U, A2, J	3.3	"	"	"	"	8260C
Bromoform		ND	A2, J, U	3.3	"	"	"	"	8260C
1,1,2,2-Tetrachloroethane		ND	A2, J, U	3.3	"	"	"	"	8260C
1,2,3-Trichloropropane		ND	A2, J, U	3.3	"	"	"	"	8260C
1,3-Dichlorobenzene		ND	U, A2, J, Q4	3.3	"	"	"	"	8260C
1,4-Dichlorobenzene		ND	A2, J, Q4, U	3.3	"	"	"	"	8260C
1,2-Dichlorobenzene		ND	A2, J, Q4, U	3.3	"	"	"	"	8260C
1,2-Dibromo-3-chloropropane		ND	U, A2, J	13	"	"	"	"	8260C
Surrogate: 1,2-Dichloroethane-d4			124 %	*63-144%*		"	"	"	
Surrogate: Toluene-d8			91 %	*86-111%*		"	"	"	
Surrogate: 4-Bromofluorobenzene			93 %	*81-110%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			106 %	*75-112%*		"	"	"	
Sample ID: **R0-4-0.5**									**Semivolatile Organic Compounds by EPA Method 8270D**
Phenol		ND	U, A2, J	5,200	"	B18E126	05/21/18	05/22/18	8270D
Bis(2-chloroethyl)ether		ND	U, A2, J	1,000	"	"	"	"	8270D
2-Chlorophenol		ND	U, A2, J	5,200	"	"	"	"	8270D
1,3-Dichlorobenzene		ND	U, J, A2	1,000	"	"	"	"	8270D
1,4-Dichlorobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D

United States Environmental Protection Agency
Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1805029-04**									**Soil - Sampled: 05/14/18 16:20**
Sample ID: **R0-4-0.5**									**Semivolatile Organic Compounds by EPA Method 8270D**
Benzyl alcohol		ND	U, A2, J	5,200	ug/kg dry	B18E126	05/21/18	05/22/18	8270D
1,2-Dichlorobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
2-Methylphenol		ND	U, A2, J	5,200	"	"	"	"	8270D
Bis(2-chloro-1-methylethyl) ether		ND	U, A2, J	1,000	"	"	"	"	8270D
3&4-Methylphenol		ND	U, A2, J	5,200	"	"	"	"	8270D
N-Nitrosodipropylamine		ND	U, A2, J	1,000	"	"	"	"	8270D
Hexachloroethane		ND	U, A2, J	1,000	"	"	"	"	8270D
Nitrobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
Isophorone		ND	U, A2, J	1,000	"	"	"	"	8270D
2-Nitrophenol		ND	U, A2, J	5,200	"	"	"	"	8270D
2,4-Dimethylphenol		ND	U, A2, J	5,200	"	"	"	"	8270D
Bis(2-chloroethoxy)methane		ND	U, A2, J	1,000	"	"	"	"	8270D
2,4-Dichlorophenol		ND	U, A2, J	5,200	"	"	"	"	8270D
1,2,4-Trichlorobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
Naphthalene		ND	U, A2, J	1,000	"	"	"	"	8270D
4-Chloroaniline		ND	U, A2, J, Q4	5,200	"	"	"	"	8270D
Hexachlorobutadiene		ND	U, A2, J	1,000	"	"	"	"	8270D
4-Chloro-3-methylphenol		ND	U, A2, J	5,200	"	"	"	"	8270D
2-Methylnaphthalene		ND	U, A2, J	1,000	"	"	"	"	8270D
Hexachlorocyclopentadiene		ND	U, Q4, A2, J	5,200	"	"	"	"	8270D
2,4,6-Trichlorophenol		ND	U, A2, J	5,200	"	"	"	"	8270D
2,4,5-Trichlorophenol		ND	U, A2, J	5,200	"	"	"	"	8270D
2-Chloronaphthalene		ND	U, A2, J	1,000	"	"	"	"	8270D
2-Nitroaniline		ND	U, A2, J	5,200	"	"	"	"	8270D
Dimethyl phthalate		ND	U, A2, J	1,000	"	"	"	"	8270D
2,6-Dinitrotoluene		ND	U, A2, J	1,000	"	"	"	"	8270D
Acenaphthylene		ND	U, A2, J	1,000	"	"	"	"	8270D
3-Nitroaniline		ND	U, A2, J, Q4	5,200	"	"	"	"	8270D
Acenaphthene		ND	U, A2, J	1,000	"	"	"	"	8270D
2,4-Dinitrophenol		ND	U, A2, C3, C4, J, Q2, Q4	20,000	"	"	"	"	8270D
4-Nitrophenol		ND	U, A2, J	5,200	"	"	"	"	8270D
Dibenzofuran		ND	U, A2, J	1,000	"	"	"	"	8270D
2,4-Dinitrotoluene		ND	U, A2, J	1,000	"	"	"	"	8270D
Diethyl phthalate		ND	U, A2, J	1,000	"	"	"	"	8270D
Fluorene		ND	U, A2, J	1,000	"	"	"	"	8270D
4-Chlorophenyl phenyl ether		ND	U, A2, J	1,000	"	"	"	"	8270D

United States Environmental Protection Agency
Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: **1805029-04**									**Soil - Sampled: 05/14/18 16:20**
Sample ID: **R0-4-0.5**									**Semivolatile Organic Compounds by EPA Method 8270D**
4-Nitroaniline		ND	U, Q4, A2, J, Q2	5,200	ug/kg dry	B18E126	05/21/18	05/22/18	8270D
4,6-Dinitro-2-methylphenol		ND	U, A2, J, Q4	5,200	"	"	"	"	8270D
Diphenyl amine		ND	U, A2, J	1,000	"	"	"	"	8270D
4-Bromophenyl phenyl ether		ND	U, A2, J	1,000	"	"	"	"	8270D
Hexachlorobenzene		ND	U, A2, J	1,000	"	"	"	"	8270D
Pentachlorophenol		ND	U, A2, C4, J, Q2, Q4	20,000	"	"	"	"	8270D
Phenanthrene		570	A2, C1, J	1,000	"	"	"	"	8270D
Anthracene		ND	U, A2, J	1,000	"	"	"	"	8270D
Carbazole		ND	U, A2, J, Q4	1,000	"	"	"	"	8270D
Di-n-butyl phthalate		580	A2, C1, J	1,000	"	"	"	"	8270D
Fluoranthene		1,300	A2, J, Q4	1,000	"	"	"	"	8270D
Pyrene		1,600	A2, J	1,000	"	"	"	"	8270D
Butyl benzyl phthalate		18,000	A2, J	1,000	"	"	"	"	8270D
Benzo(a)anthracene		600	A2, C1, J	1,000	"	"	"	"	8270D
3,3'-Dichlorobenzidine		ND	U, Q4, A2, J, Q2	5,200	"	"	"	"	8270D
Chrysene		1,400	J, Q6, A2	1,000	"	"	"	"	8270D
Bis(2-ethylhexyl) phthalate		4,400	A2, J	1,000	"	"	"	"	8270D
Di-n-octyl phthalate		ND	U, A2, C3, J, Q4	1,000	"	"	"	"	8270D
Benzo(b)fluoranthene		1,400	A2, J	1,000	"	"	"	"	8270D
Benzo(k)fluoranthene		ND	U, A2, J, Q4	1,000	"	"	"	"	8270D
Benzo(a)pyrene		550	A2, C1, J, Q4	1,000	"	"	"	"	8270D
Indeno(1,2,3-cd)pyrene		ND	U, A2, J, Q6	1,000	"	"	"	"	8270D
Dibenz(a,h)anthracene		ND	U, A2, J, Q4	1,000	"	"	"	"	8270D
Benzo(g,h,i)perylene		880	Q4, Q6, A2, C1, J	1,000	"	"	"	"	8270D
Hexadecanoic acid		6,500	N TIC, J		"	"	"	"	8270D
Octadecanoic acid		4,100	N TIC, J		"	"	"	"	8270D
Surrogate: 2-Fluorophenol			98 %	*20-111%*		"	"	"	
Surrogate: Phenol-d5			95 %	*20-111%*		"	"	"	
Surrogate: 2-Chlorophenol-d4			98 %	*20-121%*		"	"	"	
Surrogate: 1,2-Dichlorobenzene-d4			90 %	*20-136%*		"	"	"	
Surrogate: Nitrobenzene-d5			91 %	*20-125%*		"	"	"	
Surrogate: 2-Fluorobiphenyl			87 %	*20-121%*		"	"	"	
Surrogate: 2,4,6-Tribromophenol			116 %	*20-146%*		"	"	"	
Surrogate: Terphenyl-d14			126 %	*20-131%*		"	"	"	
Sample ID: **R0-4-0.5**									**Conventional Chemistry Parameters by APHA/EPA Methods**
% Solids		99		1	%	B18E135	05/23/18	05/24/18	3550C

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E111 - 5035A VOA Solid - VOCs, solids, low level										**Prepared & Analyzed: 05/16/18**
										Volatile Organic Compounds by EPA Method 8260C - Quality Control
Blank (B18E111-BLK1)										
Dichlorodifluoromethane	ND	C3, J, U	2.5	ug/kg wet						
Chloromethane	ND	U	2.5	"						
Vinyl chloride	ND	U	2.5	"						
Bromomethane	ND	U	2.5	"						
Chloroethane	ND	U	2.5	"						
Trichlorofluoromethane	ND	U	2.5	"						
1,1-Dichloroethene	ND	U	2.5	"						
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	2.5	"						
Acetone	ND	U	20	"						
Carbon disulfide	ND	U	2.5	"						
Dichloromethane	ND	U	2.5	"						
trans-1,2-Dichloroethene	ND	U	2.5	"						
tert-Butyl methyl ether (MTBE)	ND	U	10	"						
1,1-Dichloroethane	ND	U	2.5	"						
cis-1,2-Dichloroethene	ND	U	2.5	"						
2-Butanone (MEK)	ND	U	20	"						
Chloroform	ND	U	2.5	"						
1,1,1-Trichloroethane	ND	U	2.5	"						
Carbon tetrachloride	ND	U	2.5	"						
1,1-Dichloropropene	ND	U	2.5	"						
Benzene	ND	U	2.5	"						
1,2-Dichloroethane	ND	U	2.5	"						
Trichloroethene	ND	U	2.5	"						
1,2-Dichloropropane	ND	U	2.5	"						
Bromodichloromethane	ND	U	2.5	"						
cis-1,3-Dichloropropene	ND	U	2.5	"						
4-Methyl-2-pentanone (MIBK)	ND	U	20	"						
Toluene	ND	U	2.5	"						
trans-1,3-Dichloropropene	ND	U	2.5	"						
1,1,2-Trichloroethane	ND	U	2.5	"						
Tetrachloroethene	ND	U	2.5	"						
1,3-Dichloropropane	ND	U	2.5	"						
2-Hexanone	ND	U	20	"						
Chlorodibromomethane	ND	U	2.5	"						
1,2-Dibromoethane (EDB)	ND	U	2.5	"						
Chlorobenzene	ND	U	2.5	"						
Ethylbenzene	ND	U	2.5	"						
m&p-Xylene	ND	J, U	5	"						
o-Xylene	ND	U	2.5	"						
Styrene	ND	U	2.5	"						
Bromoform	ND	U	2.5	"						

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E111 - 5035A VOA Solid - VOCs, solids, low level										**Prepared & Analyzed: 05/16/18**
										Volatile Organic Compounds by EPA Method 8260C - Quality Control
Blank (B18E111-BLK1)										
1,1,2,2-Tetrachloroethane	ND	U	2.5	"						
1,2,3-Trichloropropane	ND	U	2.5	"						
1,3-Dichlorobenzene	ND	U	2.5	"						
1,4-Dichlorobenzene	ND	U	2.5	"						
1,2-Dichlorobenzene	ND	U	2.5	"						
1,2-Dibromo-3-chloropropane	ND	U	10	"						
Surrogate: 1,2-Dichloroethane-d4	*27.2*			*"*	*25.0*		109	*63-144*		
Surrogate: Toluene-d8	*22.2*			*"*	*25.0*		89	*86-111*		
Surrogate: 4-Bromofluorobenzene	*24.4*			*"*	*25.0*		98	*81-110*		
Surrogate: 1,2-Dichlorobenzene-d4	*26.5*			*"*	*25.0*		106	*75-112*		
LCS (B18E111-BS1)										
Dichlorodifluoromethane	26.4		2.5	ug/kg wet	25.0		106	75-120		
Chloromethane	25.6		2.5	"	25.0		102	69-137		
Vinyl chloride	26.6		2.5	"	25.0		106	79-116		
Bromomethane	25.8		2.5	"	25.0		103	76-132		
Chloroethane	25.9		2.5	"	25.0		103	74-130		
Trichlorofluoromethane	27.2		2.5	"	25.0		109	58-133		
1,1-Dichloroethene	26.8		2.5	"	25.0		107	74-119		
1,1,2-Trichloro-1,2,2-trifluoroethane	28		2.5	"	25.0		112	66-128		
Acetone	202		20	"	200		101	45-144		
Carbon disulfide	27		2.5	"	25.0		108	70-130		
Dichloromethane	25		2.5	"	25.0		100	20-200		
trans-1,2-Dichloroethene	27.3		2.5	"	25.0		109	77-117		
tert-Butyl methyl ether (MTBE)	103		10	"	100		103	79-122		
1,1-Dichloroethane	26.6		2.5	"	25.0		106	82-112		
cis-1,2-Dichloroethene	27		2.5	"	25.0		108	68-124		
2-Butanone (MEK)	198		20	"	200		99	65-124		
Chloroform	26.2		2.5	"	25.0		105	63-125		
1,1,1-Trichloroethane	28.1		2.5	"	25.0		112	65-124		
Carbon tetrachloride	28.3		2.5	"	25.0		113	54-130		
1,1-Dichloropropene	26.5		2.5	"	25.0		106	73-121		
Benzene	27		2.5	"	25.0		108	81-117		
1,2-Dichloroethane	26.4		2.5	"	25.0		105	78-117		
Trichloroethene	26.5		2.5	"	25.0		106	75-117		
1,2-Dichloropropane	27.1		2.5	"	25.0		109	76-120		
Bromodichloromethane	26.9		2.5	"	25.0		108	67-122		
cis-1,3-Dichloropropene	25.5		2.5	"	25.0		102	51-136		
4-Methyl-2-pentanone (MIBK)	208		20	"	200		104	73-123		
Toluene	28		2.5	"	25.0		112	78-115		

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E111 - 5035A VOA Solid - VOCs, solids, low level										**Prepared & Analyzed: 05/16/18**
										Volatile Organic Compounds by EPA Method 8260C - Quality Control
LCS (B18E111-BS1)										
trans-1,3-Dichloropropene	25.4		2.5	"	25.0		102	42-140		
1,1,2-Trichloroethane	27.6		2.5	"	25.0		110	80-114		
Tetrachloroethene	28		2.5	"	25.0		112	75-116		
1,3-Dichloropropane	24.8		2.5	"	25.0		99	78-114		
2-Hexanone	189		20	"	200		94	59-132		
Chlorodibromomethane	26.6		2.5	"	25.0		106	56-132		
1,2-Dibromoethane (EDB)	25.6		2.5	"	25.0		102	70-123		
Chlorobenzene	27.4		2.5	"	25.0		110	80-113		
Ethylbenzene	28.3		2.5	"	25.0		113	64-127		
m&p-Xylene	60.9		5	"	50.0		122	64-124		
o-Xylene	29		2.5	"	25.0		116	48-137		
Styrene	29.5		2.5	"	25.0		118	49-133		
Bromoform	27.5		2.5	"	25.0		110	46-140		
1,1,2,2-Tetrachloroethane	26.3		2.5	"	25.0		105	70-121		
1,2,3-Trichloropropane	28		2.5	"	25.0		112	75-117		
1,3-Dichlorobenzene	27.8		2.5	"	25.0		111	65-122		
1,4-Dichlorobenzene	27.5		2.5	"	25.0		110	63-122		
1,2-Dichlorobenzene	26.7		2.5	"	25.0		107	72-118		
1,2-Dibromo-3-chloropropane	102		10	"	100		102	51-134		
Surrogate: 1,2-Dichloroethane-d4	*25.6*			*"*	*25.0*		102	*63-144*		
Surrogate: Toluene-d8	*27.6*			*"*	*25.0*		111	*86-111*		
Surrogate: 4-Bromofluorobenzene	*27.3*			*"*	*25.0*		109	*81-110*		
Surrogate: 1,2-Dichlorobenzene-d4	*27.5*			*"*	*25.0*		110	*75-112*		
Matrix Spike (B18E111-MS1)		**Source: 1805029-04**								
Dichlorodifluoromethane	37.1		3.8	ug/kg dry	38.1	ND	98	62-122		
Chloromethane	37.5		3.8	"	38.1	ND	98	60-120		
Vinyl chloride	37.8		3.8	"	38.1	ND	99	62-122		
Bromomethane	33.7		3.8	"	38.1	ND	89	69-129		
Chloroethane	37.1		3.8	"	38.1	ND	97	66-126		
Trichlorofluoromethane	36.6		3.8	"	38.1	ND	96	64-124		
1,1-Dichloroethene	37.1		3.8	"	38.1	ND	98	63-123		
1,1,2-Trichloro-1,2,2-trifluoroethane	35.6		3.8	"	38.1	ND	94	63-123		
Acetone	359		30	"	305	54.3	100	57-117		
Dichloromethane	36.2		3.8	"	38.1	ND	95	48-110		
trans-1,2-Dichloroethene	36.3		3.8	"	38.1	ND	95	63-123		
tert-Butyl methyl ether (MTBE)	158		15	"	152	ND	104	62-122		
1,1-Dichloroethane	38.2		3.8	"	38.1	ND	100	62-122		
cis-1,2-Dichloroethene	37		3.8	"	38.1	ND	97	62-122		
2-Butanone (MEK)	286		30	"	305	ND	94	61-121		

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E111 - 5035A VOA Solid - VOCs, solids, low level										**Prepared: 05/15/18 Analyzed: 05/16/18**
										Volatile Organic Compounds by EPA Method 8260C - Quality Control
Matrix Spike (B18E111-MS1)		**Source: 1805029-04**								
Chloroform	38		3.8	"	38.1	ND	100	61-121		
1,1,1-Trichloroethane	41		3.8	"	38.1	ND	108	59-119		
Carbon tetrachloride	38.6		3.8	"	38.1	ND	101	59-119		
1,1-Dichloropropene	32.3		3.8	"	38.1	ND	85	63-123		
Benzene	37.4	Q7, J	3.8	"	38.1	ND	98	65-125		
1,2-Dichloroethane	37.8		3.8	"	38.1	ND	99	62-122		
Trichloroethene	31.4		3.8	"	38.1	ND	83	79-139		
1,2-Dichloropropane	37.2		3.8	"	38.1	ND	98	63-123		
Bromodichloromethane	35.4		3.8	"	38.1	ND	93	61-121		
cis-1,3-Dichloropropene	26.7		3.8	"	38.1	ND	70	61-121		
4-Methyl-2-pentanone (MIBK)	379		30	"	305	ND	**124**	62-122		
Toluene	42.6	Q7, J	3.8	"	38.1	ND	112	66-126		
trans-1,3-Dichloropropene	31.6		3.8	"	38.1	ND	83	60-120		
1,1,2-Trichloroethane	43.7		3.8	"	38.1	ND	115	59-119		
Tetrachloroethene	36.3		3.8	"	38.1	ND	95	64-124		
1,3-Dichloropropane	39.7		3.8	"	38.1	ND	104	62-122		
2-Hexanone	277		30	"	305	ND	91	64-124		
Chlorodibromomethane	37.7		3.8	"	38.1	ND	99	62-122		
1,2-Dibromoethane (EDB)	36.4		3.8	"	38.1	ND	96	61-121		
Chlorobenzene	34.1		3.8	"	38.1	ND	89	63-123		
Ethylbenzene	34.4	Q7, J	3.8	"	38.1	ND	90	67-127		
m&p-Xylene	71.7	Q7, J	7.6	"	76.1	ND	94	66-126		
o-Xylene	32.6	Q7, J	3.8	"	38.1	ND	86	66-126		
Styrene	32.1	Q7, J	3.8	"	38.1	ND	84	64-124		
Bromoform	34		3.8	"	38.1	ND	89	61-121		
1,1,2,2-Tetrachloroethane	32.8		3.8	"	38.1	ND	86	70-130		
1,2,3-Trichloropropane	37.7		3.8	"	38.1	ND	99	59-119		
1,3-Dichlorobenzene	20		3.8	"	38.1	ND	**52**	61-121		
1,4-Dichlorobenzene	19.5		3.8	"	38.1	ND	**51**	61-121		
1,2-Dichlorobenzene	17.1		3.8	"	38.1	ND	**45**	59-119		
1,2-Dibromo-3-chloropropane	89.5		15	"	152	ND	59	56-116		
Surrogate: 1,2-Dichloroethane-d4	*26.2*			*"*	*25.0*		105	*63-144*		
Surrogate: Toluene-d8	*31.5*			*"*	*25.0*		**126**	*86-111*		
Surrogate: 4-Bromofluorobenzene	*21.8*			*"*	*25.0*		87	*81-110*		
Surrogate: 1,2-Dichlorobenzene-d4	*15.3*			*"*	*25.0*		**61**	*75-112*		
Matrix Spike Dup (B18E111-MSD1)		**Source: 1805029-04**								
Dichlorodifluoromethane	28.5		3.2	ug/kg dry	32.2	ND	89	62-122	10	20
Chloromethane	31.1		3.2	"	32.2	ND	97	60-120	2	20
Vinyl chloride	29.4		3.2	"	32.2	ND	91	62-122	8	20

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E111 - 5035A VOA Solid - VOCs, solids, low level									**Prepared: 05/15/18 Analyzed: 05/16/18**	
									Volatile Organic Compounds by EPA Method 8260C - Quality Control	
Matrix Spike Dup (B18E111-MSD1)		**Source: 1805029-04**								
Bromomethane	28.4		3.2	"	32.2	ND	88	69-129	0.2	20
Chloroethane	29.5		3.2	"	32.2	ND	92	66-126	6	20
Trichlorofluoromethane	28.5		3.2	"	32.2	ND	88	64-124	8	20
1,1-Dichloroethene	28.9		3.2	"	32.2	ND	90	63-123	8	20
1,1,2-Trichloro-1,2,2-trifluoroethane	27.8		3.2	"	32.2	ND	87	63-123	8	20
Acetone	276		26	"	257	54.3	86	57-117	15	20
Dichloromethane	28.1		3.2	"	32.2	ND	87	48-110	9	20
trans-1,2-Dichloroethene	27.6		3.2	"	32.2	ND	86	63-123	11	20
tert-Butyl methyl ether (MTBE)	122		13	"	129	ND	95	62-122	9	20
1,1-Dichloroethane	29.2		3.2	"	32.2	ND	91	62-122	10	20
cis-1,2-Dichloroethene	27.8		3.2	"	32.2	ND	86	62-122	12	20
2-Butanone (MEK)	215		26	"	257	ND	84	61-121	12	20
Chloroform	27.2		3.2	"	32.2	ND	85	61-121	16	20
1,1,1-Trichloroethane	31.6		3.2	"	32.2	ND	98	59-119	9	20
Carbon tetrachloride	29.7		3.2	"	32.2	ND	92	59-119	9	20
1,1-Dichloropropene	25.2		3.2	"	32.2	ND	78	63-123	8	20
Benzene	28.6	Q7, J	3.2	"	32.2	ND	89	65-125	10	20
1,2-Dichloroethane	29		3.2	"	32.2	ND	90	62-122	10	20
Trichloroethene	23.7		3.2	"	32.2	ND	**74**	79-139	11	20
1,2-Dichloropropane	27.9		3.2	"	32.2	ND	87	63-123	12	20
Bromodichloromethane	26.7		3.2	"	32.2	ND	83	61-121	11	20
cis-1,3-Dichloropropene	21.8		3.2	"	32.2	ND	68	61-121	3	20
4-Methyl-2-pentanone (MIBK)	285		26	"	257	ND	111	62-122	12	20
Toluene	30.8	Q7, J	3.2	"	32.2	ND	96	66-126	16	20
trans-1,3-Dichloropropene	26.9		3.2	"	32.2	ND	84	60-120	0.8	20
1,1,2-Trichloroethane	32.7		3.2	"	32.2	ND	102	59-119	12	20
Tetrachloroethene	27		3.2	"	32.2	ND	84	64-124	13	20
1,3-Dichloropropane	30.7		3.2	"	32.2	ND	95	62-122	9	20
2-Hexanone	226		26	"	257	ND	88	64-124	4	20
Chlorodibromomethane	28.4		3.2	"	32.2	ND	88	62-122	12	20
1,2-Dibromoethane (EDB)	29.9		3.2	"	32.2	ND	93	61-121	3	20
Chlorobenzene	26.6		3.2	"	32.2	ND	83	63-123	8	20
Ethylbenzene	26.9	Q7, J	3.2	"	32.2	ND	84	67-127	8	20
m&p-Xylene	55	Q7, J	6.4	"	64.3	ND	85	66-126	10	20
o-Xylene	26.4	Q7, J	3.2	"	32.2	ND	82	66-126	4	20
Styrene	25	Q7, J	3.2	"	32.2	ND	78	64-124	8	20
Bromoform	25.8		3.2	"	32.2	ND	80	61-121	11	20
1,1,2,2-Tetrachloroethane	27.1		3.2	"	32.2	ND	84	70-130	2	20
1,2,3-Trichloropropane	30		3.2	"	32.2	ND	93	59-119	6	20
1,3-Dichlorobenzene	17.9		3.2	"	32.2	ND	**56**	61-121	6	20
1,4-Dichlorobenzene	18.1		3.2	"	32.2	ND	**56**	61-121	9	20
1,2-Dichlorobenzene	16.2		3.2	"	32.2	ND	**50**	59-119	12	20

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E111 - 5035A VOA Solid - VOCs, solids, low level								**Prepared: 05/15/18 Analyzed: 05/16/18**		
								Volatile Organic Compounds by EPA Method 8260C - Quality Control		
Matrix Spike Dup (B18E111-MSD1)		**Source: 1805029-04**								
1,2-Dibromo-3-chloropropane	83.1		13	"	129	ND	65	56-116	9	20
Surrogate: 1,2-Dichloroethane-d4	*27.3*			"	*25.0*		109	*63-144*		
Surrogate: Toluene-d8	*29.6*			"	*25.0*		**118**	*86-111*		
Surrogate: 4-Bromofluorobenzene	*22.8*			"	*25.0*		91	*81-110*		
Surrogate: 1,2-Dichlorobenzene-d4	*17.9*			"	*25.0*		**71**	*75-112*		
Batch B18E114 - 3545A ASE/PFE - TPH - Extractable								**Prepared: 05/16/18 Analyzed: 05/21/18**		
								Extractable Petroleum Hydrocarbons - Quality Control		
Blank (B18E114-BLK1)										
TPH - Diesel Range Organics	ND	U	5	mg/kg wet						
TPH - Oil Range Organics	ND	U	20	"						
Surrogate: Hexacosane	*3.53*			"	*5.00*		71	*20-111*		
LCS (B18E114-BS1)										
TPH - Diesel Range Organics	44.3		5	mg/kg wet	50.0		89	59-113		
Surrogate: Hexacosane	*3.99*			"	*5.00*		80	*20-111*		
Matrix Spike (B18E114-MS1)		**Source: 1805029-04**								
TPH - Diesel Range Organics	117		10	mg/kg dry	51.3	92.1	48	21-112		
Surrogate: Hexacosane	*2.49*			"	*5.13*		49	*20-111*		
Matrix Spike Dup (B18E114-MSD1)		**Source: 1805029-04**								
TPH - Diesel Range Organics	114		10	mg/kg dry	50.9	92.1	44	21-112	2	50
Surrogate: Hexacosane	*2.13*			"	*5.09*		42	*20-111*		
Batch B18E115 - 3050B Sld Acid Dig - Metals by 6010								**Prepared: 05/16/18 Analyzed: 05/23/18**		
								Metals by EPA 6000/7000 Series Methods - Quality Control		
Blank (B18E115-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 (B18E115-MS2)		**Source: 1805029-04**								

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:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E115 - 3050B Sld Acid Dig - Metals by 6010									**Prepared: 05/16/18 Analyzed: 05/23/18**	
									Metals by EPA 6000/7000 Series Methods - Quality Control	
Matrix Spike (B18E115-MS2)		**Source: 1805029-04**								
Arsenic	422		2	mg/kg dry	402	12.1	102	75-125		
Barium	625		5.1	"	402	148	119	75-125		
Cadmium	11.4		0.51	"	10.0	1.53	98	75-125		
Chromium	155		1	"	40.2	55.5	**248**	75-125		
Lead	1,420	Q10	3	"	100	615	**798**	75-125		
Selenium	381		2	"	402	ND	95	75-125		
Silver	9.77		1	"	10.0	ND	97	75-125		
Matrix Spike Dup (B18E115-MSD2)		**Source: 1805029-04**								
Arsenic	400		2	mg/kg dry	390	12.1	100	75-125	5	20
Barium	529		5.1	"	390	148	98	75-125	17	20
Cadmium	10.4		0.51	"	9.75	1.53	91	75-125	9	20
Chromium	124		1	"	39.0	55.5	**175**	75-125	**22**	20
Lead	859	Q10	3	"	97.5	615	**251**	75-125	**49**	20
Selenium	361		2	"	390	ND	93	75-125	5	20
Silver	9.38		1	"	9.75	ND	96	75-125	4	20
Reference (B18E115-SRM1)										
Arsenic	284		2	mg/kg wet	252		113	60.9-139		
Barium	ND	U	5	"	1.59			62.5-138		
Cadmium	10.7		0.5	"	10.9		98	70.6-128		
Chromium	28.5		1	"	27.0		106	68.3-132		
Lead	55.7		3	"	56.7		98	72.8-127		
Selenium	8.9		2	"	9.97		89	41-159		
Silver	5.81		1	"	5.88		99	45.8-154		
Batch B18E116 - 7473 Hg Prep - Mercury by 7473									**Prepared & Analyzed: 05/17/18**	
									Metals by EPA 6000/7000 Series Methods - Quality Control	
Blank (B18E116-BLK1)										
Mercury	ND	U	0.025	mg/kg wet						
Matrix Spike (B18E116-MS1)		**Source: 1805029-04**								
Mercury	0.653		0.025	mg/kg dry	0.450	0.252	89	80-120		
Matrix Spike Dup (B18E116-MSD1)		**Source: 1805029-04**								
Mercury	0.771		0.027	mg/kg dry	0.463	0.252	112	80-120	**23**	20
Reference (B18E116-SRM1)										
Mercury	1.14		0.034	mg/kg wet	1.10		104	80-120		
Batch B18E117 - 5035A TPHG - TPH - Purgeable									**Prepared & Analyzed: 05/17/18**	
									Purgeable Petroleum Hydrocarbons - Quality Control	
Blank (B18E117-BLK1)										

United States Environmental Protection Agency
Region 9 Laboratory

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Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E117 - 5035A TPHG - TPH - Purgeable										**Prepared & Analyzed: 05/17/18**
										Purgeable Petroleum Hydrocarbons - Quality Control
Blank (B18E117-BLK1)										
TPH - Gasoline Range Organics	ND	U	5	mg/kg wet						
Surrogate: a,a,a-Trifluorotoluene		*112*		*"*	*125*		89	*76-124*		
LCS (B18E117-BS1)										
TPH - Gasoline Range Organics	21,100			mg/kg wet	25000		84	78-119		
Surrogate: a,a,a-Trifluorotoluene		*113*		*"*	*125*		91	*76-124*		
Matrix Spike (B18E117-MS1)		**Source: 1805029-04**								
TPH - Gasoline Range Organics	29,000			mg/kg dry	25000	390	114	73-127		
Surrogate: a,a,a-Trifluorotoluene		*113*		*"*	*125*		91	*76-124*		
Matrix Spike (B18E117-MS2)		**Source: 1805029-04**								
TPH - Gasoline Range Organics	68.3		6	mg/kg dry	59.8	ND	114	73-127		
Surrogate: a,a,a-Trifluorotoluene		*113*		*"*	*125*		90	*76-124*		
Matrix Spike Dup (B18E117-MSD1)		**Source: 1805029-04**								
TPH - Gasoline Range Organics	25,500			mg/kg dry	25000	390	100	73-127	**13**	10
Surrogate: a,a,a-Trifluorotoluene		*112*		*"*	*125*		89	*76-124*		
Matrix Spike Dup (B18E117-MSD2)		**Source: 1805029-04**								
TPH - Gasoline Range Organics	66.8		6	mg/kg dry	59.8	ND	112	73-127	2	10
Surrogate: a,a,a-Trifluorotoluene		*113*		*"*	*125*		91	*76-124*		
Batch B18E118 - 3050B Sld Acid Dig - Metals by 6010										**Prepared: 05/17/18 Analyzed: 05/23/18**
										Metals by EPA 6000/7000 Series Methods - Quality Control
Blank (B18E118-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 (B18E118-SRM1)										
Arsenic	249		2	mg/kg wet	253		99	60.9-139		

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Region 9 Laboratory

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Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E118 - 3050B Sld Acid Dig - Metals by 6010								**Prepared: 05/17/18 Analyzed: 05/23/18**		
								Metals by EPA 6000/7000 Series Methods - Quality Control		
Reference (B18E118-SRM1)										
Barium	ND	U	5	"	1.60			62.5-138		
Cadmium	9.56		0.5	"	10.9		88	70.6-128		
Chromium	25.6		1	"	27.0		94	68.3-132		
Lead	49.3		3	"	56.8		87	72.8-127		
Selenium	8.21		2	"	9.98		82	41-159		
Silver	5.74		1	"	5.89		97	45.8-154		
Batch B18E120 - 3545A ASE/PFE - PCBs								**Prepared: 05/17/18 Analyzed: 05/22/18**		
								Polychlorinated Biphenyls by EPA Method 8082A - Quality Control		
Blank (B18E120-BLK1)										
Aroclor 1016	ND	U	13	ug/kg wet						
Aroclor 1221	ND	U	27	"						
Aroclor 1232	ND	U	13	"						
Aroclor 1242	ND	U	13	"						
Aroclor 1248	ND	U	13	"						
Aroclor 1254	ND	U	13	"						
Aroclor 1260	ND	U	13	"						
Aroclor 1262	ND	U	13	"						
Aroclor 1268	ND	U	13	"						
Surrogate: Tetrachloro-m-xylene	*55.7*			"	*66.7*		84	*20-140*		
Surrogate: Decachlorobiphenyl	*56.0*			"	*66.7*		84	*20-125*		
LCS (B18E120-BS1)										
Aroclor-1016	58.4		13	ug/kg wet	66.7		88	62-111		
Aroclor-1260	60.9		13	"	66.7		91	56-124		
Surrogate: Tetrachloro-m-xylene	*57.2*			"	*66.7*		86	*20-140*		
Surrogate: Decachlorobiphenyl	*57.4*			"	*66.7*		86	*20-125*		
Matrix Spike (B18E120-MS1)		**Source: 1805029-04**								
Aroclor-1016	40.8		13	ug/kg dry	68.4	ND	60	20-134		
Aroclor-1260	63.7		13	"	68.4	22.9	60	20-139		
Surrogate: Tetrachloro-m-xylene	*42.9*			"	*68.4*		63	*20-140*		
Surrogate: Decachlorobiphenyl	*34.8*			"	*68.4*		51	*20-125*		
Matrix Spike Dup (B18E120-MSD1)		**Source: 1805029-04**								
Aroclor-1016	38.3		13	ug/kg dry	68.0	ND	56	20-134	6	20
Aroclor-1260	60.3		13	"	68.0	22.9	55	20-139	5	20
Surrogate: Tetrachloro-m-xylene	*38.9*			"	*68.0*		57	*20-140*		

United States Environmental Protection Agency
Region 9 Laboratory

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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E120 - 3545A ASE/PFE - PCBs									**Prepared: 05/17/18 Analyzed: 05/22/18**	
									Polychlorinated Biphenyls by EPA Method 8082A - Quality Control	
Matrix Spike Dup (B18E120-MSD1)		**Source: 1805029-04**								
Surrogate: Decachlorobiphenyl	*31.3*			*"*	*68.0*		46	*20-125*		
Batch B18E126 - Soxhlet Extraction - SVOCs									**Prepared: 05/21/18 Analyzed: 05/22/18**	
									Semivolatile Organic Compounds by EPA Method 8270D - Quality Control	
Blank (B18E126-BLK1)										
Phenol	ND	U	850	ug/kg wet						
Bis(2-chloroethyl)ether	ND	U	160	"						
2-Chlorophenol	ND	U	850	"						
1,3-Dichlorobenzene	ND	U	160	"						
1,4-Dichlorobenzene	ND	U	160	"						
Benzyl alcohol	ND	U	850	"						
1,2-Dichlorobenzene	ND	U	160	"						
2-Methylphenol	ND	U	850	"						
Bis(2-chloro-1-methylethyl) ether	ND	U	160	"						
3&4-Methylphenol	ND	U	850	"						
N-Nitrosodipropylamine	ND	U	160	"						
Hexachloroethane	ND	U	160	"						
Nitrobenzene	ND	U	160	"						
Isophorone	ND	U	160	"						
2-Nitrophenol	ND	U	850	"						
2,4-Dimethylphenol	ND	U	850	"						
Bis(2-chloroethoxy)methane	ND	U	160	"						
2,4-Dichlorophenol	ND	U	850	"						
1,2,4-Trichlorobenzene	ND	U	160	"						
Naphthalene	ND	U	160	"						
4-Chloroaniline	ND	U	850	"						
Hexachlorobutadiene	ND	U	160	"						
4-Chloro-3-methylphenol	ND	U	850	"						
2-Methylnaphthalene	ND	U	160	"						
Hexachlorocyclopentadiene	ND	U	850	"						
2,4,6-Trichlorophenol	ND	U	850	"						
2,4,5-Trichlorophenol	ND	U	850	"						
2-Chloronaphthalene	ND	U	160	"						
2-Nitroaniline	ND	U	850	"						
Dimethyl phthalate	ND	U	160	"						
2,6-Dinitrotoluene	ND	U	160	"						
Acenaphthylene	ND	U	160	"						
3-Nitroaniline	ND	U	850	"						
Acenaphthene	ND	U	160	"						
2,4-Dinitrophenol	ND	C3, J, C4, Q2, U	3,400	"						
4-Nitrophenol	ND	U	850	"						

United States Environmental Protection Agency
Region 9 Laboratory

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Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E126 - Soxhlet Extraction - SVOCs									**Prepared: 05/21/18 Analyzed: 05/22/18**	
									Semivolatile Organic Compounds by EPA Method 8270D - Quality Control	
Blank (B18E126-BLK1)										
Dibenzofuran	ND	U	160	"						
2,4-Dinitrotoluene	ND	U	160	"						
Diethyl phthalate	ND	U	160	"						
Fluorene	ND	U	160	"						
4-Chlorophenyl phenyl ether	ND	U	160	"						
4-Nitroaniline	ND	Q2, J, U	850	"						
4,6-Dinitro-2-methylphenol	ND	U	850	"						
Diphenyl amine	ND	U	160	"						
4-Bromophenyl phenyl ether	ND	U	160	"						
Hexachlorobenzene	ND	U	160	"						
Pentachlorophenol	ND	C4, J, Q2, U	3,400	"						
Phenanthrene	ND	U	160	"						
Anthracene	ND	U	160	"						
Carbazole	ND	U	160	"						
Di-n-butyl phthalate	ND	U	160	"						
Fluoranthene	ND	U	160	"						
Pyrene	ND	U	160	"						
Butyl benzyl phthalate	ND	U	160	"						
Benzo(a)anthracene	ND	U	160	"						
3,3'-Dichlorobenzidine	ND	Q2, J, U	850	"						
Chrysene	ND	U	160	"						
Bis(2-ethylhexyl) phthalate	ND	U	160	"						
Di-n-octyl phthalate	ND	C3, J, U	160	"						
Benzo(b)fluoranthene	ND	U	160	"						
Benzo(k)fluoranthene	ND	U	160	"						
Benzo(a)pyrene	ND	U	160	"						
Indeno(1,2,3-cd)pyrene	ND	U	160	"						
Dibenz(a,h)anthracene	ND	U	160	"						
Benzo(g,h,i)perylene	ND	U	160	"						
Surrogate: 2-Fluorophenol	*6540*			*"*	*8330*		78	*20-111*		
Surrogate: Phenol-d5	*6640*			*"*	*8330*		80	*20-111*		
Surrogate: 2-Chlorophenol-d4	*6720*			*"*	*8330*		81	*20-121*		
Surrogate: 1,2-Dichlorobenzene-d4	*6380*			*"*	*8330*		77	*20-136*		
Surrogate: Nitrobenzene-d5	*6840*			*"*	*8330*		82	*20-125*		
Surrogate: 2-Fluorobiphenyl	*6650*			*"*	*8330*		80	*20-121*		
Surrogate: 2,4,6-Tribromophenol	*6580*			*"*	*8330*		79	*20-146*		
Surrogate: Terphenyl-d14	*8880*			*"*	*8330*		107	*20-131*		
LCS (B18E126-BS1)										
Phenol	1,350		850	ug/kg wet	1670		81	43-110		

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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E126 - Soxhlet Extraction - SVOCs									**Prepared: 05/21/18 Analyzed: 05/22/18**	
									Semivolatile Organic Compounds by EPA Method 8270D - Quality Control	
LCS (B18E126-BS1)										
Bis(2-chloroethyl)ether	275		160	"	333		83	47-110		
2-Chlorophenol	1,420		850	"	1670		85	42-110		
1,3-Dichlorobenzene	277		160	"	333		83	37-110		
1,4-Dichlorobenzene	273		160	"	333		82	39-110		
Benzyl alcohol	1,240		850	"	1670		74	31-110		
1,2-Dichlorobenzene	285		160	"	333		86	40-110		
2-Methylphenol	1,260		850	"	1670		76	42-110		
Bis(2-chloro-1-methylethyl) ether	288		160	"	333		86	44-110		
3&4-Methylphenol	1,380		850	"	1670		82	49-110		
N-Nitrosodipropylamine	283		160	"	333		85	42-110		
Hexachloroethane	303		160	"	333		91	38-110		
Nitrobenzene	377		160	"	333		**113**	48-110		
Isophorone	283		160	"	333		85	43-110		
2-Nitrophenol	1,440		850	"	1670		86	44-110		
2,4-Dimethylphenol	967		850	"	1670		58	24-110		
Bis(2-chloroethoxy)methane	302		160	"	333		91	45-110		
2,4-Dichlorophenol	1,480		850	"	1670		89	48-110		
1,2,4-Trichlorobenzene	300		160	"	333		90	43-110		
Naphthalene	280		160	"	333		84	45-110		
4-Chloroaniline	1,000		850	"	1670		60	20-110		
Hexachlorobutadiene	323		160	"	333		97	42-110		
4-Chloro-3-methylphenol	1,370		850	"	1670		82	50-110		
2-Methylnaphthalene	277		160	"	333		83	45-110		
Hexachlorocyclopentadiene	1,220		850	"	1670		73	32-110		
2,4,6-Trichlorophenol	1,480		850	"	1670		89	47-110		
2,4,5-Trichlorophenol	1,480		850	"	1670		89	52-112		
2-Chloronaphthalene	298		160	"	333		90	47-110		
2-Nitroaniline	1,490		850	"	1670		89	58-118		
Dimethyl phthalate	295		160	"	333		89	63-123		
2,6-Dinitrotoluene	302		160	"	333		91	56-116		
Acenaphthylene	272		160	"	333		82	49-110		
3-Nitroaniline	1,120		850	"	1670		67	29-110		
Acenaphthene	328		160	"	333		98	72-132		
2,4-Dinitrophenol	ND	U	3,400	"	1670			30-110		
4-Nitrophenol	1,500		850	"	1670		90	67-127		
Dibenzofuran	308		160	"	333		92	52-112		
2,4-Dinitrotoluene	303		160	"	333		91	63-123		
Diethyl phthalate	308		160	"	333		92	70-130		
Fluorene	292		160	"	333		88	54-114		
4-Chlorophenyl phenyl ether	308		160	"	333		92	53-113		
4-Nitroaniline	890		850	"	1670		**53**	56-116		
4,6-Dinitro-2-methylphenol	1,200		850	"	1670		72	50-110		

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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E126 - Soxhlet Extraction - SVOCs									**Prepared: 05/21/18 Analyzed: 05/22/18**	
									Semivolatile Organic Compounds by EPA Method 8270D - Quality Control	
LCS (B18E126-BS1)										
Diphenyl amine	142	C1, J	160	"	333		43	39-110		
4-Bromophenyl phenyl ether	317		160	"	333		95	52-112		
Hexachlorobenzene	308		160	"	333		92	52-112		
Pentachlorophenol	ND	U	3,400	"	1670			49-110		
Phenanthrene	300		160	"	333		90	55-115		
Anthracene	295		160	"	333		89	57-117		
Carbazole	272		160	"	333		82	53-113		
Di-n-butyl phthalate	305		160	"	333		92	72-132		
Fluoranthene	303		160	"	333		91	63-123		
Pyrene	318		160	"	333		96	60-120		
Butyl benzyl phthalate	330		160	"	333		99	64-124		
Benzo(a)anthracene	335		160	"	333		100	60-120		
3,3'-Dichlorobenzidine	ND	U	850	"	1330			20-110		
Chrysene	328		160	"	333		98	61-121		
Bis(2-ethylhexyl) phthalate	302		160	"	333		91	76-136		
Di-n-octyl phthalate	278		160	"	333		84	70-130		
Benzo(b)fluoranthene	302		160	"	333		91	60-120		
Benzo(k)fluoranthene	300		160	"	333		90	64-124		
Benzo(a)pyrene	290		160	"	333		87	57-117		
Indeno(1,2,3-cd)pyrene	285		160	"	333		86	62-122		
Dibenz(a,h)anthracene	280		160	"	333		84	64-124		
Benzo(g,h,i)perylene	300		160	"	333		90	58-118		
Surrogate: 2-Fluorophenol	*7170*			"	*8330*		86	*20-111*		
Surrogate: Phenol-d5	*7350*			"	*8330*		88	*20-111*		
Surrogate: 2-Chlorophenol-d4	*7380*			"	*8330*		89	*20-121*		
Surrogate: 1,2-Dichlorobenzene-d4	*6980*			"	*8330*		84	*20-136*		
Surrogate: Nitrobenzene-d5	*7500*			"	*8330*		90	*20-125*		
Surrogate: 2-Fluorobiphenyl	*7370*			"	*8330*		88	*20-121*		
Surrogate: 2,4,6-Tribromophenol	*7770*			"	*8330*		93	*20-146*		
Surrogate: Terphenyl-d14	*9420*			"	*8330*		113	*20-131*		
Matrix Spike (B18E126-MS1)		**Source: 1805029-04**								
Phenol	10,200		5,600	ug/kg dry	11000	ND	93	43-110		
Bis(2-chloroethyl)ether	2,180		1,100	"	2200	ND	99	47-110		
2-Chlorophenol	10,500		5,600	"	11000	ND	96	42-110		
1,3-Dichlorobenzene	2,060		1,100	"	2200	ND	94	37-110		
1,4-Dichlorobenzene	2,070		1,100	"	2200	ND	94	39-110		
Benzyl alcohol	8,910		5,600	"	11000	ND	81	31-110		
1,2-Dichlorobenzene	2,100		1,100	"	2200	ND	96	40-110		
2-Methylphenol	10,100		5,600	"	11000	ND	92	42-110		

United States Environmental Protection Agency
Region 9 Laboratory

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E126 - Soxhlet Extraction - SVOCs									**Prepared: 05/21/18 Analyzed: 05/23/18**	
									Semivolatile Organic Compounds by EPA Method 8270D - Quality Control	
Matrix Spike (B18E126-MS1)		**Source: 1805029-04**								
Bis(2-chloro-1-methylethyl) ether	2,270		1,100	"	2200	ND	103	44-110		
3&4-Methylphenol	11,500		5,600	"	11000	ND	104	49-110		
N-Nitrosodipropylamine	2,190		1,100	"	2200	ND	100	42-110		
Hexachloroethane	1,570		1,100	"	2200	ND	72	38-110		
Nitrobenzene	2,330		1,100	"	2200	ND	106	48-110		
Isophorone	2,250		1,100	"	2200	ND	102	43-110		
2-Nitrophenol	9,250		5,600	"	11000	ND	84	44-110		
2,4-Dimethylphenol	10,400		5,600	"	11000	ND	95	24-110		
Bis(2-chloroethoxy)methane	2,100		1,100	"	2200	ND	96	45-110		
2,4-Dichlorophenol	10,500		5,600	"	11000	ND	95	48-110		
1,2,4-Trichlorobenzene	2,120		1,100	"	2200	ND	97	43-110		
Naphthalene	2,230		1,100	"	2200	ND	102	45-110		
4-Chloroaniline	ND	U	5,600	"	11000	ND		20-110		
Hexachlorobutadiene	2,080		1,100	"	2200	ND	95	42-110		
4-Chloro-3-methylphenol	10,400		5,600	"	11000	ND	95	50-110		
2-Methylnaphthalene	2,190		1,100	"	2200	ND	100	45-110		
Hexachlorocyclopentadiene	ND	U	5,600	"	11000	ND		32-110		
2,4,6-Trichlorophenol	10,400		5,600	"	11000	ND	94	47-110		
2,4,5-Trichlorophenol	10,900		5,600	"	11000	ND	99	52-112		
2-Chloronaphthalene	2,110		1,100	"	2200	ND	96	47-110		
2-Nitroaniline	10,500		5,600	"	11000	ND	96	58-118		
Dimethyl phthalate	2,220		1,100	"	2200	ND	101	63-123		
2,6-Dinitrotoluene	2,190		1,100	"	2200	ND	100	56-116		
Acenaphthylene	2,250		1,100	"	2200	ND	102	49-110		
3-Nitroaniline	3,280	C1, J	5,600	"	11000	ND	30	29-110		
Acenaphthene	2,250		1,100	"	2200	ND	102	72-132		
2,4-Dinitrophenol	ND	U	22,000	"	11000	ND		30-110		
4-Nitrophenol	10,600		5,600	"	11000	ND	96	67-127		
Dibenzofuran	2,440		1,100	"	2200	ND	111	52-112		
2,4-Dinitrotoluene	2,380		1,100	"	2200	ND	108	63-123		
Diethyl phthalate	2,400		1,100	"	2200	ND	109	70-130		
Fluorene	2,310		1,100	"	2200	ND	105	54-114		
4-Chlorophenyl phenyl ether	2,210		1,100	"	2200	ND	100	53-113		
4-Nitroaniline	4,630	C1, J	5,600	"	11000	ND	**42**	56-116		
4,6-Dinitro-2-methylphenol	2,980	C1, J	5,600	"	11000	ND	**27**	50-110		
Diphenyl amine	2,320		1,100	"	2200	ND	106	39-110		
4-Bromophenyl phenyl ether	2,210		1,100	"	2200	ND	100	52-112		
Hexachlorobenzene	2,180		1,100	"	2200	ND	99	52-112		
Pentachlorophenol	ND	U	22,000	"	11000	ND		49-110		
Phenanthrene	2,750		1,100	"	2200	569	99	55-115		
Anthracene	2,530		1,100	"	2200	ND	115	57-117		
Carbazole	2,750		1,100	"	2200	ND	**125**	53-113		

United States Environmental Protection Agency
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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E126 - Soxhlet Extraction - SVOCs									**Prepared: 05/21/18 Analyzed: 05/23/18**	
									Semivolatile Organic Compounds by EPA Method 8270D - Quality Control	
Matrix Spike (B18E126-MS1)		**Source: 1805029-04**								
Di-n-butyl phthalate	2,330		1,100	"	2200	579	80	72-132		
Fluoranthene	2,980		1,100	"	2200	1,310	76	63-123		
Pyrene	3,390		1,100	"	2200	1,570	82	60-120		
Butyl benzyl phthalate	3,620		1,100	"	2200	18,000	**NR**	64-124		
Benzo(a)anthracene	2,990		1,100	"	2200	599	109	60-120		
3,3'-Dichlorobenzidine	ND	U	5,600	"	8800	ND		20-110		
Chrysene	3,880		1,100	"	2200	1,410	112	61-121		
Bis(2-ethylhexyl) phthalate	6,730		1,100	"	2200	4,430	105	76-136		
Di-n-octyl phthalate	3,500		1,100	"	2200	ND	**159**	70-130		
Benzo(b)fluoranthene	4,320		1,100	"	2200	1,430	**131**	60-120		
Benzo(k)fluoranthene	3,330		1,100	"	2200	ND	**152**	64-124		
Benzo(a)pyrene	2,740		1,100	"	2200	ND	**124**	57-117		
Indeno(1,2,3-cd)pyrene	1,830		1,100	"	2200	ND	83	62-122		
Dibenz(a,h)anthracene	1,590		1,100	"	2200	ND	72	64-124		
Benzo(g,h,i)perylene	2,230		1,100	"	2200	884	61	58-118		
Surrogate: 2-Fluorophenol	*52400*			"	*55000*		95	*20-111*		
Surrogate: Phenol-d5	*52500*			"	*55000*		95	*20-111*		
Surrogate: 2-Chlorophenol-d4	*53100*			"	*55000*		97	*20-121*		
Surrogate: 1,2-Dichlorobenzene-d4	*49100*			"	*55000*		89	*20-136*		
Surrogate: Nitrobenzene-d5	*48800*			"	*55000*		89	*20-125*		
Surrogate: 2-Fluorobiphenyl	*47600*			"	*55000*		87	*20-121*		
Surrogate: 2,4,6-Tribromophenol	*64300*			"	*55000*		117	*20-146*		
Surrogate: Terphenyl-d14	*63200*			"	*55000*		115	*20-131*		
Matrix Spike Dup (B18E126-MSD1)		**Source: 1805029-04**								
Phenol	9,650		5,400	ug/kg dry	10600	ND	91	43-110	5	20
Bis(2-chloroethyl)ether	2,050		1,100	"	2130	ND	96	47-110	6	20
2-Chlorophenol	10,100		5,400	"	10600	ND	95	42-110	4	20
1,3-Dichlorobenzene	1,980		1,100	"	2130	ND	93	37-110	4	20
1,4-Dichlorobenzene	1,960		1,100	"	2130	ND	92	39-110	6	20
Benzyl alcohol	8,640		5,400	"	10600	ND	81	31-110	3	20
1,2-Dichlorobenzene	1,960		1,100	"	2130	ND	92	40-110	7	20
2-Methylphenol	9,360		5,400	"	10600	ND	88	42-110	7	20
Bis(2-chloro-1-methylethyl) ether	2,230		1,100	"	2130	ND	105	44-110	1	20
3&4-Methylphenol	10,800		5,400	"	10600	ND	101	49-110	6	20
N-Nitrosodipropylamine	2,140		1,100	"	2130	ND	100	42-110	2	20
Hexachloroethane	1,360		1,100	"	2130	ND	64	38-110	14	20
Nitrobenzene	2,230		1,100	"	2130	ND	105	48-110	4	20
Isophorone	2,080		1,100	"	2130	ND	98	43-110	8	20
2-Nitrophenol	8,770		5,400	"	10600	ND	82	44-110	5	20

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E126 - Soxhlet Extraction - SVOCs									**Prepared: 05/21/18 Analyzed: 05/23/18**	
									Semivolatile Organic Compounds by EPA Method 8270D - Quality Control	
Matrix Spike Dup (B18E126-MSD1)		**Source: 1805029-04**								
2,4-Dimethylphenol	9,450		5,400	"	10600	ND	89	24-110	10	20
Bis(2-chloroethoxy)methane	2,120		1,100	"	2130	ND	99	45-110	0.7	20
2,4-Dichlorophenol	9,760		5,400	"	10600	ND	92	48-110	7	20
1,2,4-Trichlorobenzene	2,010		1,100	"	2130	ND	95	43-110	6	20
Naphthalene	2,120		1,100	"	2130	ND	99	45-110	5	20
4-Chloroaniline	ND	U	5,400	"	10600	ND		20-110		20
Hexachlorobutadiene	1,990		1,100	"	2130	ND	93	42-110	4	20
4-Chloro-3-methylphenol	9,720		5,400	"	10600	ND	91	50-110	7	20
2-Methylnaphthalene	2,010		1,100	"	2130	ND	95	45-110	9	20
Hexachlorocyclopentadiene	ND	U	5,400	"	10600	ND		32-110		20
2,4,6-Trichlorophenol	9,940		5,400	"	10600	ND	93	47-110	4	20
2,4,5-Trichlorophenol	10,200		5,400	"	10600	ND	96	52-112	6	20
2-Chloronaphthalene	2,060		1,100	"	2130	ND	97	47-110	2	20
2-Nitroaniline	10,400		5,400	"	10600	ND	98	58-118	0.6	20
Dimethyl phthalate	2,130		1,100	"	2130	ND	100	63-123	4	20
2,6-Dinitrotoluene	1,980		1,100	"	2130	ND	93	56-116	10	20
Acenaphthylene	2,150		1,100	"	2130	ND	101	49-110	5	20
3-Nitroaniline	2,810	C1, J	5,400	"	10600	ND	**26**	29-110	15	20
Acenaphthene	2,090		1,100	"	2130	ND	98	72-132	7	20
2,4-Dinitrophenol	ND	U	21,000	"	10600	ND		30-110		20
4-Nitrophenol	9,720		5,400	"	10600	ND	91	67-127	9	20
Dibenzofuran	2,310		1,100	"	2130	ND	108	52-112	6	20
2,4-Dinitrotoluene	2,210		1,100	"	2130	ND	104	63-123	7	20
Diethyl phthalate	2,240		1,100	"	2130	ND	106	70-130	7	20
Fluorene	2,170		1,100	"	2130	ND	102	54-114	6	20
4-Chlorophenyl phenyl ether	2,170		1,100	"	2130	ND	102	53-113	2	20
4-Nitroaniline	4,490	C1, J	5,400	"	10600	ND	**42**	56-116	3	20
4,6-Dinitro-2-methylphenol	ND	U	5,400	"	10600	ND		50-110		20
Diphenyl amine	2,300		1,100	"	2130	ND	108	39-110	1	20
4-Bromophenyl phenyl ether	2,130		1,100	"	2130	ND	100	52-112	4	20
Hexachlorobenzene	2,050		1,100	"	2130	ND	96	52-112	6	20
Pentachlorophenol	ND	U	21,000	"	10600	ND		49-110		20
Phenanthrene	2,530		1,100	"	2130	569	92	55-115	8	20
Anthracene	2,300		1,100	"	2130	ND	108	57-117	10	20
Carbazole	2,430		1,100	"	2130	ND	**114**	53-113	12	20
Di-n-butyl phthalate	2,270		1,100	"	2130	579	80	72-132	2	20
Fluoranthene	2,490		1,100	"	2130	1,310	**55**	63-123	18	20
Pyrene	3,200		1,100	"	2130	1,570	76	60-120	6	20
Butyl benzyl phthalate	3,960		1,100	"	2130	18,000	**NR**	64-124	9	20
Benzo(a)anthracene	2,560		1,100	"	2130	599	92	60-120	15	20
3,3'-Dichlorobenzidine	ND	U	5,400	"	8500	ND		20-110		20
Chrysene	3,080		1,100	"	2130	1,410	79	61-121	**23**	20

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B18E126 - Soxhlet Extraction - SVOCs									**Prepared: 05/21/18 Analyzed: 05/23/18**	
									Semivolatile Organic Compounds by EPA Method 8270D - Quality Control	
Matrix Spike Dup (B18E126-MSD1)		**Source: 1805029-04**								
Bis(2-ethylhexyl) phthalate	7,170		1,100	"	2130	4,430	129	76-136	6	20
Di-n-octyl phthalate	4,050		1,100	"	2130	ND	**190**	70-130	15	20
Benzo(b)fluoranthene	3,830		1,100	"	2130	1,430	113	60-120	12	20
Benzo(k)fluoranthene	3,140		1,100	"	2130	ND	**148**	64-124	6	20
Benzo(a)pyrene	2,530		1,100	"	2130	549	93	57-117	8	20
Indeno(1,2,3-cd)pyrene	1,410		1,100	"	2130	ND	66	62-122	**25**	20
Dibenz(a,h)anthracene	1,340		1,100	"	2130	ND	**63**	64-124	17	20
Benzo(g,h,i)perylene	1,590		1,100	"	2130	884	**33**	58-118	**33**	20
Surrogate: 2-Fluorophenol	*49800*			*"*	*53100*		94	*20-111*		
Surrogate: Phenol-d5	*49800*			*"*	*53100*		94	*20-111*		
Surrogate: 2-Chlorophenol-d4	*51100*			*"*	*53100*		96	*20-121*		
Surrogate: 1,2-Dichlorobenzene-d4	*46000*			*"*	*53100*		87	*20-136*		
Surrogate: Nitrobenzene-d5	*46300*			*"*	*53100*		87	*20-125*		
Surrogate: 2-Fluorobiphenyl	*46700*			*"*	*53100*		88	*20-121*		
Surrogate: 2,4,6-Tribromophenol	*60400*			*"*	*53100*		114	*20-146*		
Surrogate: Terphenyl-d14	*65500*			*"*	*53100*		123	*20-131*		
Batch B18E135 - Solids, Dry Weight (Prep) - Solids, Dry Weight									**Prepared: 05/23/18 Analyzed: 05/24/18**	
									Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control	
Blank (B18E135-BLK1)										
% Solids	ND	U	1	%						
Duplicate (B18E135-DUP1)		**Source: 1805029-04**								
% Solids	99		1	%		99			0.09	20

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Project Manager:	Eric Nuchims	**Emergency Response Section**	**SDG:** 18135A
Project Number:	R18S51	**75 Hawthorne Street**	**Reported:** 06/01/18 09:14
Project:	Bercovich Smelter April 2018 Removal Action	**San Francisco CA, 94105**	

Qualifiers and Comments

Q7	Surrogate spike recoveries for this sample were outside control limits.
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)
Q2	The laboratory control standard associated with this sample did not meet recovery criteria for this analyte (see LCS 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.
Q1	The internal standard associated with this analyte did not meet area count criteria.
N TIC	Tentatively Idenitified Compound - This compound was identified only by match with mass spectral library. Identification and quantitation should be considered tentative and presumptive.
J	The reported result for this analyte should be considered an estimated value.
F13	Fuel or Product Type: mixed or unknown
C4	The calibration verification check did not meet % difference criteria for this analyte.
C3	The initial calibration for this analyte did not meet calibration criteria.
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.