PWGC
Strategic Environmental Engineering Solutions

SITE INVESTIGATION REPORT

FORMER ATLAS WHITE METAL CO. SITE
67-81 DELEVAN ST
BROOKLYN, NEW YORK

SUBMITTED:

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PREPARED FOR:

United States Environmental Protection Agency, Region II
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1.0 INTRODUCTION

P.W. Grosser Consulting (PWGC) has prepared this Site Investigation (SI) Report for the Atlas White Metal Co. site (CERCLIS No. NYN00020668) located at 67-81 Delevan Street, Brooklyn, New York (the Site) located within the Red Hook section of Brooklyn. The lot measures approximately 14,516 square feet and is currently improved with a 5,800 square foot building with two floors and a basement. The Site extends between Delevan and Verona Streets in the Red Hook neighborhood of Brooklyn, Kings County, New York. The Site was formerly utilized as a secondary lead smelter. The SI was performed between July 18, 2016 and October 13, 2016 in accordance with the EPA-approved SIWP dated March 2016. This report documents the results of the SI.

As part of the SI, PWGC directed and oversaw the collection of 214 soil samples (of which 149 were analyzed), including eight field duplicates, from 26 soil boring locations (SB01 through SB026) which were spaced evenly, approximately 20 ft apart, throughout the Site. The soil borings were advanced to the upper limit of the groundwater table, approximately six to eight feet below ground surface (ft bgs), to characterize the vertical and horizontal extent of metals in soil that exceed the applicable screening levels for industrial properties. In addition, groundwater samples were collected from temporary wells located both upgradient and downgradient of the Site. Filtered and unfiltered groundwater samples were analyzed for Target Analyte List (TAL) metals plus tin.

The SI results indicate the presence of slag in soil borings throughout the Site, with the exception of several borings located in the northern portion of the Site, including SB01, SB03, and SB012. Evidence of historic fill, including the presence of brick, concrete, glass, wood, and miscellaneous debris, is generally present from grade to approximately six to eight ft bgs.

The validated soil analytical results were compared to the U.S. Environmental Protection Agency (EPA) Removal Management Levels (RMLs) for Industrial Soil, which is also utilized for commercial properties, in the upper foot of soil, and the New York State Department of Environmental Conservation (NYSDEC) Soil Cleanup Objectives for Industrial properties (IUSCOs) at depths beneath one foot below the ground surface (bgs).

- Metals concentrations did not exceed the EPA RMLs or NYSDEC IUSCOs in the top two feet of soil at SB01, SB02, SB03, SB04, SB05, SB09, SB010, SB011, SB012, and SB020. Metals

concentrations exceeded the EPA RMLs, but did not exceed the applicable NYSDEC IUSCOs, in the top two feet of soil at SB06, SB07, SB08, and SB013.

- Lead concentrations in soil were at or above the EPA RML for lead of 800 milligrams per kilogram (mg/kg) for Industrial soil in 20 out of 26 soil boring locations and in 73 out of 149 samples analyzed. Lead concentrations in soil were at or above the NYSDEC Industrial SCO of 3,900 mg/kg Industrial soil in 15 out of 26 soil boring locations and in 40 out of 149 samples analyzed. The greatest concentration of lead (56,000 mg/kg) was detected in the soil sample collected at SB025-02,
- Arsenic concentrations in soil did not exceed the EPA RML for arsenic of 300 mg/kg for Industrial soil in any of the samples analyzed. Arsenic concentrations in soil were at or above the NYSDEC Industrial SCO of 16 mg/kg Industrial soil in 19 out of 26 soil boring locations and in 73 out of 149 samples analyzed. The greatest concentration of arsenic (180 mg/kg) was detected in a soil sample collected at SB018-06,
- Antimony concentrations in soil were at or above the EPA RML for antimony of 470 milligrams per kilogram (mg/kg) for Industrial soil in four out of 26 soil boring locations and in five out of 149 samples analyzed. There is no NYSDEC Industrial SCO for antimony. The greatest concentration of antimony (1600 mg/kg) was detected in a soil sample collected at SB025-05,
- Copper concentrations in soil were at or above the EPA RML for copper of 47,000 mg/kg for Industrial soil in three of 26 boring locations and in four out of 149 samples analyzed. Copper concentrations in soil were at or above the NYSDEC Industrial SCO of 10,000 mg/kg Industrial soil in 10 out of 26 soil boring locations and in 12 out of 149 samples analyzed. The greatest concentration of copper (150,000 mg/kg) was detected in a soil sample collected at SB022-04,
- Zinc concentrations in soil did not exceed the EPA RML for zinc of 350,000 mg/kg for Industrial soil in any of the samples analyzed. Zinc concentrations in soil were at or above the NYSDEC Industrial SCO of 10,000 mg/kg Industrial soil in nine out of 26 soil boring locations and in 13 out of 149 samples analyzed. The greatest concentration of zinc (54,000 mg/kg) was detected in a soil sample collected at SB022-02, and
- Cadmium concentrations in soil did not exceed the EPA RML for cadmium of 980 mg/kg for Industrial soil in any of the samples analyzed. Cadmium concentrations in soil were at or above the NYSDEC Industrial SCO of 60 mg/kg Industrial soil in one out of 26 soil boring locations and

in two out of 149 samples analyzed. The greatest concentration of cadmium (110 mg/kg) was detected in a soil sample collected at SB025-02.

Metals concentrations did not exceed the EPA RMLs or NYSDEC IUSCOs in the top two feet of soil at SB01, SB02, SB03, SB04, SB05, SB09, SB010, SB011, SB012, and SB020. In addition to these locations, metals concentrations did not exceed the applicable NYSDEC IUSCOs in the top two feet of soil at SB06, SB07, SB08, and SB013.

The SI has addressed the remedy-relevant data gaps in the characterization of subsurface conditions, including the characterization of facility-related constituents such as lead and antimony, in soil and groundwater, that exceed the applicable criteria, as presented herein, in order to identify a remedy that will:

- Eliminate, to the extent practicable, the potential for direct human or animal contact with contaminants present in soils at concentrations above Industrial EPA RMLs and NYSDEC SCOs at the Site that are related to historic on-site industrial operations, and
- Reduce or prevent, to the extent practicable, the potential for the migration of site-related contaminants in soils to the groundwater beneath the Site resulting in exceedances of applicable water quality standards.

This SIR has been prepared consistent with the EPA-approved SIWP and the applicable guidance documents referenced herein.

A Site Location Map is included as **Figure 1**.

2.0 BACKGROUND AND SITE HISTORY

This section summarizes the existing and historical conditions that are necessary for the development of a conceptual site model. A brief description of the Site is followed by a more detailed discussion of its history as stated in the July 2015 Removal Site Evaluation completed by the USEPA, as well as relevant regional characteristics based on our review of the available documents.

2.1. Site Description

The 67-81 Delevan Street Site is located between Delevan and Verona Streets in the Red Hook neighborhood of Brooklyn, Kings County, New York, a mixed residential, commercial, and light industrial area **(Figure 1 -** Site Vicinity). The Site is identified as Block 522 Lot 11 by the New York City Department of Finance. The lot measures approximately 14,516 square feet (0.3 acres). The northern portion of the lot is undeveloped, partially paved and utilized for parking and storage. The southern portion of the Site is improved with a 5,800 square foot two-story brick and stucco building which is addressed as 86-90 Verona Street. There are no plans to redevelop the Site in the immediate future.

The northern and southern portions of the lot are separated by a corrugated metal and chain link fence which runs through the historic smelter footprint. The front yard of the 86-90 Verona Street building, which is approximately 400 square feet in size, is unpaved and covered with gravel and filter fabric. Pavement that was historically present in this area was removed in August 2014. The building occupants utilize the undeveloped paved and gravel areas of the southern portion of the lot for parking and as a work space.

A secondary lead smelter formerly operated in the northeast portion of the Site. The parcel which includes the historic smelting facility footprint is surrounded by parking lots and warehouses in all directions except to the northwest. According to the EPA, the site was previously occupied by secondary lead smelting companies, including the Atlas White Metal Co., from the mid-1920s through the late 1960s, in the building addressed as 77 Delevan Street. That building was reportedly demolished around 1978.

2.2. Operational History

The northeast corner of the Site was developed with a one- to two-story, 2,400-square foot building with a vent or window on its rear (southwest) face from the early 1870s through 1977. According to Sanborn maps, smelting occurred in the rear portion of the building, and the remainder of the building was utilized for scrap metal storage. The southern portion of the Site has been developed with the current building since at least 1886.

According to historical sources, the northeast portion of the Site was occupied by smelting companies from at least the mid-1920s through the late 1960s, including Delevan Smelting Co. in the mid-1920s, Delevan White Metal Corp. and Treas Smelters in the early 1930s, Aaron Toorock Smelting & Refining

from the 1930s through the 1960s, Atlas Smelting Co. in the mid-1940s and Atlas White Metal Co. in the 1960s. Based on the available information, it is likely that the on-site companies smelted scrap metal to form lead ingots and various products, rather than specializing in certain alloys.

While the smelting facility was presumably operating, two adjoining commercial buildings were present next to the smelting facility on the north portion of the parcel (along Delevan Street), and the 86-90 Verona Street building was present on the south portion. The remainder of the south portion of the parcel was undeveloped. The residences to the north of the Site were constructed in the early 1900s and were present during the time when the smelter appears to have operated on-site. The on-site smelting facility was demolished circa 1978 along with the other two commercial buildings on the parcel along Delevan Street. The northern portion of the parcel, including the historic facility footprint, as well as the southeastern portion of the lot alongside the 86-90 Verona Street building, has been undeveloped and utilized as a parking area since approximately 1978.

Additional historic building occupants on-site potentially related to the metals industry included a junk dealer of metals circa 1912-1913, a manufacturer of punching and shearing machines (the Jupiter Machine Manufacturing Co.) in 1918, the Brooklyn Ship Repair Corporation in 1919, N.Y. Metals in 1920, and Delevan White Metals in 1933. In addition, the Site was part of a glass works factory from the 1870s possibly through the late 1900s, which was partially destroyed by fire in 1876 when an oil tank exploded.

Additional details are provided in the SIWP.

2.3. Regional Characteristics

The Site is located in the Red Hook neighborhood of Brooklyn, New York within an urban area that is generally developed for commercial and residential uses. The topography of the subject property and surrounding area was reviewed from the United States Geological Survey (USGS) 7.5-minute series topographic map for the Brooklyn, New York quadrangle. The property has an elevation of approximately 13 feet above the National Geodetic Vertical Datum (NGVD). In general, the subject property is flat and the surrounding area has minimal topographical sloping. Regional physiographic conditions are summarized below.

2.3.1. Regional Geology / Hydrology

The geologic setting of Long Island is well documented and consists of crystalline bedrock composed of schist and gneiss overlain by layers of unconsolidated deposits. Immediately overlying the bedrock is the Raritan Formation, consisting of the Lloyd sand confined by the Raritan Clay Member. The Lloyd sand is an aquifer and consists of discontinuous layers of gravel, sand, sandy and silty clay, and solid clay. The Raritan Clay is a solid and silty clay with: few lenses of sand and gravel; abundant lignite and pyrite; and gray, red or white in color.

Above the Raritan Clay lies the Magothy Formation. The Magothy Aquifer consists of layers of fine to coarse sand of moderate to high permeability, with inter-bedded lenses of silt and clay of low permeability resulting in areas of preferential horizontal flow. Therefore, this aquifer generally becomes more confined with depth. The Magothy Aquifer is overlain by the Upper Glacial Aquifer. The Upper Glacial Aquifer is the water table aquifer at this location and is comprised of medium to coarse sand and gravel with occasional thin lenses of fine sand and brown clay. This aquifer extends from the land surface to the top of the Magothy and, therefore, is hydraulically connected to the Magothy Aquifer.

2.3.2. Local Hydrology

Based on the subject property elevation and a historical investigation discussed below, the depth to groundwater beneath the Site is estimated to be between eight and nine feet bgs. Based upon our review of available USGS data and discussions with Jeffrey Vogt of NYSDEC, groundwater flow direction is approximately west-northwest, towards the East River. A map showing the surrounding parcel lines is presented in **Figure 2**.

3.0 PREVIOUS INVESTIGATIONS

Previous investigations indicate the presence of metals in shallow soils throughout the Site. The following investigations have been previously performed at the Site:

- **Phase I Environmental Site Assessment – October 2003**

The Phase I Report indicated the presence of a two-story building constructed prior to 1886 and historically utilized as an electrical machinery company, a rag storage facility, a pipe fitting facility, and as a furniture showroom facility. The Phase I Report indicated that several additional buildings occupied the subject property between at least 1886 and 1977. The Phase I Report stated that the available

Sanborn Fire Insurance Maps indicated that these buildings were utilized as machine shops, a peanut oil company, an insecticide company, a rag company, and a paper box dry color storage facility. The Phase I Report did not identify the lead smelting facility.

- **Phase II Limited Site Investigation – December 2003**

A Limited Phase II SI was performed on December 5, 2003 by Aaron & Wright Technical Services, Inc. (Aaron & Wright) adjacent to the subject property. Aaron & Wright concluded that the historic operations impacted the shallow soils adjacent to the subject property and that the results did not constitute a reportable release. Aaron & Wright recommended that the adjacent property enter into an Order of Consent / Brownfield Cleanup Program with the NYSDEC.

- **Removal Assessment – November 2014 / March 2015**

Soil sampling activities were performed as part of a Removal Assessment by Weston Solutions, Inc. (Weston), on behalf of the EPA from November 2014 to March 2015. These activities included the collection of 75 soil samples, including five duplicates, from 14 sample locations located at the Atlas White Metal Company facility parcel and seven surrounding properties. Samples were collected from up to a depth of two feet bgs at six soil boring locations (SS001 through SS006) within the Atlas White Metal Company facility parcel as well as eight off-property soil borings. Samples were analyzed for TAL metals plus tin. In summary, 23 samples collected within the Atlas White Metal Company facility parcel exceeded their respective EPA RMLs and 34 samples exceeded their respective NYSDEC Industrial SCOs. In addition, 32 samples collected from the seven surrounding properties exceeded their respective EPA RMLs and 74 samples exceeded their respective NYSDEC Residential SCOs. Based on the potential threat that the surface and subsurface contaminants may pose to occupants of the property, the EPA stated that a removal action must be conducted at the subject property.

As recommended by EPA, on October 29, 2015, defoliation and placement of a filter fabric cover on an area of exposed soil took place at 86-90 Verona Street with oversight provided by Advanced Cleanup Technologies, Inc. (ACT) to prevent potential exposure until such time that the removal action at the site can be completed.

Additional details are provided in the SIWP.

4.0 APPLICABLE STANDARDS, CRITERIA, AND GUIDANCE

The applicable soil screening levels for this project are the U.S. Environmental Protection Agency (EPA) Removal Management Levels (RMLs) for Industrial Soil, which is also utilized for commercial properties, in the upper foot of soil, and the New York State Department of Environmental Conservation (NYSDEC) Soil Cleanup Objectives for Industrial properties (IUSCOs) at depths beneath one foot below the ground surface (bgs).

The SI was performed consistent with the procedures presented, and laboratory analytical results compared to the applicable criteria set forth, in the following regulations and guidance documents:

- NYSDEC's Class GA Ambient Water Quality Standards (AWQS) as specified in the Technical Operation and Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.
- NYSDEC's DER-10 - Technical Guidance for Site Investigation and Remediation.
- NYSDEC's Soil Cleanup Objectives as specific in 6 NYCRR Part 375.
- EPA's Groundwater Maximum Contaminant Levels.
- EPA's Monitored Natural Attenuation of Inorganic Contaminants in Ground Water, Volume 2, Assessment for Non-Radionuclides Including Arsenic, Cadmium, Chromium, Copper, Lead, Nickel, Nitrate, Perchlorate, and Selenium. EPA/600/R-07/140. October 2007.
- EPA's Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part A). EPA/540/1-89/002. December 1989.
- EPA's Removal Management Levels.
- EPA's Soil Screening Guidance: User's Guide. Publication 9355.4-23. July 1996.
- EPA's Superfund Lead-Contaminated Residential Sites Handbook. OSWER 9285.7-50. August 2003.
- EPA's Urban Soil Lead Abatement Demonstration Project. Vol I: Integrated Report Review Draft. National Center for Environmental Publications and Information. EPA 600/AP93001/A. NTIS PB93-222-651. 1993.

5.0 KEY DATA GAPS AND AREAS OF INTEREST

The following remedy-relevant data gaps were identified as pertinent to the evaluation of remedial alternatives and the identification of a remedy in the SIWP:

- Presence/absence of dissolved-phase lead in groundwater resulting from historical operations at the Site, and
- Vertical and horizontal extent of metals concentrations that exceed the EPA RMLs and NYSDEC Industrial Use SCOs.

6.0 SUBSURFACE INVESTIGATION ACTIVITIES

The following Site Investigation activities have been performed to address these data gaps, refine the CSM, determine whether any potential completed exposure pathways exist, and identify remedial actions to reduce or eliminate any unacceptable risk to human or ecological receptors.

6.1. Personnel

Michael Gaul - P.W. Grosser Consulting (Field Hydrogeologist and Field Team Leader)

- Sample Collection
- Quality Assurance
- Contractor Oversight

Richard T. Kampf. PG - P.W. Grosser Consulting (Project Manager)

- Supervisory Oversight
- Contractor Oversight

Aarti Reddy - USEPA (On-Scene Coordinator)

Margaret Gregor - USEPA (On-Scene Coordinator)

Bryan LoSasso - EnviroProbe Services Inc. (Geoprobe Operator)

- Operation of Geoprobe Equipment for Borings and Groundwater Wells
- Decontamination of Equipment

Steve Carle & John Wallace - EnviroProbe Services Inc. (GPR Operators)

- Geophysical Investigation and Markouts

6.2. Geophysical Investigation Activities

On July 18, 2016, PWGC and its subcontractor, EnviroProbe Services Inc. (EPS) of Mount Laurel, New Jersey, mobilized to the site to perform a geophysical investigation. The purpose of the survey was to confirm the location of potential subsurface features, investigate proposed drilling locations, and identify potential additional subsurface anomalies that may require additional investigation. EPS technicians utilized an electromagnetic (EM) utility locator Geonics EM-61 and a Geophysical Survey System SIR-3000 Ground Penetrating Radar (GPR) imaging system with 200 Megahertz (MHz) antenna to perform the site survey.

The geophysical investigation report is presented in **Appendix A**.

6.3. Community Air Monitoring Activities

A site-specific CAMP was implemented during intrusive activities performed as part of the site investigation in accordance with the USEPA-approved SIWP and HASP. Dust and VOC concentrations did not exceed applicable action levels during intrusive activities.

6.4. Subsurface Investigation Activities

From July 18, 2016 through July 20, 2016 and on October 13, 2016, PWGC directed and oversaw the advancement of 26 soil borings and the collection of groundwater samples from three temporary monitoring wells, in accordance with the EPA-approved SIWP, in order to address the key remedy-relevant data gaps presented above in Section 5.0. The location of soil borings SB014, SB025, and SB026 were changed slightly from the SIWP because of obstructions. The actual locations were approved in the field by EPA. Soil and groundwater sampling locations are presented on **Figures 4 and 5.**

The following presents a summary of the field methodologies and findings.

6.4.1. Soil Sampling Protocol

PWGC collected soil samples from 26 soil borings spaced evenly throughout the Site and advanced to the upper limit of the groundwater table, which was encountered at approximately six to eight ft bgs, to characterize the vertical and horizontal extent of metals in soil that exceed the EPA RMLs and NYSDEC SCOs for industrial properties. SB01 through SB024 were advanced between July 18, 2016 and July 20, 2016. SB025 and SB026 and were advanced on October 13, 2016.

EPS utilized a track mounted Geoprobe® direct-push drill rig with a dual-core sampler and dedicated acetate liners to perform the soil borings. Non-disposable sampling equipment was decontaminated using a laboratory-grade alconox and tap water scrub along with a 10% nitric acid scrub down prior to the collection of each sample. Soil borings were advanced to the upper limit of the water table, which was generally present at approximately six eight feet bgs, and varied with the typography and logistical limitations. The soil cores were screened for the presence of volatile organic vapors utilizing a photoionization detector (PID). Soil samples were classified using the Unified Soil Classification System (USCS). Soil boring logs were prepared for each location to document soil types, changes in lithology, and historic fill or wastes (if any) encountered.

Soil samples were collected in one-foot intervals until the upper limit of the water table was reached, or refusal. Quality control samples were collected pursuant to the Quality Assurance Project Plan (QAPP). Split samples were also collected on behalf of EPA, as requested. Samples were transferred to laboratory supplied glassware and packed in a cooler with ice and shipped under proper chain-of-custody procedures as identified in the QAPP (Attachment B) to an EPA NELAP-certified laboratory

All soil samples were collected in pre-cleaned laboratory supplied glassware and stored in a cooler on ice for transport under proper chain of custody (COC) procedures identified in the QAPP to Alpha Analytical Laboratories (AAL), a NYSDOH Environmental Laboratory Accreditation Program (ELAP) certified laboratory as well as a USEPA National Environmental Laboratory Approval Program (NELAP) certified laboratory, for TAL metals plus tin analysis following EPA protocols. NYSDEC Analytical Services Protocol (ASP) - Category B Deliverables were prepared by the lab.

The soil samples were analyzed iteratively. Samples collected from the two intervals from zero to two feet bgs at all 26 sampling locations were analyzed first and results tabulated and compared to the EPA RMLs and NYSDEC SCOs for industrial properties. If evidence of site-related slag was encountered at any depth throughout the soil boring, the one-foot interval in which it was encountered, as well as the subsequently deeper one-foot interval, was also analyzed during the first tier of analysis.

The results for these samples were evaluated to determine what, if any, additional samples required analysis. If the analytical results for these samples did not exceed the EPA RMLs for industrial properties in the uppermost foot of soil, or the NYSDEC SCOs for industrial properties at depths beneath one foot bgs, no further analysis of soil samples below these intervals was required. If the analytical results for samples collected exceeded the applicable criteria, the soil from subsequently deeper intervals below

was analyzed, one interval at a time, at each soil boring location. The process continued, as per the SIWP, until two consecutive intervals contained lead at concentrations below the NYSDEC SCO for industrial properties at each soil boring location, at which time no further analysis of samples below these intervals was required. All of the analyses were performed within the allowable holding time, which is 180 days for all of the metals analyzed, with the exception of mercury. As confirmed in an email from USEPA On-Scene Coordinator Margaret Gregor dated August 9, 2016, mercury analysis was not required.

6.4.2. Soil Investigation Results

Boring logs indicate the presence of slag in soil borings throughout the Site with the exception of several borings in the northern portion of the Site including SB01, SB03, and SB012. Evidence of historic fill, including the presence of brick, concrete, glass, wood, and miscellaneous debris, is generally present from grade to approximately six to eight ft bgs.

The validated soil analytical results were compared to the NYSDEC IUSCOs and EPA RMLs. Metals concentrations did not exceed the EPA RMLs or NYSDEC IUSCOs in the top two feet of soil at SB01, SB02, SB03, SB04, SB05, SB09, SB010, SB011, SB012, and SB020. In addition to these locations, metals concentrations did not exceed the applicable NYSDEC IUSCOs in the top two feet of soil at SB06, SB07, SB08, and SB013.

The greatest concentrations of lead in soil were generally observed in the vicinity of SB020, SB021, SB022, SB025, and SB026, all of which are located in the central portion of the site, in the vicinity of the rear of the former smelting operations. The greatest concentrations of arsenic in soil were generally observed in the vicinity of SB018, SB020, SB021, and SB025, which are also located in the central portion of the site, in the vicinity of the rear of the former smelting operations.

In addition:

- Metals concentrations did not exceed the EPA RMLs or NYSDEC IUSCOs in the top two feet of soil at SB01, SB02, SB03, SB04, SB05, SB09, SB010, SB011, SB012, and SB020. Metals concentrations exceeded the EPA RMLs, but did not exceed the applicable NYSDEC IUSCOs, in the top two feet of soil at SB06, SB07, SB08, and SB013.
- Lead concentrations in soil were at or above the EPA RML for lead of 800 milligrams per kilogram (mg/kg) for Industrial soil in 20 out of 26 soil boring locations and in 73 out of 149

samples analyzed. Lead concentrations in soil were at or above the NYSDEC Industrial SCO of 3,900 mg/kg Industrial soil in 15 out of 26 soil boring locations and in 40 out of 149 samples analyzed. The greatest concentration of lead (56,000 mg/kg) was detected in the soil sample collected at SB025-02,

- Arsenic concentrations in soil did not exceed the EPA RML for arsenic of 300 mg/kg for Industrial soil in any of the samples analyzed. Arsenic concentrations in soil were at or above the NYSDEC Industrial SCO of 16 mg/kg Industrial soil in 19 out of 26 soil boring locations and in 73 out of 149 samples analyzed. The greatest concentration of arsenic (180 mg/kg) was detected in a soil sample collected at SB018-06,
- Antimony concentrations in soil were at or above the EPA RML for antimony of 470 milligrams per kilogram (mg/kg) for Industrial soil in four out of 26 soil boring locations and in five out of 149 samples analyzed. There is no NYSDEC Industrial SCO for antimony. The greatest concentration of antimony (1600 mg/kg) was detected in a soil sample collected at SB025-05,
- Copper concentrations in soil were at or above the EPA RML for copper of 47,000 mg/kg for Industrial soil in three of 26 boring locations and in four out of 149 samples analyzed. Copper concentrations in soil were at or above the NYSDEC Industrial SCO of 10,000 mg/kg Industrial soil in 10 out of 26 soil boring locations and in 12 out of 149 samples analyzed. The greatest concentration of copper (150,000 mg/kg) was detected in a soil sample collected at SB022-04,
- Zinc concentrations in soil did not exceed the EPA RML for zinc of 350,000 mg/kg for Industrial soil in any of the samples analyzed. Zinc concentrations in soil were at or above the NYSDEC Industrial SCO of 10,000 mg/kg Industrial soil in nine out of 26 soil boring locations and in 13 out of 149 samples analyzed. The greatest concentration of zinc (54,000 mg/kg) was detected in a soil sample collected at SB022-02, and
- Cadmium concentrations in soil did not exceed the EPA RML for cadmium of 980 mg/kg for Industrial soil in any of the samples analyzed. Cadmium concentrations in soil were at or above the NYSDEC Industrial SCO of 60 mg/kg Industrial soil in one out of 26 soil boring locations and in two out of 149 samples analyzed. The greatest concentration of cadmium (110 mg/kg) was detected in a soil sample collected at SB025-02.

Laboratory analytical results are presented in **Table 1.** Boring logs are presented in **Appendix A**. Laboratory Analytical Reports are presented in **Appendix B.**

6.5. Groundwater Investigation Activities

Sidewalk opening permits were obtained by EPS prior to the installation of three temporary wells, including one upgradient well (GW003) and two downgradient wells (GW001 and GW002) on October 13, 2016. The three temporary wells were installed utilizing Geoprobe® technology. Each well consisted of one-inch diameter Schedule 40 PVC installed to a depth of approximately 12 ft bgs with a five-foot long section of 0.010 slotted PVC screen.

6.5.1. Groundwater Sampling Protocol

Groundwater samples were collected consistent with the approved SIWP and the low-flow purging and sampling procedures outlined in the United States Environmental Protection Agency (USEPA) Standard Operating Procedures (SOP) No. 2007. Disposable polyethylene tubing was inserted through the temporary well and into the water bearing zone and connected to a peristaltic pump. A Horiba U52-2 water quality meter with flow through cell was used to measure and monitor stabilization of field parameters including pH, temperature, turbidity, conductivity, and oxygen reduction potential (ORP). Measurements were taken every 3 to 5 minutes. Groundwater samples were collected after readings stabilized, but not before three casing volumes had been purged. Stabilization was considered to have been achieved when consecutive readings were within five percent of each other. If turbidity could not be reduced to 50 NTUs, but other parameters had stabilized, samples were collected. All monitoring well purging data was recorded in a well sampling log.

Groundwater samples for laboratory analysis were collected in pre-cleaned, laboratory-provided containers with sample preservatives as appropriate for the respective methods and parameter holding times for Total Analyte List (TAL) metals and tin analysis, both filtered and unfiltered. Quality control samples were collected pursuant to the Quality Assurance Project Plan (QAPP). For quality control, a duplicate groundwater sample (GW9001) was collected at GW002 as per the QAPP.

The sample containers were labeled, placed in a laboratory-supplied cooler, and packed on ice (to maintain a temperature of 4°C). Sample coolers were handled under proper chain of custody protocols in accordance with the QAPP provided as Attachment B.

The location of the three temporary wells is indicated on **Figure 5**.

Copies of the groundwater sampling data sheets containing the field parameters recorded and purge volumes for each sampling point are included in **Appendix C**.

6.5.2. Groundwater Investigation Results

The validated results for groundwater samples were compared to the NYSDEC Groundwater Quality Standards (GQS). Site-related dissolved-phase metals concentrations did not exceed their respective NYSDEC GQS. The greatest concentration of dissolved-phase lead was 1.0 µg/L as compared with a GQS of 25 µg/L. In fact, the dissolved-phase concentration of lead was 1.0 µg/L at all three groundwater sampling locations, including one upgradient and two downgradient locations. The greatest concentration of dissolved-phase arsenic was 1.1 µg/L (GW002) as compared with a GQS of 25 µg/L and an upgradient concentration of 0.9 µg/L at GW001.

Tables 2 presents groundwater sampling laboratory analytical results including comparisons to the NYSDEC GQS/ specified in 6 NYCRR Part 703. **Figure 14** presents groundwater sampling laboratory analytical results for lead and arsenic at each sampling location.

6.6. Investigation Derived Waste

Waste materials generated during the SI were containerized in two 55-gallon drums, which are presently stored on-site, for proper disposal during the remedial action.

6.7. Data Usability Summary

Analytical data packages obtained from Alpha for samples collected during the SI were sent to Laboratory Data Consultants, Inc. (LDC) of Carlsbad, CA to undergo a systematic data validation to provide assurance that the data was adequate for its intended use. SI data was deemed acceptable by the data validator, incorporating data qualifiers as appropriate. Data acceptability was defined as being compliant with established protocols and meeting the project's data quality objectives.

This Data Validation Report (DVR) presents data validation findings and results for the associated samples. Data Validation was performed in accordance with the Quality Assurance Project Plan, Atlas White Metal Co. Site, Brooklyn, Kings County, New York (March 2016) and a modified outline of the USEPA National Functional Guidelines (NFG) for inorganic Superfund Data Review (August 2014).

The analyses were performed by the following methods:

Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, and Zinc by Environmental Protection Agency (EPA) SW 846 Method 6020A.

All sample results were subjected to Stage 4 evaluation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Atlas White Metal Co. Site, Brooklyn, King County, New York, March 2016
- USEPA, National Functional Guidelines for Inorganic Superfund Data Review, August 2014
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

The analysis was conducted within all specifications of the methods and no results were rejected. Due to continuing calibration °/oR, MS/MSD o/oR and RPD, DUP RPD and difference, and SRM 0/oR, data were qualified as estimated in sixty-five samples. Due to laboratory blank contamination, data were qualified as not detected in forty-three samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

All samples were received in good condition and technical holding time requirements were met. Sampling frequency requirements were met in obtaining field duplicates. The laboratory used standard analytical methods for their analyses. The analytical results were reported in the correct standard units. Holding times and sample integrity were within QC criteria. The overall comparability is considered acceptable. The completeness for all SDGs is 100%

LDC narratives and the full data validation reports are provided in **Appendix D**. Laboratory analytical results tables were updated accordingly.

6.8. Summary of Site Investigation

PWGC directed and oversaw the collection of soil samples from 26 soil boring locations (SB01 through SB026) which were spaced evenly, approximately 20 to 25 feet apart,throughout the Site. The soil borings were advanced to the upper limit of the groundwater table, approximately six to eight ft bgs.

The vertical and horizontal extent of lead in soil that exceeds the EPA RMLs and NYSDEC SCOs for industrial properties has been characterized for the purposes of remedy selection

Slag is present throughout the Site with the exception of several borings in the northern portion of the Site including SB01, SB03, and SB012. Evidence of historic fill, including the presence of brick, concrete, glass, wood, and miscellaneous debris, is generally present from grade to approximately six to eight ft bgs.

The validated soil analytical results were compared to the NYSDEC IUSCOs and EPA RMLs. Metals concentrations did not exceed the EPA RMLs or NYSDEC IUSCOs in the top two feet of soil at SB01, SB02, SB03, SB04, SB05, SB09, SB010, SB011, SB012, and SB020. In addition to these locations, metals concentrations did not exceed the applicable NYSDEC IUSCOs in the top two feet of soil at SB06, SB07, SB08, and SB013.

73 results were at or above the EPA RML for lead and 40 results were at or above the NYSDEC Industrial SCO for lead. No results were at or above the EPA RML for arsenic and 73 results were at or above the NYSDEC Industrial SCO for arsenic. Five results were at or above the EPA RML for antimony, for which there is no NYSDEC Industrial SCO. Four results were at or above the EPA RML for copper and 12 results were at or above the NYSDEC Industrial SCO for copper. No results were at or above the EPA RML for zinc and 13 results were at or above the NYSDEC Industrial SCO for zinc. No results were at or above the EPA RML for cadmium and two results were at or above the NYSDEC Industrial SCO for cadmium.

Filtered and unfiltered groundwater samples were collected from temporary wells located both upgradient and downgradient of the Site. Site-related dissolved-phase metals, including lead and arsenic did not exceed their respective NYSDEC GQS.

7.0 CONCEPTUAL SITE MODEL

A Preliminary Conceptual Site Model (PCSM) was presented in the SIWP to help evaluate the existing data and determine key remedy-relevant data gaps to be addressed by the SI. The CSM has been updated based upon the findings of the SI. The CSM considers site history and context, including the factors that influence contaminant distribution, fate and transport of remedy-relevant constituents, as well as potential receptors and pathways for exposure. These factors included potential sources and release mechanisms, the physical-chemical mechanisms that control constituent fate and transport, and the likely exposure pathways that govern the potential for adverse effects to human and ecological

receptors.

7.1. Potential Primary and Secondary Sources

Secondary lead smelting is the recovery of lead metal and alloys from scrap, primarily lead-acid batteries. This industry expanded during the early 20th century to take advantage of this new source of scrap. Because batteries are heavy, and therefore expensive to transport, smelters were located near the largest sources of scrap (i.e., in large cities). Secondary lead smelting produces several wastes that can contaminate the air and soil. Lead concentrations in shallow soil may reach percentage levels (i.e., 1% or more) near smelters and may persist indefinitely. Lead in soil, dust, and residential lead paint (which is correlated with lead in soil and dust) are the primary sources of environmental lead exposure (Eckel, 2001).

The former secondary lead smelting facility operated from the mid-1920's through the 1960s. Based on the available information, it is likely that the on-site companies smelted scrap metal to form lead ingots and various products, rather than specializing in certain alloys. The smelting facility was demolished circa 1978. As a result, the primary source of the release and transport of metals has been removed. A secondary source of metals, including lead and antimony, exists in soils at the Site. Secondary source areas of lead in soil may be the result of brushing and/or sweeping out of material from the interior of the smelting facility, discharge and deposition of airborne emissions through vents and/or stacks, discharge from flue-runoff, disposal and/or burial of wastes in undeveloped areas of the site while the smelter was operating, mixture of waste from the historic building with soils during building demolition, or the accumulation of waste by-products, which is typically indicated by the presence of slag and/or retort fragments. Potentially, such material may have impacted the undeveloped southeast portion of the Site while the historic smelter was operating, or may have been mixed with soil throughout the Site during demolition and/or redevelopment.

As indicated in the July 2015 RSE, emissions from secondary smelter facilities typically contain lead, antimony, tin, and sometimes arsenic and copper. Because the former smelting facility specialized in white metals, it is likely that any emissions related to the former operations at that facility would have also included cadmium and zinc. The known constituents of concern which exceed the EPA RMLs for industrial properties are lead and antimony. Additional potential sources of lead in

subsurface soil include its presence in historic fill, lead paint, and vehicle exhaust during the period when leaded fuel was used.

Boring logs indicate the presence of slag in soil borings throughout the Site with the exception of several in the northern portion of the Site including SB01, SB03, and SB012. Evidence of historic fill, including the presence of brick, concrete, glass, wood, and miscellaneous debris, is generally present from grade to approximately 6 to 8 ft bgs.

7.2. Environmental Fate and Transport

Chemicals are transported or transformed in the environment through physical and kinetic processes. Physical processes including dissolution, vaporization, and adsorption result in the transfer of substances across media and phases. Kinetic processes, which include biotic and abiotic chemical transformations, may decrease the concentration of a chemical by degrading it into other products.

The parcel which contains the footprint of the historic smelter is partially paved, but includes some areas where the pavement is damaged or missing. The area in front of the 86-90 Verona Street was defoliated and covered with a filter fabric in October 2015. No known gardening, landscaping, and/or construction activities are presently taking place. Therefore, it is unlikely that soils at depth will be disturbed at the present time.

In general, lead is relatively immobile in groundwater because of its strongly affinity to adsorb to soils under a wide range of pH and Eh conditions and will not be transported readily in groundwater. Groundwater flow direction is approximately west-northwest, towards the East River. SI results confirm that Site-related dissolved-phase metals are not present in groundwater at the Site.

7.3. Potential Sensitive Receptors and Exposure Pathways

A complete exposure pathway is needed for a potential human or ecological health risk to be present. Potential receptors at the Site include facility and construction/utility workers and groundwater. Based on the peer-reviewed principles of environmental risk assessment, there is no risk to a receptor when either (1) no receptor is present or (2) there is no complete exposure pathway for that receptor.

All known subsurface soil that contains metals at concentrations that exceed the EPA RML for industrial properties is located beneath asphalt-paved surfaces. However, small areas of the pavement have become deteriorated in the southern half of the Site, and large areas of exposed soil exist in the

northern half of the Site. The pavement is not entirely intact throughout much of the Site. Direct contact with exposed soil may occur in the northern portion of the parcel which is utilized as a parking/storage area, as well as in the small areas of the southern portion of the Site where pavement is missing. There is an additional potential for damage or disturbance of the asphalt and soil if heavy machinery and/or vehicles are used at the Site. There is also additional potential for freezing and thawing cycles to exacerbate cracks and potholes in the pavement. Soil containing metals, including lead, may adhere to footwear, skin, clothing or pets, and may be tracked off-property. In addition, pets allowed on-site during working hours could engage in digging activities and disturb any unpaved areas of the site. Exposed soil, especially in the northern half of the Site, may become disturbed via wind currents and available for inhalation in areas throughout the Site. Finally, there is also the potential for secondary source material to impact groundwater; however, as noted above, lead is relatively immobile in groundwater and is not likely to migrate very far from the source. Further, the SI results do not indicate the presence of dissolved-phase metals in groundwater upgradient or downgradient of the Site.

It is our understanding that the depth of soil considered by the EPA Region 2 Superfund Removal Program to be available for exposure is two feet in order to take into consideration current and potential future uses of the property, including, but not limited to, construction/utility workers and any future property occupants. This is consistent with EPA's 2003 Superfund Lead-Contaminated Residential Site Handbook which indicates that sampling may not need to exceed 24 inches to define vertical and horizontal extent of contamination for clean-up purposes at residential sites, if a future deed restriction on the property is being considered. Under current conditions at this industrial Site, there is limited risk for deeper soils to be disturbed and brought to the surface unless heavy machinery is utilized at the Site.

Site-related dissolved-phase metals concentrations did not exceed their respective NYSDEC GQS. The greatest concentration of dissolved-phase lead was 1.0 μg/L as compared with a GQS of 25 μg/L. In fact, the dissolved-phase concentration of lead was 1.0 μg/L at all three groundwater sampling locations, including one upgradient and two downgradient locations. The greatest concentration of dissolved-phase arsenic was 1.1 μg/L (GW002) as compared with a GQS of 25 μg/L and an upgradient concentration of 0.9 μg/L at GW001. Groundwater sampling results indicate that the metals that are present in subsurface soils do not represent a source to groundwater. Therefore, they may be reliably contained through the use of common engineering and institutional controls, such as a cap, which would maintain current conditions, which are presently preventing the potential for the migration of

contaminants from soils to the groundwater beneath the Site, and a health and safety plan and / or site management plan, which would describe the procedures required to manage residual contamination left in place at the Site following completion of any remedial action. Such engineering and institutional controls would be documented in an environmental easement.

8.0 SUMMARY OF SI FINDINGS

The following presents a summary of the SI findings.

- Slag is present throughout the Site, with the exception of several borings located in the northern portion of the Site, including SB01, SB03, and SB012,
- Historic fill, including the presence of brick, concrete, glass, wood, and miscellaneous debris, is generally present throughout the Site from grade to approximately six to eight ft bgs,
- Metals concentrations did not exceed the EPA RMLs or NYSDEC IUSCOs in the top two feet of soil at SB01, SB02, SB03, SB04, SB05, SB09, SB010, SB011, SB012, and SB020. Metals concentrations exceeded the EPA RMLs, but did not exceed the applicable NYSDEC IUSCOs, in the top two feet of soil at SB06, SB07, SB08, and SB013.
- Lead concentrations in soil were at or above the EPA RML for lead of 800 milligrams per kilogram (mg/kg) for Industrial soil in 20 out of 26 soil boring locations and in 73 out of 149 samples analyzed. Lead concentrations in soil were at or above the NYSDEC Industrial SCO of 3,900 mg/kg Industrial soil in 15 out of 26 soil boring locations and in 40 out of 149 samples analyzed. The greatest concentration of lead (56,000 mg/kg) was detected in the soil sample collected at SB025-02,
- Arsenic concentrations in soil did not exceed the EPA RML for arsenic of 300 mg/kg for Industrial soil in any of the samples analyzed. Arsenic concentrations in soil were at or above the NYSDEC Industrial SCO of 16 mg/kg Industrial soil in 19 out of 26 soil boring locations and in 73 out of 149 samples analyzed. The greatest concentration of arsenic (180 mg/kg) was detected in a soil sample collected at SB018-06,
- Antimony concentrations in soil were at or above the EPA RML for antimony of 470 milligrams per kilogram (mg/kg) for Industrial soil in four out of 26 soil boring locations and in five out of 149 samples analyzed. There is no NYSDEC Industrial SCO for antimony. The greatest concentration of antimony (1600 mg/kg) was detected in a soil sample collected at SB025-05,

- Copper concentrations in soil were at or above the EPA RML for copper of 47,000 mg/kg for Industrial soil in three of 26 boring locations and in four out of 149 samples analyzed. Copper concentrations in soil were at or above the NYSDEC Industrial SCO of 10,000 mg/kg Industrial soil in 10 out of 26 soil boring locations and in 12 out of 149 samples analyzed. The greatest concentration of copper (150,000 mg/kg) was detected in a soil sample collected at SB022-04,
- Zinc concentrations in soil did not exceed the EPA RML for zinc of 350,000 mg/kg for Industrial soil in any of the samples analyzed. Zinc concentrations in soil were at or above the NYSDEC Industrial SCO of 10,000 mg/kg Industrial soil in nine out of 26 soil boring locations and in 13 out of 149 samples analyzed. The greatest concentration of zinc (54,000 mg/kg) was detected in a soil sample collected at SB022-02, and
- Cadmium concentrations in soil did not exceed the EPA RML for cadmium of 980 mg/kg for Industrial soil in any of the samples analyzed. Cadmium concentrations in soil were at or above the NYSDEC Industrial SCO of 60 mg/kg Industrial soil in one out of 26 soil boring locations and in two out of 149 samples analyzed. The greatest concentration of cadmium (110 mg/kg) was detected in a soil sample collected at SB025-02.
- The current and anticipated future use of the Site is industrial,
- Groundwater is not a source of drinking water, and
- Groundwater generally flows to the west-northwest and is encountered at approximately 6 to 8 ft bgs.

9.0 CONCLUSIONS

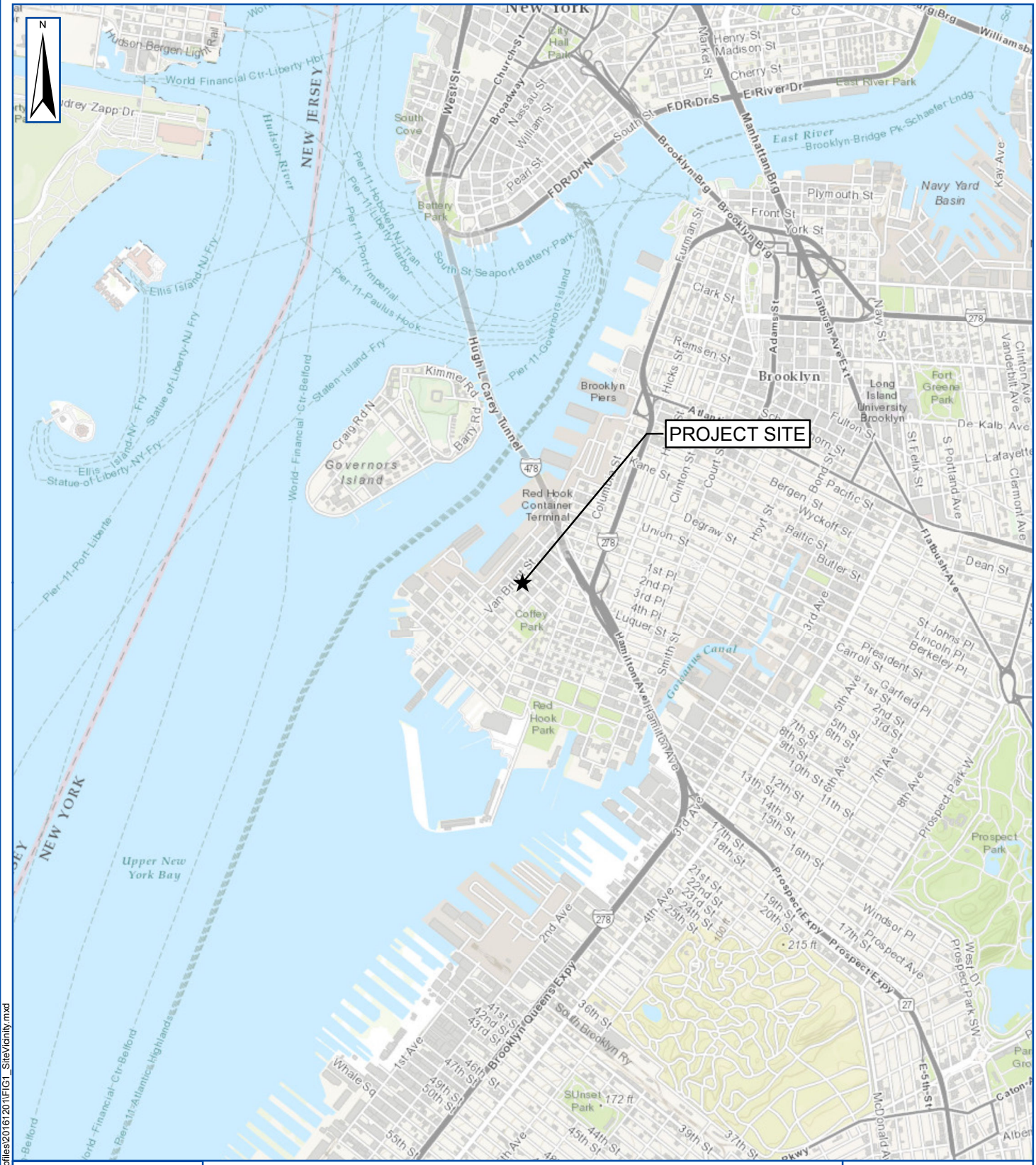
- The SI has roughly characterized the vertical and horizontal extent of metals concentrations that exceed the EPA RMLs and NYSDEC Industrial Use SCOs,
- The greatest concentrations of metals, including lead, arsenic, and antimony, in soil were observed in the central and southern portions of the site, in the vicinity of the rear of the former smelting operations,
- Site-related metals in subsurface soils at the Site do not represent a source of dissolved-phase metals in groundwater at concentrations that exceed applicable groundwater quality standards, and

- Metals that are present in shallow soil (top 1 foot), at concentrations that exceed the EPA RMLs and / or NYSDEC Industrial Use SCOs, may represent a potential risk to human or health or the environment under current and / or future conditions if no further action is taken.

10.0 RECOMMENDATIONS

A Remedial Action Work Plan should be prepared to provide details regarding plans for excavation to a depth of up to one ft bgs across the entire property and the installation of an impermeable cap. Such a remedy would (1) eliminate, to the extent practicable, the potential for direct human or animal contact with site-related contaminants present in soils at concentrations above Industrial EPA RMLs and NYSDEC SCOs, and (2) maintain current conditions which are not contributing to the presence of dissolved-phase site-related constituents in groundwater at concentrations that exceed applicable groundwater quality standards.

FIGURES



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SITE VICINITY

67-81 Delevan Street
Brooklyn, NY

0 ½ 1 1½ 2 Miles

Project:	HHE1602
Date:	1/19/2017
Designed by:	BB
Drawn by:	BB
Approved by:	RK
Figure No:	1

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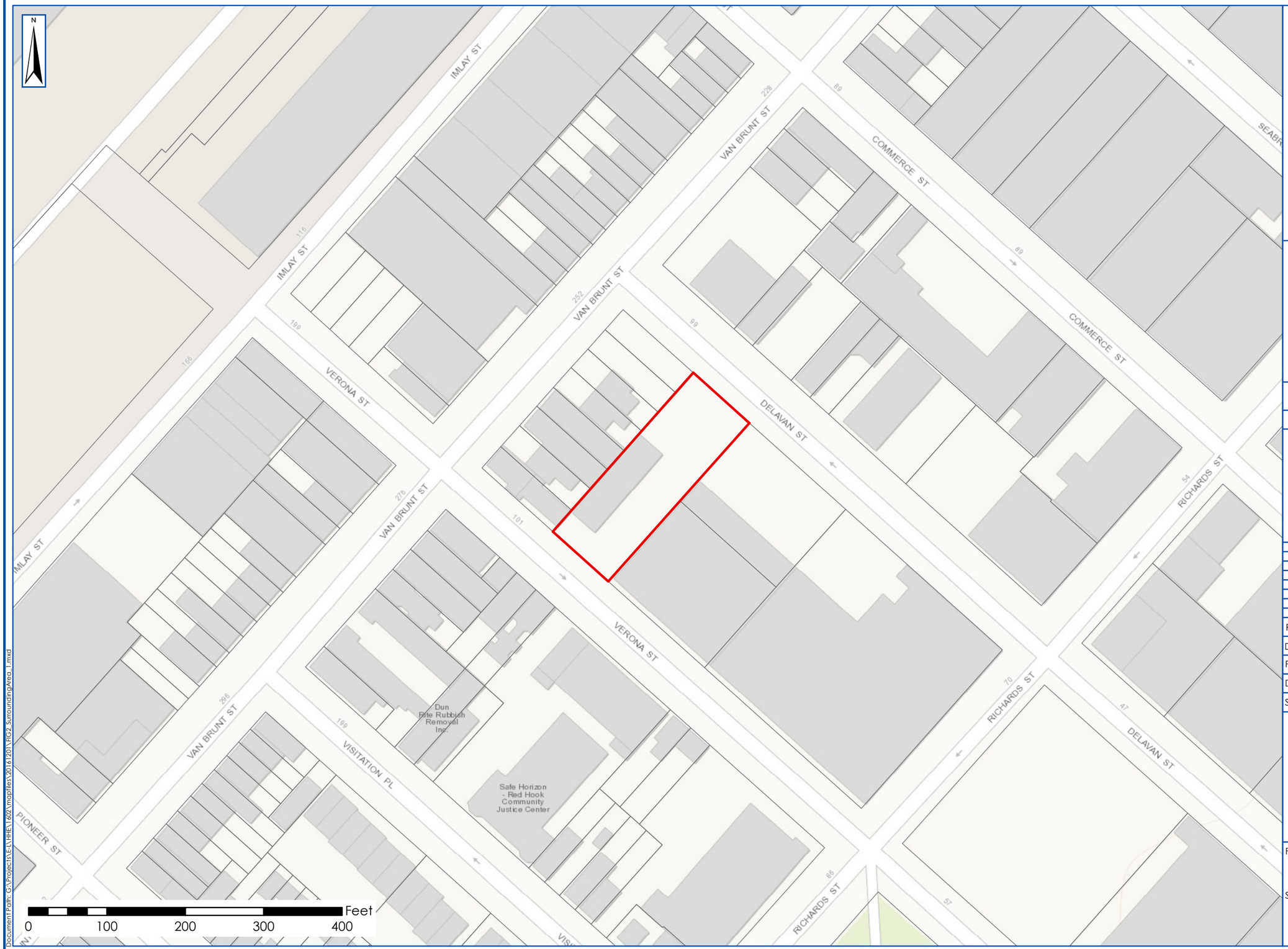

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Subject Site

Surrounding Parcels

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DRAWING PREPARED FOR:

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

Project:	HHE1602	Designed by:	BB
Date:	1/19/2017	Drawn by:	BB
Scale:	AS SHOWN	Approved by:	RK

SURROUNDING AREA

67-81 Delevan Street
Brooklyn, NY

FIGURE NO:

2

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- Soil Boring -WTS Investigation (2014-2015)
- Soil Boring - AWTS Investigation (2003)
- Subject Site
- Surrounding Parcels

- Lead results are in parts per million.
- Lead results above NYSDEC SCO (3,900 ppm)

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Date:	1/19/2017	Drawn by:	BB
Scale:	AS SHOWN	Approved by:	RK

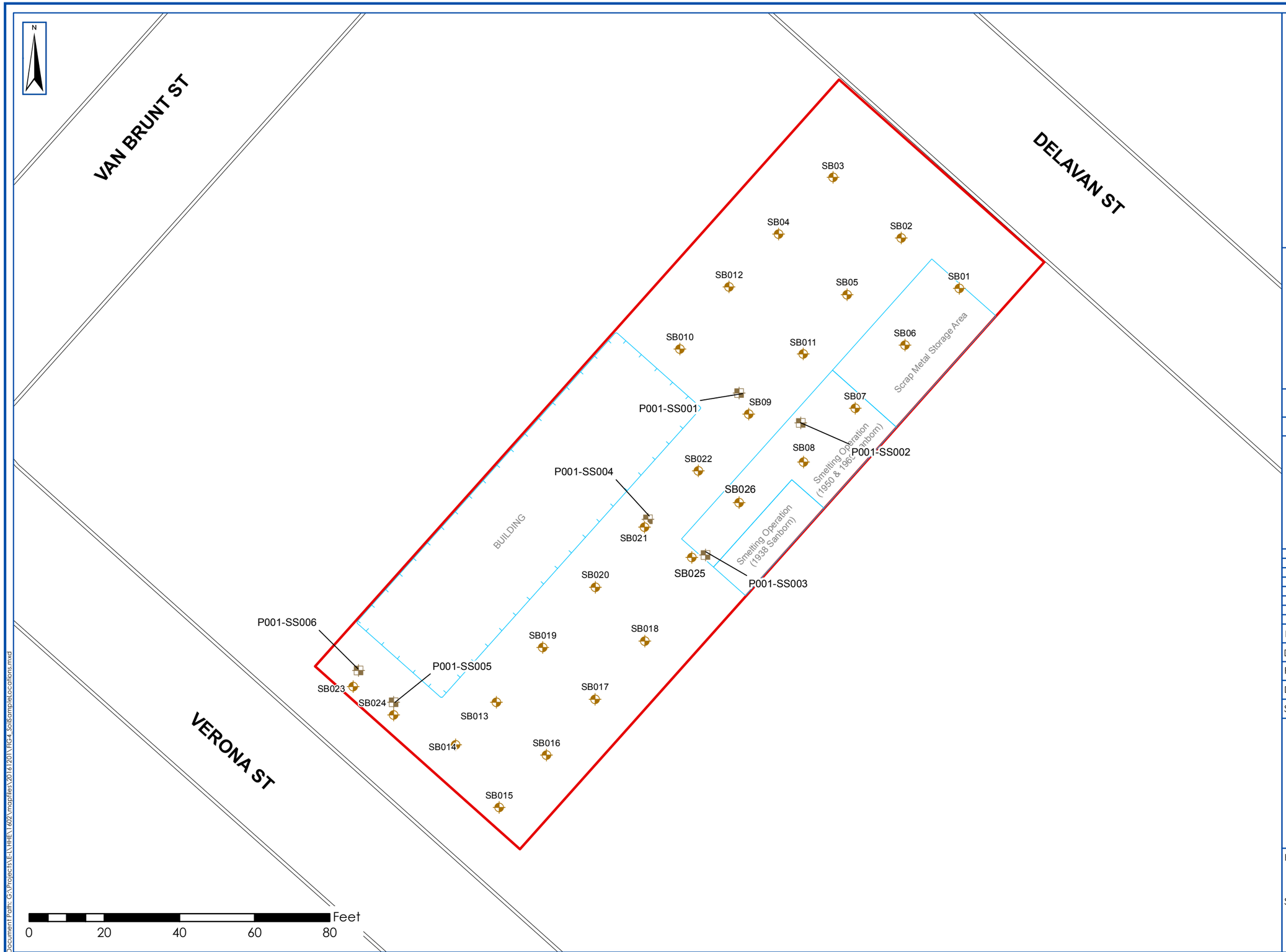
SITE PLAN WITH HISTORIC SAMPLING RESULTS

67-81 Delevan Street
Brooklyn, NY

FIGURE NO:

3

SHEET:



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- Soil Sample Locations
- Historic Sample Locations
- Subject Site
- Building Footprint

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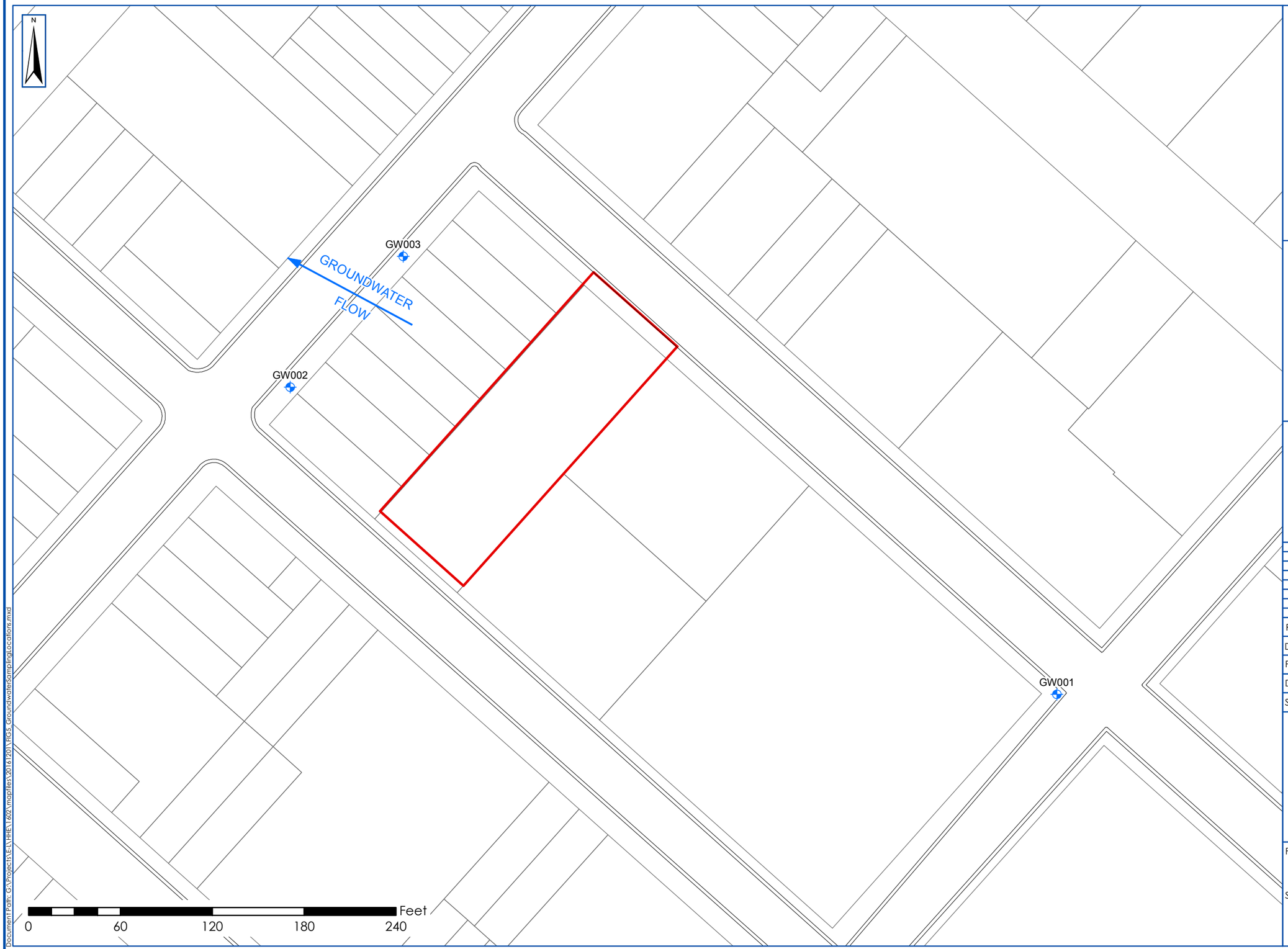
Project:	HHE1602	Designed by:	BB
Date:	2/13/2017	Drawn by:	JCG
Scale:	AS SHOWN	Approved by:	RK

SI SOIL SAMPLING LOCATIONS

67-81 Delevan Street
Brooklyn, NY

FIGURE NO:
4

SHEET:



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- Proposed Monitoring Well
- Curbline
- Subject Site
- Surrounding Parcels

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

Project:	HHE1602	Designed by:	BB
Date:	1/19/2017	Drawn by:	BB
Scale:	AS SHOWN	Approved by:	RK

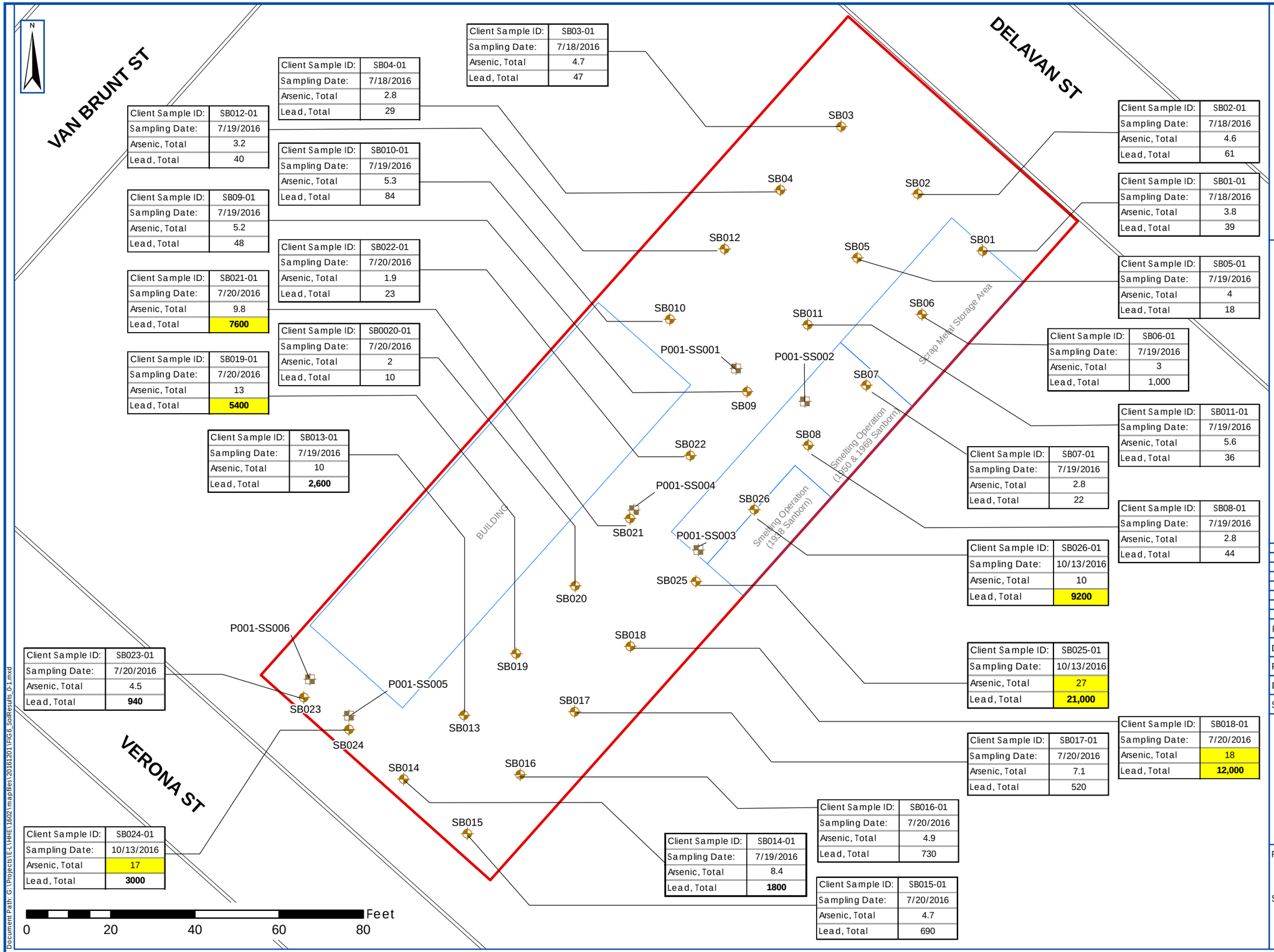
SI GROUNDWATER SAMPLING LOCATIONS

67-81 Delevan Street
Brooklyn, NY

FIGURE NO:

5

SHEET:



Client Sample ID:	SB03-01
Sampling Date:	7/18/2016
Arsenic, Total	4.7
Lead, Total	47

Client Sample ID:	SB04-01
Sampling Date:	7/18/2016
Arsenic, Total	2.8
Lead, Total	29

Client Sample ID:	SB012-01
Sampling Date:	7/19/2016
Arsenic, Total	3.2
Lead, Total	40

Client Sample ID:	SB010-01
Sampling Date:	7/19/2016
Arsenic, Total	5.3
Lead, Total	84

Client Sample ID:	SB09-01
Sampling Date:	7/19/2016
Arsenic, Total	5.2
Lead, Total	48

Client Sample ID:	SB022-01
Sampling Date:	7/20/2016
Arsenic, Total	1.9
Lead, Total	23

Client Sample ID:	SB021-01
Sampling Date:	7/20/2016
Arsenic, Total	9.8
Lead, Total	**7600**

Client Sample ID:	SB0020-01
Sampling Date:	7/20/2016
Arsenic, Total	2
Lead, Total	10

Client Sample ID:	SB019-01
Sampling Date:	7/20/2016
Arsenic, Total	13
Lead, Total	**5400**

Client Sample ID:	SB013-01
Sampling Date:	7/19/2016
Arsenic, Total	10
Lead, Total	**2,600**

Client Sample ID:	SB023-01
Sampling Date:	7/20/2016
Arsenic, Total	4.5
Lead, Total	**940**

Client Sample ID:	SB024-01
Sampling Date:	10/13/2016
Arsenic, Total	17
Lead, Total	**3000**

Client Sample ID:	SB014-01
Sampling Date:	7/19/2016
Arsenic, Total	8.4
Lead, Total	**1800**

Client Sample ID:	SB016-01
Sampling Date:	7/20/2016
Arsenic, Total	4.9
Lead, Total	730

Client Sample ID:	SB015-01
Sampling Date:	7/20/2016
Arsenic, Total	4.7
Lead, Total	690

Client Sample ID:	SB017-01
Sampling Date:	7/20/2016
Arsenic, Total	7.1
Lead, Total	520

Client Sample ID:	SB018-01
Sampling Date:	7/20/2016
Arsenic, Total	18
Lead, Total	**12,000**

Client Sample ID:	SB025-01
Sampling Date:	10/13/2016
Arsenic, Total	27
Lead, Total	**21,000**

Client Sample ID:	SB026-01
Sampling Date:	10/13/2016
Arsenic, Total	10
Lead, Total	**9200**

Client Sample ID:	SB08-01
Sampling Date:	7/19/2016
Arsenic, Total	2.8
Lead, Total	44

Client Sample ID:	SB07-01
Sampling Date:	7/19/2016
Arsenic, Total	2.8
Lead, Total	22

Client Sample ID:	SB011-01
Sampling Date:	7/19/2016
Arsenic, Total	5.6
Lead, Total	36

Client Sample ID:	SB06-01
Sampling Date:	7/19/2016
Arsenic, Total	3
Lead, Total	1,000

Client Sample ID:	SB05-01
Sampling Date:	7/19/2016
Arsenic, Total	4
Lead, Total	18

Client Sample ID:	SB01-01
Sampling Date:	7/18/2016
Arsenic, Total	3.8
Lead, Total	39

Client Sample ID:	SB02-01
Sampling Date:	7/18/2016
Arsenic, Total	4.6
Lead, Total	61

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E-mail: INFO@PWGROSSER.COM

Soil Sample Locations
Historic Sample Locations
Building Footprint
Subject Site

NA = not analyzed

NC = not collected

Highlighted text denotes concentrations exceeding NYSDEC Industrial Use SCO.

Bold text denotes concentrations exceeding EPA RMLs.

Soil concentrations are shown in mg/kg
Groundwater concentrations are shown in µg/l

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

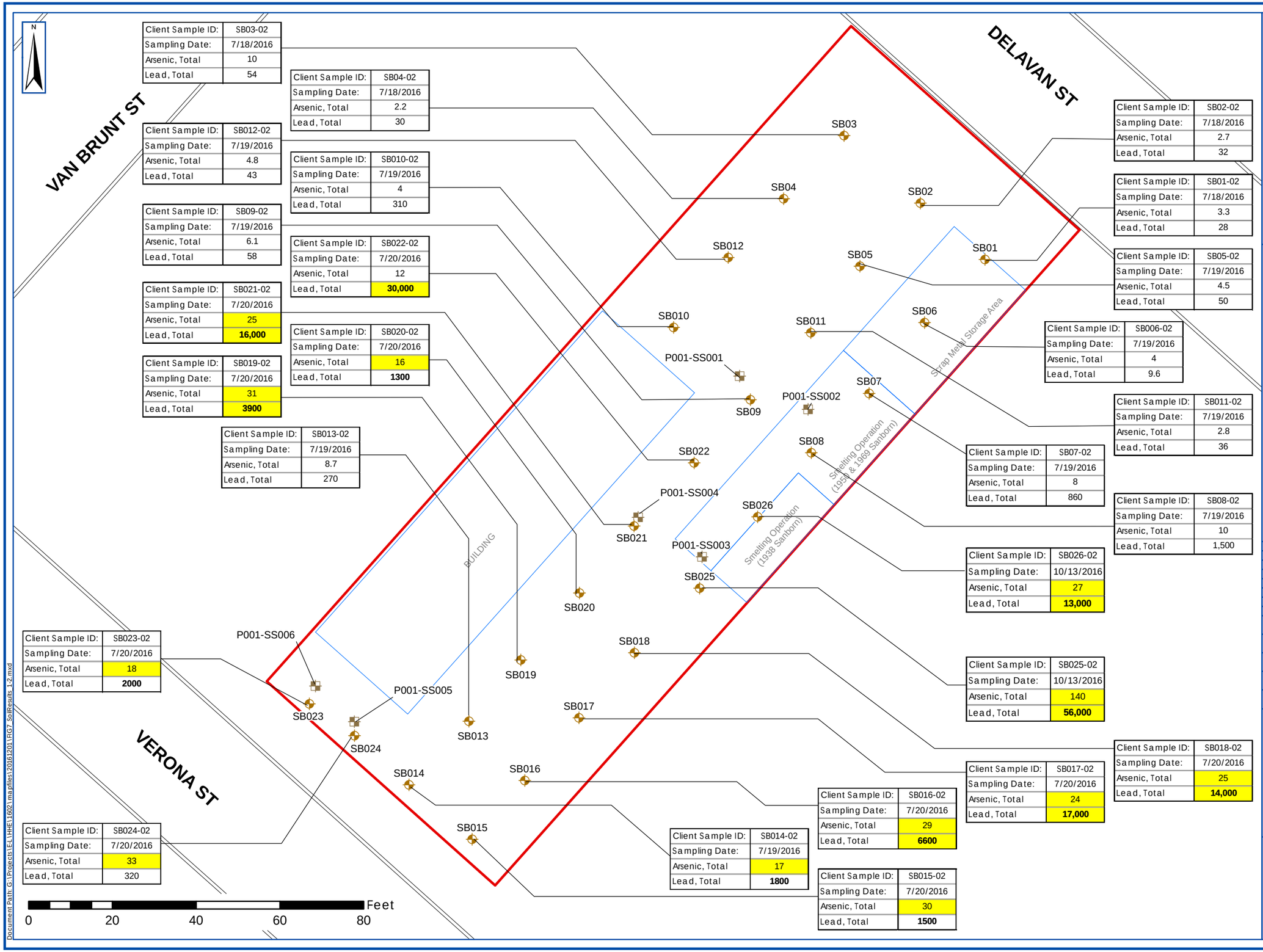
Project:	HHE1602	Designed by:	BB
Date:	3/7/2017	Drawn by:	JCG
Scale:	AS SHOWN	Approved by:	RK

SOIL SAMPLING RESULTS
LEAD & ARSENIC
0 to 1 ft bgs
67-91 Delevan Street
Brooklyn, NY

FIGURE NO:
6

SHEET:

Document Path: G:\Projects\E-L\HHE\1602\mapfiles\20161201\FIG6_SoilResults_0-1.mxd



Client Sample ID:	SB03-02
Sampling Date:	7/18/2016
Arsenic, Total	10
Lead, Total	54

Client Sample ID:	SB04-02
Sampling Date:	7/18/2016
Arsenic, Total	2.2
Lead, Total	30

Client Sample ID:	SB012-02
Sampling Date:	7/19/2016
Arsenic, Total	4.8
Lead, Total	43

Client Sample ID:	SB010-02
Sampling Date:	7/19/2016
Arsenic, Total	4
Lead, Total	310

Client Sample ID:	SB09-02
Sampling Date:	7/19/2016
Arsenic, Total	6.1
Lead, Total	58

Client Sample ID:	SB022-02
Sampling Date:	7/20/2016
Arsenic, Total	12
Lead, Total	**30,000**

Client Sample ID:	SB021-02
Sampling Date:	7/20/2016
Arsenic, Total	25
Lead, Total	**16,000**

Client Sample ID:	SB020-02
Sampling Date:	7/20/2016
Arsenic, Total	16
Lead, Total	**1300**

Client Sample ID:	SB019-02
Sampling Date:	7/20/2016
Arsenic, Total	31
Lead, Total	**3900**

Client Sample ID:	SB013-02
Sampling Date:	7/19/2016
Arsenic, Total	8.7
Lead, Total	270

Client Sample ID:	SB023-02
Sampling Date:	7/20/2016
Arsenic, Total	18
Lead, Total	**2000**

Client Sample ID:	SB024-02
Sampling Date:	7/20/2016
Arsenic, Total	33
Lead, Total	320

Client Sample ID:	SB014-02
Sampling Date:	7/19/2016
Arsenic, Total	17
Lead, Total	**1800**

Client Sample ID:	SB016-02
Sampling Date:	7/20/2016
Arsenic, Total	29
Lead, Total	**6600**

Client Sample ID:	SB015-02
Sampling Date:	7/20/2016
Arsenic, Total	30
Lead, Total	**1500**

Client Sample ID:	SB017-02
Sampling Date:	7/20/2016
Arsenic, Total	24
Lead, Total	**17,000**

Client Sample ID:	SB018-02
Sampling Date:	7/20/2016
Arsenic, Total	25
Lead, Total	**14,000**

Client Sample ID:	SB025-02
Sampling Date:	10/13/2016
Arsenic, Total	140
Lead, Total	**56,000**

Client Sample ID:	SB026-02
Sampling Date:	10/13/2016
Arsenic, Total	27
Lead, Total	**13,000**

Client Sample ID:	SB07-02
Sampling Date:	7/19/2016
Arsenic, Total	8
Lead, Total	860

Client Sample ID:	SB08-02
Sampling Date:	7/19/2016
Arsenic, Total	10
Lead, Total	1,500

Client Sample ID:	SB011-02
Sampling Date:	7/19/2016
Arsenic, Total	2.8
Lead, Total	36

Client Sample ID:	SB006-02
Sampling Date:	7/19/2016
Arsenic, Total	4
Lead, Total	9.6

Client Sample ID:	SB02-02
Sampling Date:	7/18/2016
Arsenic, Total	2.7
Lead, Total	32

Client Sample ID:	SB01-02
Sampling Date:	7/18/2016
Arsenic, Total	3.3
Lead, Total	28

Client Sample ID:	SB05-02
Sampling Date:	7/19/2016
Arsenic, Total	4.5
Lead, Total	50

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Building Footprint
Subject Site

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Groundwater concentrations are shown in µg/l

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

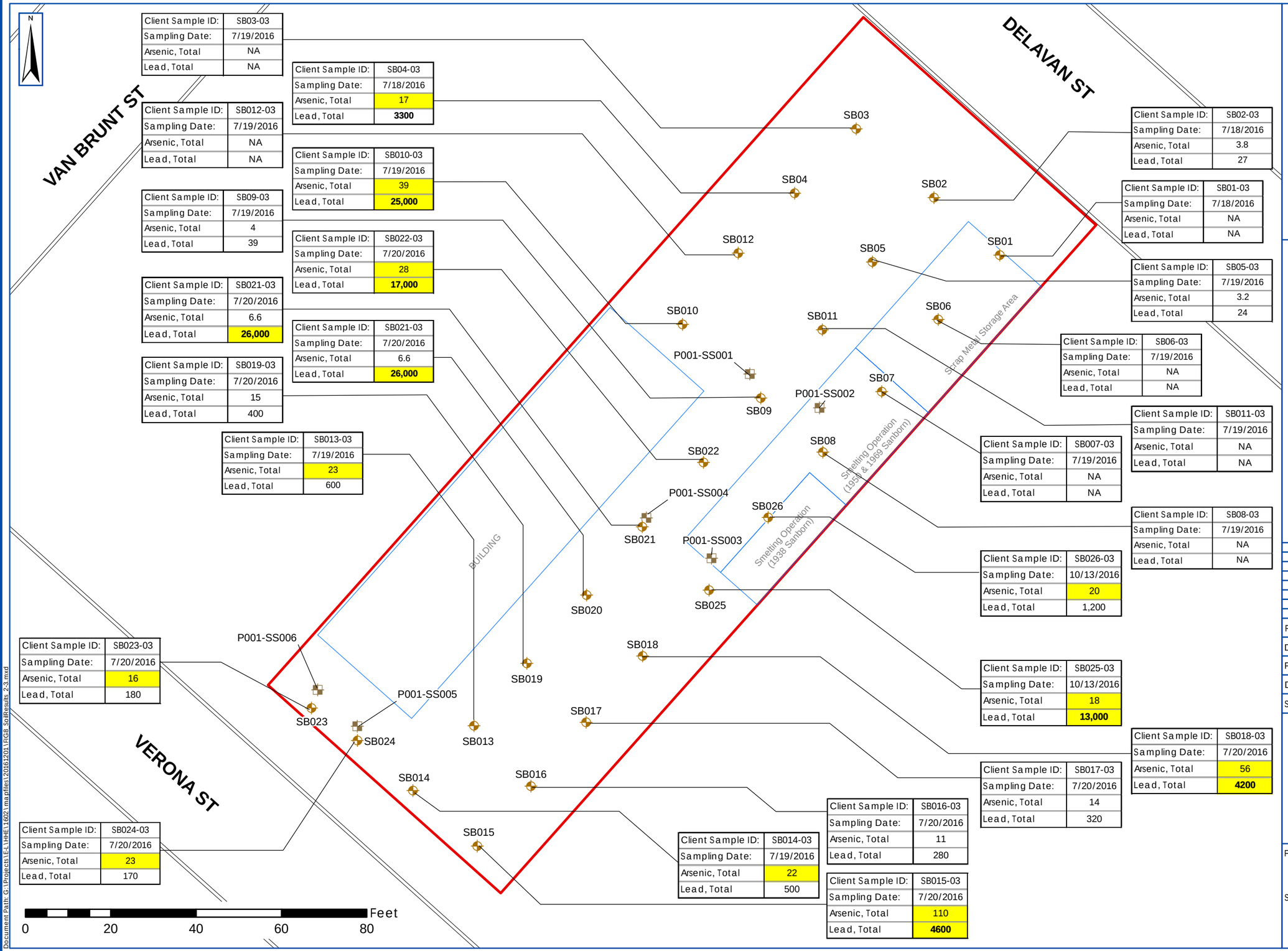
Project:	HHE1602	Designed by:	BB
Date:	3/7/2017	Drawn by:	JCG
Scale:	AS SHOWN	Approved by:	RK

SOIL SAMPLING RESULTS
LEAD & ARSENIC
1 to 2 ft bgs
67-81 Delevan Street
Brooklyn, NY

FIGURE NO: 7

SHEET:

Document Path: G:\Projects\E-L\HHE\1602\mapfiles\20161201\FIG7_SoilResults_1-2.mxd



Client Sample ID:	SB03-03
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB04-03
Sampling Date:	7/18/2016
Arsenic, Total	17
Lead, Total	**3300**

Client Sample ID:	SB012-03
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB010-03
Sampling Date:	7/19/2016
Arsenic, Total	39
Lead, Total	**25,000**

Client Sample ID:	SB09-03
Sampling Date:	7/19/2016
Arsenic, Total	4
Lead, Total	39

Client Sample ID:	SB022-03
Sampling Date:	7/20/2016
Arsenic, Total	28
Lead, Total	**17,000**

Client Sample ID:	SB021-03
Sampling Date:	7/20/2016
Arsenic, Total	6.6
Lead, Total	**26,000**

Client Sample ID:	SB021-03
Sampling Date:	7/20/2016
Arsenic, Total	6.6
Lead, Total	**26,000**

Client Sample ID:	SB019-03
Sampling Date:	7/20/2016
Arsenic, Total	15
Lead, Total	400

Client Sample ID:	SB013-03
Sampling Date:	7/19/2016
Arsenic, Total	23
Lead, Total	600

Client Sample ID:	SB023-03
Sampling Date:	7/20/2016
Arsenic, Total	16
Lead, Total	180

Client Sample ID:	SB024-03
Sampling Date:	7/20/2016
Arsenic, Total	23
Lead, Total	170

Client Sample ID:	SB014-03
Sampling Date:	7/19/2016
Arsenic, Total	22
Lead, Total	500

Client Sample ID:	SB016-03
Sampling Date:	7/20/2016
Arsenic, Total	11
Lead, Total	280

Client Sample ID:	SB015-03
Sampling Date:	7/20/2016
Arsenic, Total	110
Lead, Total	**4600**

Client Sample ID:	SB017-03
Sampling Date:	7/20/2016
Arsenic, Total	14
Lead, Total	320

Client Sample ID:	SB018-03
Sampling Date:	7/20/2016
Arsenic, Total	56
Lead, Total	**4200**

Client Sample ID:	SB025-03
Sampling Date:	10/13/2016
Arsenic, Total	18
Lead, Total	**13,000**

Client Sample ID:	SB026-03
Sampling Date:	10/13/2016
Arsenic, Total	20
Lead, Total	1,200

Client Sample ID:	SB08-03
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB007-03
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB011-03
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB06-03
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB05-03
Sampling Date:	7/19/2016
Arsenic, Total	3.2
Lead, Total	24

Client Sample ID:	SB01-03
Sampling Date:	7/18/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB02-03
Sampling Date:	7/18/2016
Arsenic, Total	3.8
Lead, Total	27

Document Path: G:\Projects\EL\HHE\1602\mapfiles\20161201\FIG8_SoilResults_2-3.mxd

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- Historic Sample Locations
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- Subject Site

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REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

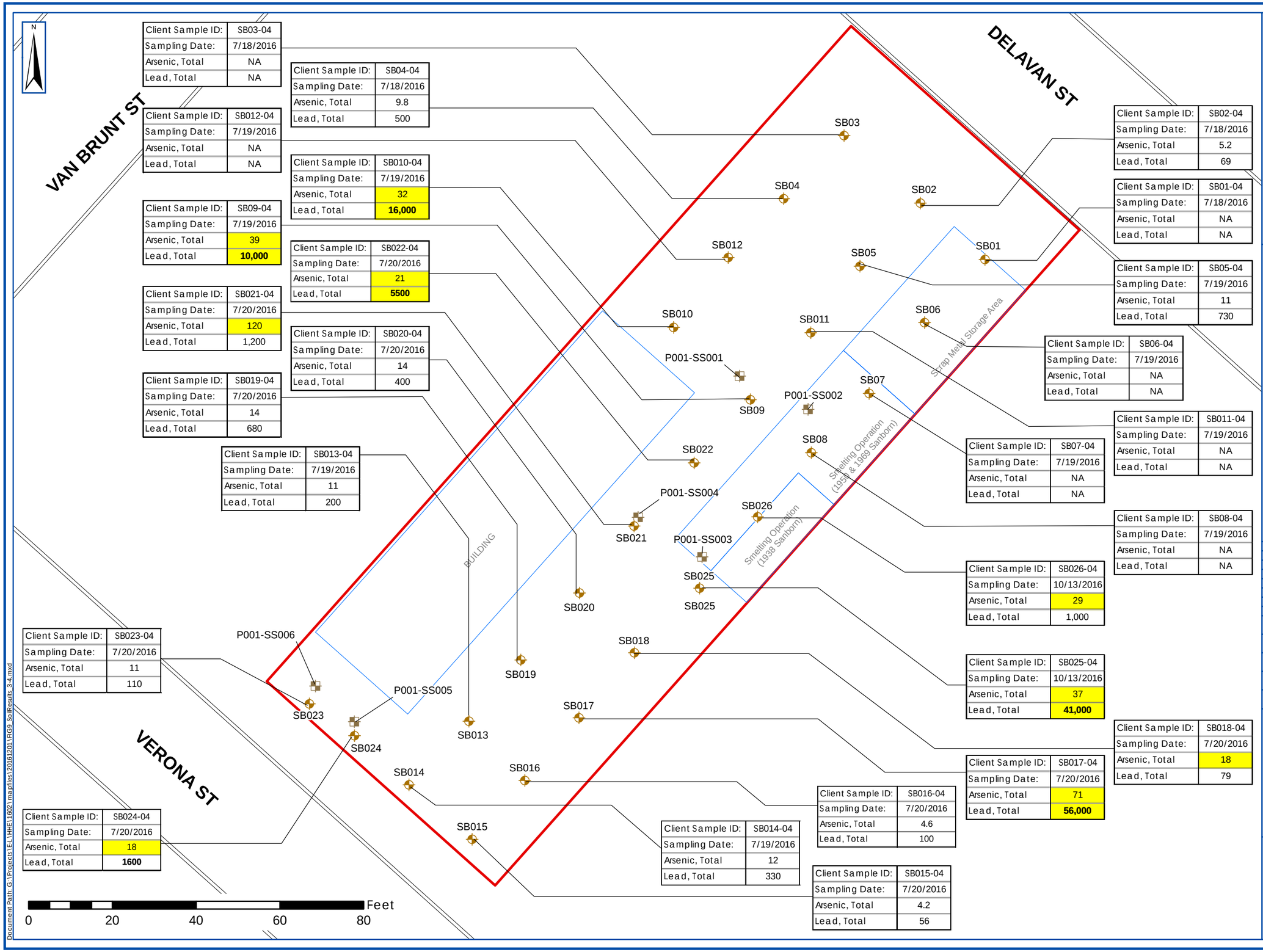
Project:	HHE1602	Designed by:	BB
Date:	3/7/2017	Drawn by:	JCG
Scale:	AS SHOWN	Approved by:	RK

SOIL SAMPLING RESULTS
LEAD & ARSENIC
2 to 3 ft bgs
67-81 Delevan Street
Brooklyn, NY

FIGURE NO:

8

SHEET:



Client Sample ID:	SB03-04
Sampling Date:	7/18/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB04-04
Sampling Date:	7/18/2016
Arsenic, Total	9.8
Lead, Total	500

Client Sample ID:	SB012-04
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB010-04
Sampling Date:	7/19/2016
Arsenic, Total	32
Lead, Total	**16,000**

Client Sample ID:	SB09-04
Sampling Date:	7/19/2016
Arsenic, Total	39
Lead, Total	**10,000**

Client Sample ID:	SB022-04
Sampling Date:	7/20/2016
Arsenic, Total	21
Lead, Total	**5500**

Client Sample ID:	SB021-04
Sampling Date:	7/20/2016
Arsenic, Total	120
Lead, Total	1,200

Client Sample ID:	SB020-04
Sampling Date:	7/20/2016
Arsenic, Total	14
Lead, Total	400

Client Sample ID:	SB019-04
Sampling Date:	7/20/2016
Arsenic, Total	14
Lead, Total	680

Client Sample ID:	SB013-04
Sampling Date:	7/19/2016
Arsenic, Total	11
Lead, Total	200

Client Sample ID:	SB023-04
Sampling Date:	7/20/2016
Arsenic, Total	11
Lead, Total	110

Client Sample ID:	SB024-04
Sampling Date:	7/20/2016
Arsenic, Total	18
Lead, Total	**1600**

Client Sample ID:	SB014-04
Sampling Date:	7/19/2016
Arsenic, Total	12
Lead, Total	330

Client Sample ID:	SB015-04
Sampling Date:	7/20/2016
Arsenic, Total	4.2
Lead, Total	56

Client Sample ID:	SB016-04
Sampling Date:	7/20/2016
Arsenic, Total	4.6
Lead, Total	100

Client Sample ID:	SB017-04
Sampling Date:	7/20/2016
Arsenic, Total	71
Lead, Total	**56,000**

Client Sample ID:	SB018-04
Sampling Date:	7/20/2016
Arsenic, Total	18
Lead, Total	79

Client Sample ID:	SB025-04
Sampling Date:	10/13/2016
Arsenic, Total	37
Lead, Total	**41,000**

Client Sample ID:	SB026-04
Sampling Date:	10/13/2016
Arsenic, Total	29
Lead, Total	1,000

Client Sample ID:	SB08-04
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB07-04
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB011-04
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB06-04
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB05-04
Sampling Date:	7/19/2016
Arsenic, Total	11
Lead, Total	730

Client Sample ID:	SB01-04
Sampling Date:	7/18/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB02-04
Sampling Date:	7/18/2016
Arsenic, Total	5.2
Lead, Total	69

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REVISION	DATE	INITIAL	COMMENTS

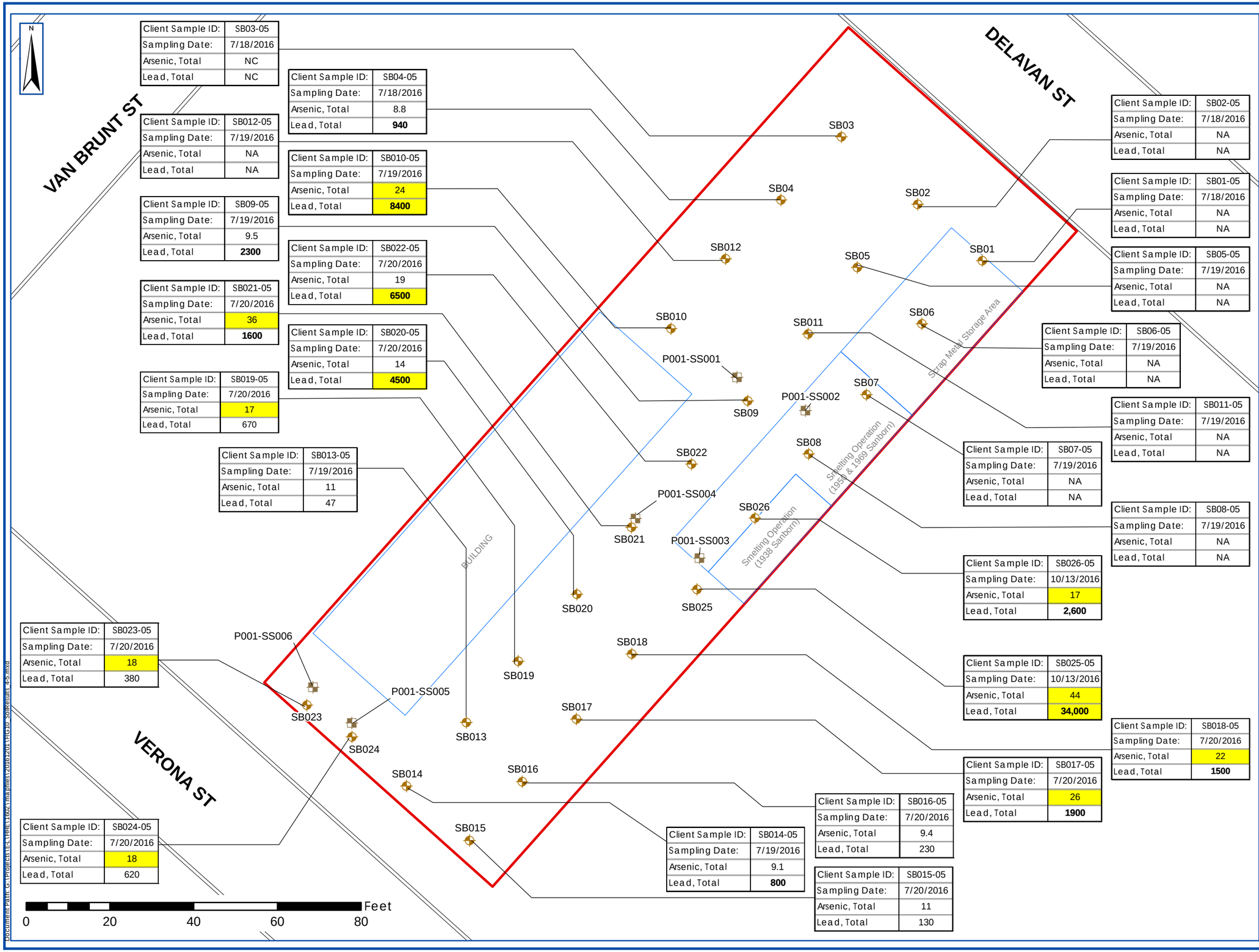
DRAWING INFORMATION:			
Project:	HHE1602	Designed by:	BB
Date:	3/7/2017	Drawn by:	JCG
Scale:	AS SHOWN	Approved by:	RK

SOIL SAMPLING RESULTS
LEAD & ARSENIC
3 to 4 ft bgs
67-81 Delevan Street
Brooklyn, NY

FIGURE NO: 9

SHEET:

Document Path: G:\Projects\EL\HHE\1602\maps\files\20161201\FIG9 SoilResults 3-4.mxd



Client Sample ID:	SB03-05
Sampling Date:	7/18/2016
Arsenic, Total	NC
Lead, Total	NC

Client Sample ID:	SB04-05
Sampling Date:	7/18/2016
Arsenic, Total	8.8
Lead, Total	**940**

Client Sample ID:	SB012-05
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB010-05
Sampling Date:	7/19/2016
Arsenic, Total	24
Lead, Total	**8400**

Client Sample ID:	SB09-05
Sampling Date:	7/19/2016
Arsenic, Total	9.5
Lead, Total	**2300**

Client Sample ID:	SB022-05
Sampling Date:	7/20/2016
Arsenic, Total	19
Lead, Total	**6500**

Client Sample ID:	SB021-05
Sampling Date:	7/20/2016
Arsenic, Total	36
Lead, Total	**1600**

Client Sample ID:	SB020-05
Sampling Date:	7/20/2016
Arsenic, Total	14
Lead, Total	**4500**

Client Sample ID:	SB019-05
Sampling Date:	7/20/2016
Arsenic, Total	17
Lead, Total	670

Client Sample ID:	SB013-05
Sampling Date:	7/19/2016
Arsenic, Total	11
Lead, Total	47

Client Sample ID:	SB023-05
Sampling Date:	7/20/2016
Arsenic, Total	18
Lead, Total	380

Client Sample ID:	SB024-05
Sampling Date:	7/20/2016
Arsenic, Total	18
Lead, Total	620

Client Sample ID:	SB014-05
Sampling Date:	7/19/2016
Arsenic, Total	9.1
Lead, Total	**800**

Client Sample ID:	SB016-05
Sampling Date:	7/20/2016
Arsenic, Total	9.4
Lead, Total	230

Client Sample ID:	SB015-05
Sampling Date:	7/20/2016
Arsenic, Total	11
Lead, Total	130

Client Sample ID:	SB017-05
Sampling Date:	7/20/2016
Arsenic, Total	26
Lead, Total	**1900**

Client Sample ID:	SB025-05
Sampling Date:	10/13/2016
Arsenic, Total	44
Lead, Total	**34,000**

Client Sample ID:	SB026-05
Sampling Date:	10/13/2016
Arsenic, Total	17
Lead, Total	**2,600**

Client Sample ID:	SB07-05
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB08-05
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB018-05
Sampling Date:	7/20/2016
Arsenic, Total	22
Lead, Total	**1500**

Client Sample ID:	SB06-05
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB011-05
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB02-05
Sampling Date:	7/18/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB01-05
Sampling Date:	7/18/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB05-05
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

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REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

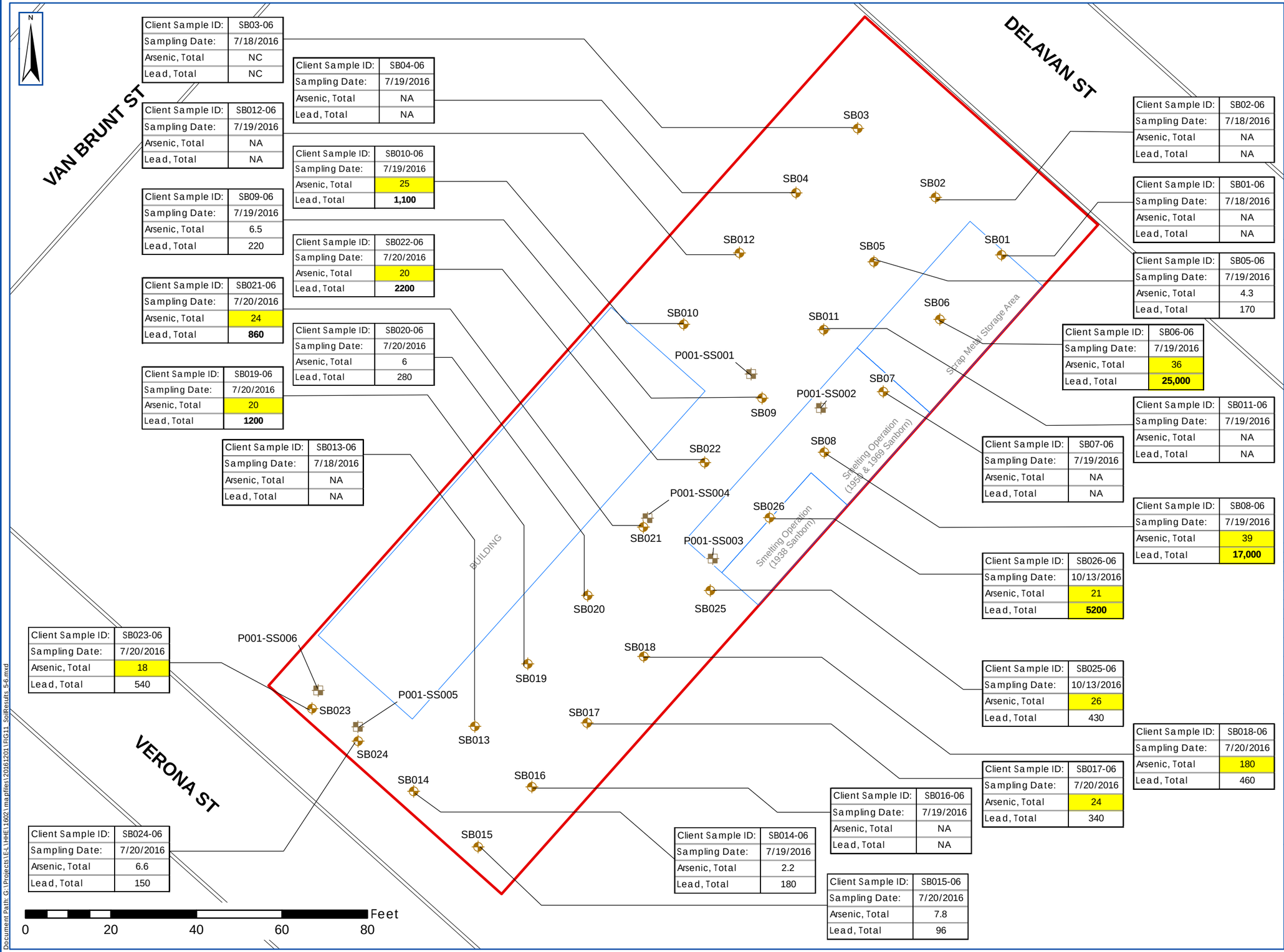
Project:	HHE1602	Designed by:	BB
Date:	3/7/2017	Drawn by:	JCG
Scale:	AS SHOWN	Approved by:	RK

SOIL SAMPLING RESULTS
LEAD & ARSENIC
4 to 5 ft bgs
67-81 Delevan Street
Brooklyn, NY

FIGURE NO: 10

SHEET:

Document Path: G:\Projects\HHE1602\Final Files\HHE1602-10Nov16.dwg, 11/9/2016 11:56:10 - Sonkeuris, 45.mxd



Client Sample ID:	SB03-06
Sampling Date:	7/18/2016
Arsenic, Total	NC
Lead, Total	NC

Client Sample ID:	SB04-06
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB012-06
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB010-06
Sampling Date:	7/19/2016
Arsenic, Total	25
Lead, Total	**1,100**

Client Sample ID:	SB09-06
Sampling Date:	7/19/2016
Arsenic, Total	6.5
Lead, Total	220

Client Sample ID:	SB022-06
Sampling Date:	7/20/2016
Arsenic, Total	20
Lead, Total	**2200**

Client Sample ID:	SB021-06
Sampling Date:	7/20/2016
Arsenic, Total	24
Lead, Total	**860**

Client Sample ID:	SB020-06
Sampling Date:	7/20/2016
Arsenic, Total	6
Lead, Total	280

Client Sample ID:	SB019-06
Sampling Date:	7/20/2016
Arsenic, Total	20
Lead, Total	**1200**

Client Sample ID:	SB013-06
Sampling Date:	7/18/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB023-06
Sampling Date:	7/20/2016
Arsenic, Total	18
Lead, Total	540

Client Sample ID:	SB024-06
Sampling Date:	7/20/2016
Arsenic, Total	6.6
Lead, Total	150

Client Sample ID:	SB014-06
Sampling Date:	7/19/2016
Arsenic, Total	2.2
Lead, Total	180

Client Sample ID:	SB016-06
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB015-06
Sampling Date:	7/20/2016
Arsenic, Total	7.8
Lead, Total	96

Client Sample ID:	SB017-06
Sampling Date:	7/20/2016
Arsenic, Total	24
Lead, Total	340

Client Sample ID:	SB018-06
Sampling Date:	7/20/2016
Arsenic, Total	180
Lead, Total	460

Client Sample ID:	SB025-06
Sampling Date:	10/13/2016
Arsenic, Total	26
Lead, Total	430

Client Sample ID:	SB026-06
Sampling Date:	10/13/2016
Arsenic, Total	21
Lead, Total	**5200**

Client Sample ID:	SB07-06
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB08-06
Sampling Date:	7/19/2016
Arsenic, Total	39
Lead, Total	**17,000**

Client Sample ID:	SB011-06
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB06-06
Sampling Date:	7/19/2016
Arsenic, Total	36
Lead, Total	**25,000**

Client Sample ID:	SB05-06
Sampling Date:	7/19/2016
Arsenic, Total	4.3
Lead, Total	170

Client Sample ID:	SB01-06
Sampling Date:	7/18/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB02-06
Sampling Date:	7/18/2016
Arsenic, Total	NA
Lead, Total	NA

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DRAWING INFORMATION:

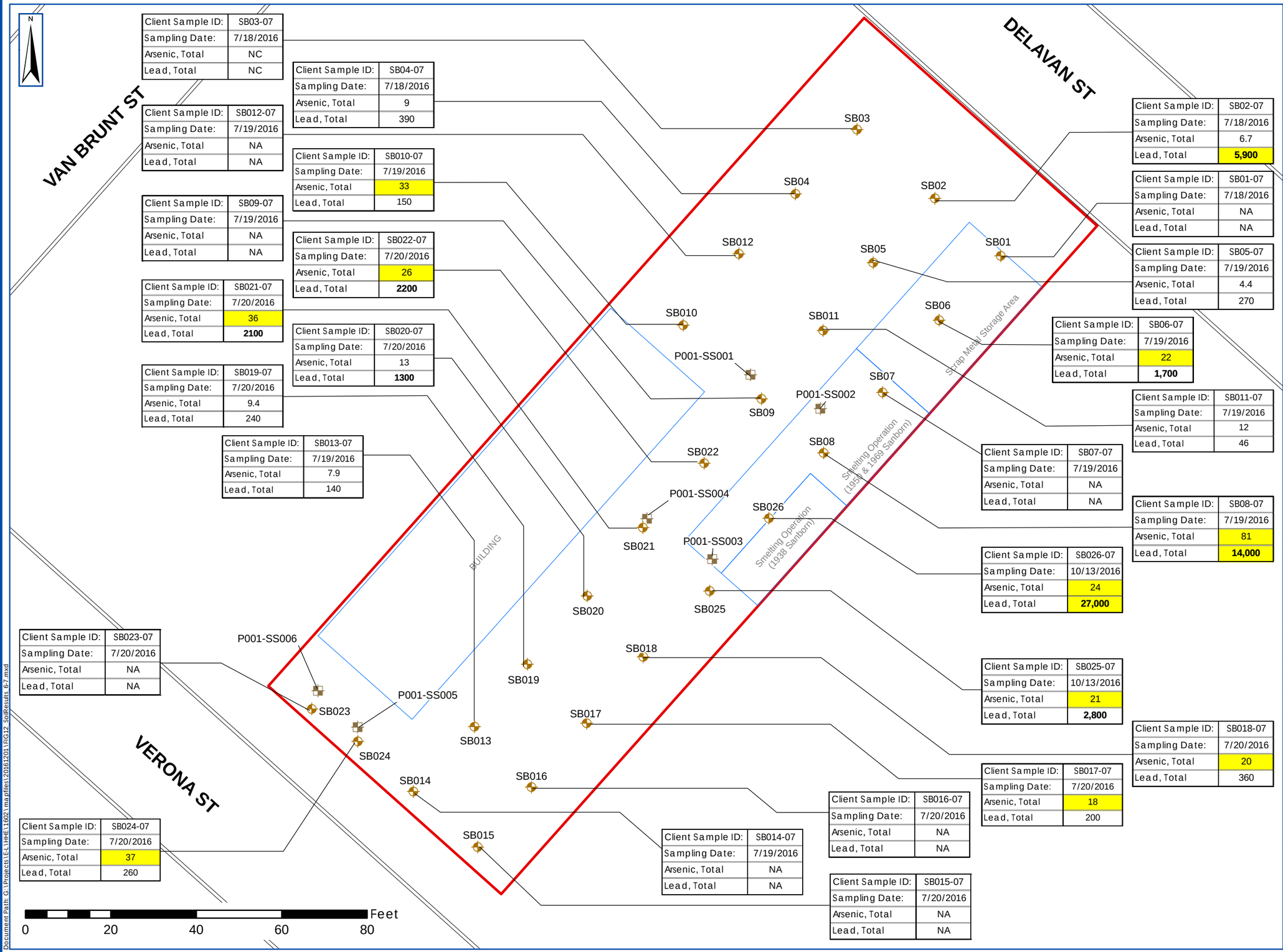
Project:	HHE1602	Designed by:	BB
Date:	3/7/2017	Drawn by:	JCG
Scale:	AS SHOWN	Approved by:	RK

SOIL SAMPLING RESULTS
LEAD & ARSENIC
5 to 6 ft bgs
67-81 Delevan Street
Brooklyn, NY

FIGURE NO:
11

SHEET:

Document Path: G:\Projects\E-L\HHE\1602\mapfiles\20161208\1\FIG11_SoilResults_5-6.mxd



Client Sample ID:	SB03-07
Sampling Date:	7/18/2016
Arsenic, Total	NC
Lead, Total	NC

Client Sample ID:	SB04-07
Sampling Date:	7/18/2016
Arsenic, Total	9
Lead, Total	390

Client Sample ID:	SB012-07
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB010-07
Sampling Date:	7/19/2016
Arsenic, Total	33
Lead, Total	150

Client Sample ID:	SB09-07
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB022-07
Sampling Date:	7/20/2016
Arsenic, Total	26
Lead, Total	**2200**

Client Sample ID:	SB021-07
Sampling Date:	7/20/2016
Arsenic, Total	36
Lead, Total	**2100**

Client Sample ID:	SB020-07
Sampling Date:	7/20/2016
Arsenic, Total	13
Lead, Total	**1300**

Client Sample ID:	SB019-07
Sampling Date:	7/20/2016
Arsenic, Total	9.4
Lead, Total	240

Client Sample ID:	SB013-07
Sampling Date:	7/19/2016
Arsenic, Total	7.9
Lead, Total	140

Client Sample ID:	SB023-07
Sampling Date:	7/20/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB024-07
Sampling Date:	7/20/2016
Arsenic, Total	37
Lead, Total	260

Client Sample ID:	SB014-07
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB016-07
Sampling Date:	7/20/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB015-07
Sampling Date:	7/20/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB017-07
Sampling Date:	7/20/2016
Arsenic, Total	18
Lead, Total	200

Client Sample ID:	SB018-07
Sampling Date:	7/20/2016
Arsenic, Total	20
Lead, Total	360

Client Sample ID:	SB025-07
Sampling Date:	10/13/2016
Arsenic, Total	21
Lead, Total	**2,800**

Client Sample ID:	SB026-07
Sampling Date:	10/13/2016
Arsenic, Total	24
Lead, Total	**27,000**

Client Sample ID:	SB07-07
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB08-07
Sampling Date:	7/19/2016
Arsenic, Total	81
Lead, Total	**14,000**

Client Sample ID:	SB011-07
Sampling Date:	7/19/2016
Arsenic, Total	12
Lead, Total	46

Client Sample ID:	SB06-07
Sampling Date:	7/19/2016
Arsenic, Total	22
Lead, Total	**1,700**

Client Sample ID:	SB05-07
Sampling Date:	7/19/2016
Arsenic, Total	4.4
Lead, Total	270

Client Sample ID:	SB01-07
Sampling Date:	7/18/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB02-07
Sampling Date:	7/18/2016
Arsenic, Total	6.7
Lead, Total	**5,900**

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Soil Sample Locations
Historic Sample Locations
Building Footprint
Subject Site

NA = not analyzed
NC = not collected
Highlighted text denotes concentrations exceeding NYSDEC Industrial Use SCO.
Bold text denotes concentrations exceeding EPA RMLs.
Soil concentrations are shown in mg/kg
Groundwater concentrations are shown in µg/l

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

Project:	HHE1602	Designed by:	BB
Date:	3/7/2017	Drawn by:	JCG
Scale:	AS SHOWN	Approved by:	RK

SOIL SAMPLING RESULTS
LEAD & ARSENIC
6 to 7 ft bgs
67-81 Delevan Street
Brooklyn, NY

FIGURE NO: 12

SHEET:

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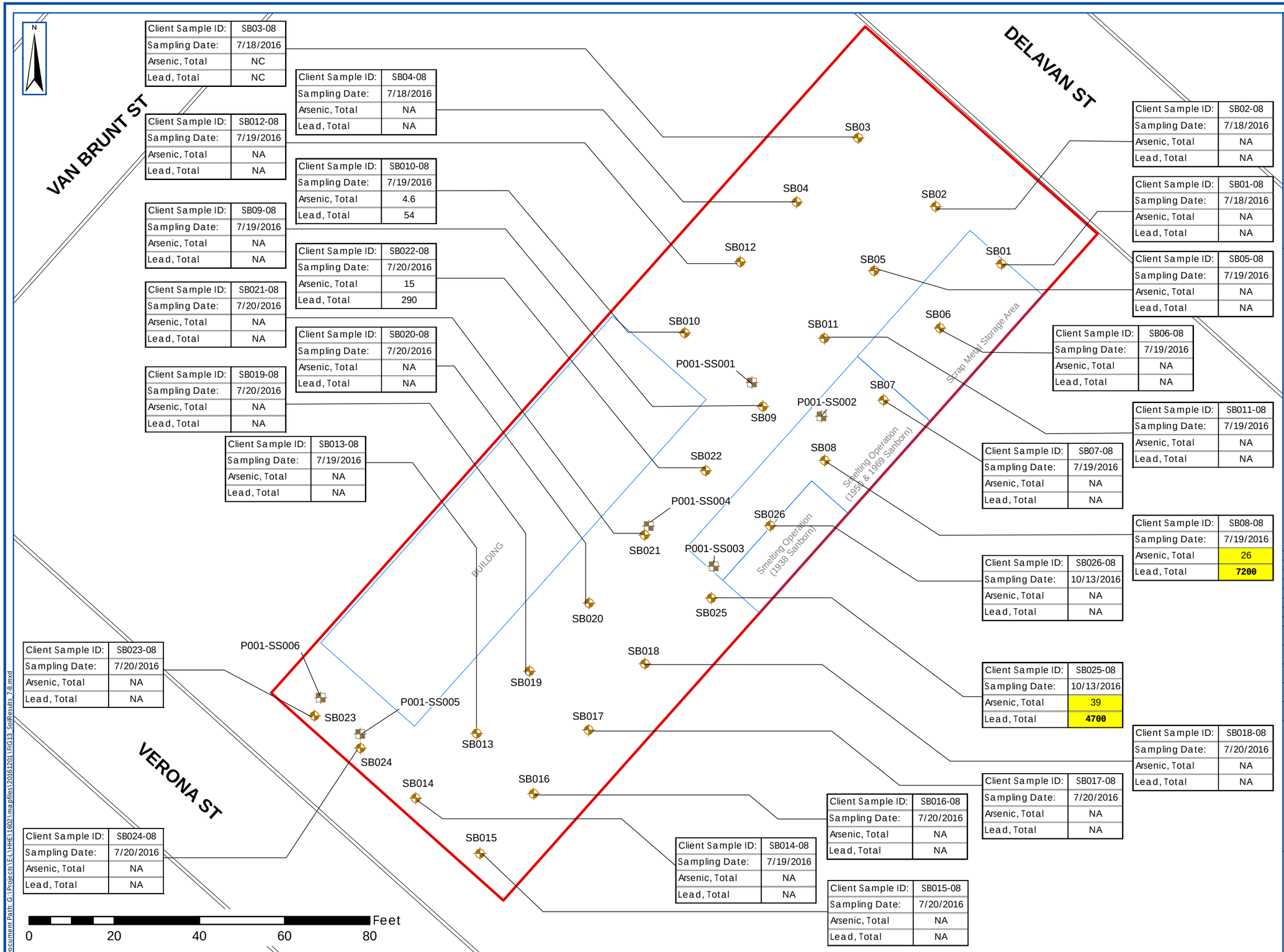

Client Sample ID:	SB03-08
Sampling Date:	7/18/2016
Arsenic, Total	NC
Lead, Total	NC

Client Sample ID:	SB04-08
Sampling Date:	7/18/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB012-08
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB010-08
Sampling Date:	7/19/2016
Arsenic, Total	4.6
Lead, Total	54

Client Sample ID:	SB09-08
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB022-08
Sampling Date:	7/20/2016
Arsenic, Total	15
Lead, Total	290

Client Sample ID:	SB021-08
Sampling Date:	7/20/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB020-08
Sampling Date:	7/20/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB019-08
Sampling Date:	7/20/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB013-08
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB023-08
Sampling Date:	7/20/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB024-08
Sampling Date:	7/20/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB014-08
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB016-08
Sampling Date:	7/20/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB015-08
Sampling Date:	7/20/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB017-08
Sampling Date:	7/20/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB018-08
Sampling Date:	7/20/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB025-08
Sampling Date:	10/13/2016
Arsenic, Total	39
Lead, Total	**4700**

Client Sample ID:	SB026-08
Sampling Date:	10/13/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB08-08
Sampling Date:	7/19/2016
Arsenic, Total	26
Lead, Total	**7200**

Client Sample ID:	SB07-08
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB011-08
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB06-08
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB05-08
Sampling Date:	7/19/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB01-08
Sampling Date:	7/18/2016
Arsenic, Total	NA
Lead, Total	NA

Client Sample ID:	SB02-08
Sampling Date:	7/18/2016
Arsenic, Total	NA
Lead, Total	NA

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Soil Sample Locations
Historic Sample Locations
Building Footprint
Subject Site

NA = not analyzed
NC = not collected

Highlighted text denotes concentrations exceeding NYSDEC Industrial Use SCO.

Bold text denotes concentrations exceeding EPA RMLs.

Soil concentrations are shown in mg/kg
Groundwater concentrations are shown in µg/l

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

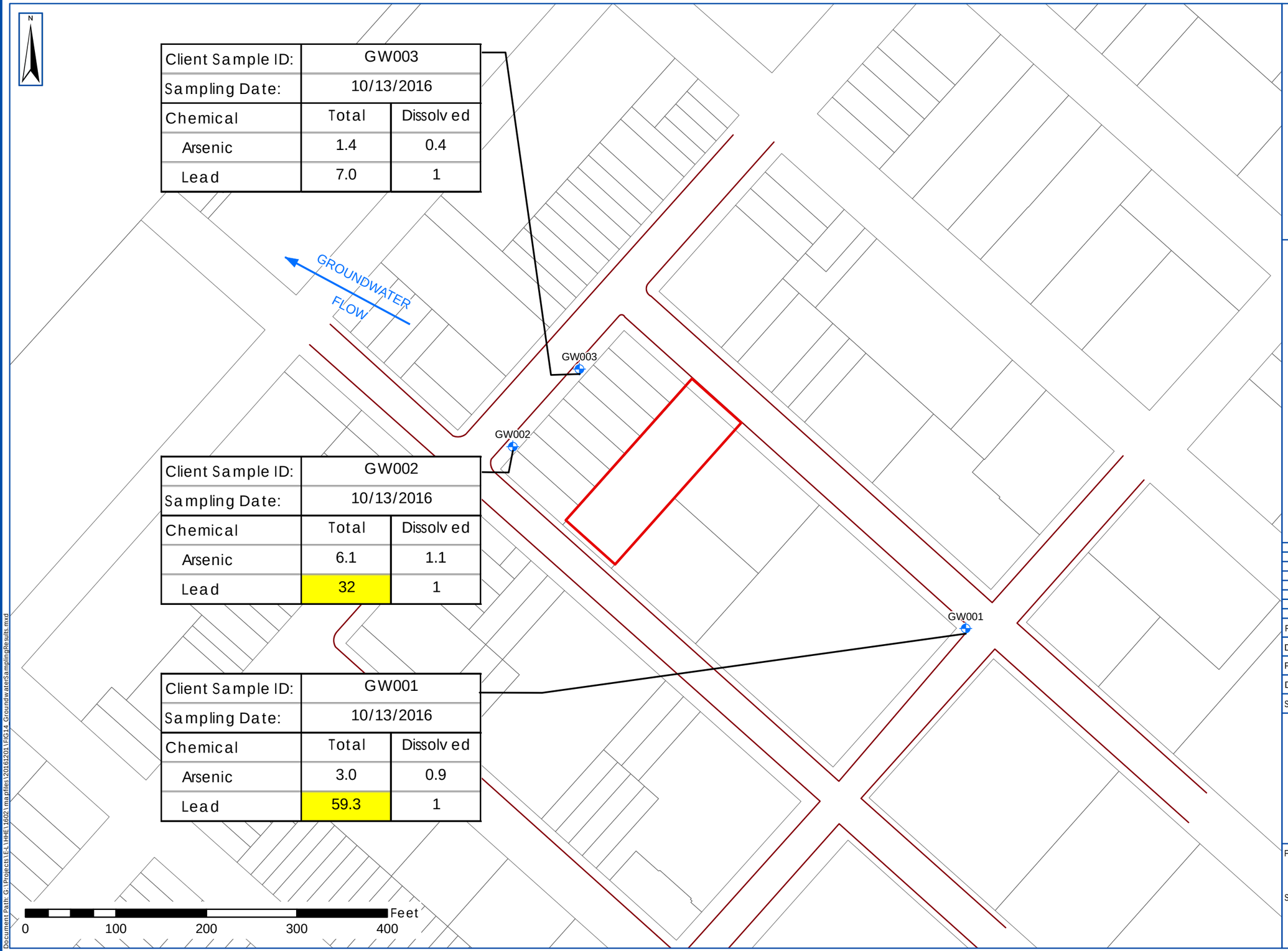
Project:	HHE1602	Designed by:	BB
Date:	3/7/2017	Drawn by:	TS
Scale:	AS SHOWN	Approved by:	RK

SOIL SAMPLING RESULTS
LEAD & ARSENIC
7 to 8 ft bgs
67-81 Delevan Street
Brooklyn, NY

FIGURE NO:
13

SHEET:

Document Path: G:\Projects\E-L\HHE\1602\mapfiles\20161201\FIG13_SoilResults_7-8.mxd



Client Sample ID:	GW003	
Sampling Date:	10/13/2016	
Chemical	Total	Dissolved
Arsenic	1.4	0.4
Lead	7.0	1

Client Sample ID:	GW002	
Sampling Date:	10/13/2016	
Chemical	Total	Dissolved
Arsenic	6.1	1.1
Lead	32	1

Client Sample ID:	GW001	
Sampling Date:	10/13/2016	
Chemical	Total	Dissolved
Arsenic	3.0	0.9
Lead	59.3	1

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Proposed Monitoring Well
Subject Site
Surrounding Parcels
Curbline

Highlighted text denotes concentrations exceeding NYSDEC Industrial Use SCO.

Groundwater concentrations are shown in µg/l

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

Project:	HHE1602	Designed by:	BB
Date:	3/7/2017	Drawn by:	BB
Scale:	AS SHOWN	Approved by:	RK

GROUNDWATER SAMPLING RESULTS

67-81 Delevan Street
Brooklyn, NY

FIGURE NO:
14

SHEET:

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TABLES

Table 1
Soil Analytical Summary Tables
Total Metals
USEPA Methods 6010/7471

Client Sample ID:	CAS	Project Action Limit		SB01-01		SB01-02		SB02-01		SB02-02		SB02-03		SB02-04		SB02-07		SB03-01		SB03-02		SB04-01		SB04-02		SB04-03		SB04-04		SB04-05		SB04-07	
Laboratory ID:	Number	EPA RMLs (mg/kg)	NYSDEC IUSCOs	L1622423-01		L1622423-02		L1622423-09		L1622423-10		L1622423-11		L1622423-12		L1622423-15		L1622423-17		L1622423-18		L1622423-83		L1622423-84		L1622423-85		L1622423-86		L1622423-87		L1622423-89	
Sampling Date:		(Industrial Soil)	(mg/kg)	7/18/2016		7/18/2016		7/18/2016		7/18/2016		7/18/2016		7/18/2016		7/18/2016		7/18/2016		7/18/2016		7/18/2016		7/18/2016		7/18/2016		7/18/2016		7/18/2016		7/18/2016	
Total Metals (mg/kg)																																	
Aluminum, Total	7429-90-5	1,100,000	NS	5,300	J	5,000	J	5,300	J	4,300	J	5,300	J	7,700	J	1,900	J	5,400	J	5,800	J	5,600	J	7,200	J	5,900	J	8200	J	11000	J	6,600	J
Antimony, Total	7440-36-0	470	NS	0.84	U	0.82	U	0.85	U	0.86	U	0.90	U	1.4		3.4		0.87	U	0.86	U	0.86	U	0.85	U	46		4.4		4.9		4.3	
Arsenic, Total	7440-38-2	300	16	3.8		3.3		4.6		2.7		3.8	J	5.2	J	6.7		4.7		10		2.8		2.2		17		9.8	J	8.8	J	9	
Barium, Total	7440-39-3	220,000	10,000	60		29		43		28		30		82		45		44		43		30		76		450		230		230		170	
Beryllium, Total	7440-41-7	2,300	2,700	0.32		0.39		0.35		0.3	J	0.3	J	0.24	J	0.16	J	0.33		0.49		0.36		0.26	J	0.59		0.46		0.74		0.44	
Cadmium, Total	7440-43-9	980	60	1.1		0.08	J	0.18	J	0.08	J	0.07	J	0.83		0.11	J	0.17	J	0.17	J	0.09	J	0.09	J	9.5		3.9		4		0.94	
Calcium, Total	7440-70-2	NS	NS	42,000		1,500		15,000		1,100		1,200	J	59,000	J	9,800		8,900		3,600		2,000	J	72,000	J	52,000	J	48,000	J	74000	J	58,000	J
Chromium, Total	7440-47-3	NS	6,800	24	J	12	J	14	J	9.6	J	9.8		22		5.4	J	15	J	15	J	11		12		110		42		170		42	
Cobalt, Total	7440-48-4	350	NS	4.9		5.2		6.9		4.9		5		3.9		3.9		7.8		7.8		5		4.3		5.6		4.5		5.4		5.6	
Copper, Total	7440-50-8	47,000	10,000	31		17		32		16		14		29		37		30		31		19		18		780		140		150		65	
Iron, Total	7439-89-6	820,000	NS	12,000		13,000		27,000		10,000		10,000		11,000		7,800		27,000		30,000		11,000		10,000		26,000		19,000		14000	J	12,000	
Lead, Total	7439-92-1	800	3,900	39	J	28	J	61	J	32	J	27	J	69	J	**5,900**	J	47	J	54	J	29		30		**3,300**		500	**J**	**940**	**J**	390	
Magnesium, Total	7439-95-4	NS	NS	6,500		2,000		8,800		2,200		2,100	J	7,000	J	800		5,200		2,200		3,000		18,000		25,000		5,800	J	26000		4,100	
Manganese, Total	7439-96-5	26,000	10,000	200		240		500		270		240		310		82		510		530		230		180		440		450		1100	J	240	
Nickel, Total	7440-02-0	22,000	10,000	23	J	19	J	17	J	21	J	22	J	14	J	8.7	J	20	J	28	J	26		10		33		21	J	21		24	
Potassium, Total	7440-09-7	NS	NS	870	J	650	J	650	J	610	J	650		1100		250	J	780	J	660	J	970		2,800		560		850		1800		1,100	
Selenium, Total	7782-49-2	5,800	6,800	3.5	J	5.1	J	4.2	J	3.6	J	1.8	J	1.2	J	2.2	J	3	J	4.3	J	3.4	J	2.6	J	3.2	J	1.7	J	2.5	J	3.1	J
Silver, Total	7440-22-4	5,800	6,800	0.13	J	0.05	J	0.11	J	0.05	J	0.56	U	0.56	U	0.35	J	0.06	J	0.07	J	0.04	J	0.04	J	1.6		0.66		0.57		0.28	J
Sodium, Total	7440-23-5	NS	NS	210		190		89	J	65	J	170	U	540	J	550		220		220		260	J	330	J	520	J	1,200	J	780	J	1,400	J
Thallium, Total	7440-28-0	12	NS	0.34		0.21	U	0.21	U	0.22	U	0.27		0.06	J	2.3	U	0.13	J	0.12	J	0.1	J	0.11	J	0.12	J	0.07	J	0.17	J	0.12	J
Tin, Total	7440-31-5	NS	NS	3.6		3		2.5		1.4		1.1	J	2.7	J	0.23	U	2.3		1.8		1.2		2		140		18	J	16		50	
Vanadium, Total	7440-62-2	5,800	NS	23		18		22		15		17		30		10		28		25		20		21		95		62		74		24	
Zinc, Total	7440-66-6	350,000	10,000	180	J	57	J	62	J	32	J	31	J	250	J	42	J	66	J	54	J	33	J	38	J	1,700	J	460	J	560		310	J

Notes:

(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06.

(2) Not all intervals were analyzed. Intervals (-03) and beyond were not analyzed if they did not contain visual evidence of slag and followed two consecutive intervals without exceedances of NYSDEC IUSCOs.

b - The SCOs for commercial use were capped at a maximum value of 500 ppm.

d - The SCOs for metals were capped at a maximum value of 10,000 ppm.

f - For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the department and department of health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

j - This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See TSD Table 5.6-1.

NS - No Standard

J - Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.

UJ- (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

Highlighted text denotes concentrations exceeding NYSDEC Industrial Use SCO.

Bold text denotes concentrations exceeding EPA RMLs.

Table 1
Soil Analytical Summary Tables
Total Metals
USEPA Methods 6010/7471

Client Sample ID:	CAS	Project Action Limit		SB05-01	SB05-02	SB05-03	SB05-04	SB05-06	SB05-07	SB06-01	SB06-02	SB06-06	SB06-07	SB07-01	SB07-02
Laboratory ID:	Number	EPA RMLs (mg/kg)	NYSDEC IUSCOs	L1622423-91	L1622423-92	L1622423-93	L1622423-94	L1622423-96	L1622423-97	L1622423-99	L1622423-100	L1622423-22	L1622423-23	L1622423-25	L1622423-26
Sampling Date:		(Industrial Soil)	(mg/kg)	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016
Total Metals (mg/kg)															
Aluminum, Total	7429-90-5	1,100,000	NS	6,000 J	6,800 J	8,100 J	9,400 J	3,200 J	5,100 J	6,000 J	7,900 J	7,400 J	13,000 J	5,400 J	5,100 J
Antimony, Total	7440-36-0	470	NS	0.89 U	0.84 U	0.85 U	4.7	1.4	0.93 U	0.82 U	0.51 U	**520**	34	0.79 U	11
Arsenic, Total	7440-38-2	300	16	4	4.5	3.2	11 J	4.3	4.4	3	4	36 J	22 J	2.8	8
Barium, Total	7440-39-3	220,000	10,000	42	48	97	180	17	27	24	16	270	190	20	190
Beryllium, Total	7440-41-7	2,300	2,700	0.27 J	0.36	0.28 J	0.33	0.49	0.28 J	0.17 J	0.15 J	0.36	0.42	0.11 J	0.28 J
Cadmium, Total	7440-43-9	980	60	0.08 J	0.16 J	0.09 J	2.8	0.05 J	0.05 J	0.17 J	0.2	44	1.7	1.4	12
Calcium, Total	7440-70-2	NS	NS	49,000 J	19,000 J	35,000 J	37,000 J	7,100 J	8,800 J	8,000 J	94,000 J	21,000 J	33,000 J	29,000	46,000
Chromium, Total	7440-47-3	NS	6,800	16	15	14	120	7.4	8.7	6.9	4.3	68	17	7.6 J	22 J
Cobalt, Total	7440-48-4	350	NS	4.8	9.8	6.3	14	3.2	4.4	8	12	9.4	5.6	9.8	4.5
Copper, Total	7440-50-8	47,000	10,000	19	42	29	260	37	11	64	100	10,000	440	130	7,100
Iron, Total	7439-89-6	820,000	NS	11,000	25,000	13,000	38,000	5,100	9,100	20,000	25,000	99,000	19,000	18,000	14,000
Lead, Total	7439-92-1	800	3,900	18	50	24	730 J	170	270	**1,000**	9.6	**25,000** J	**1,700** J	22 J	**860** J
Magnesium, Total	7439-95-4	NS	NS	9,600	13,000	6,400	22,000 J	920	2,500	4,300	57,000	3,200 J	2,300 J	12,000	8,900
Manganese, Total	7439-96-5	26,000	10,000	140	540	190	460	60	130	260	240	460	290	250	580
Nickel, Total	7440-02-0	22,000	10,000	16	100	13	27 J	13	18	15	12	93 J	21 J	16 J	19 J
Potassium, Total	7440-09-7	NS	NS	960	810	3,900	820	450	580	500	570	460	1,500	310 J	660 J
Selenium, Total	7782-49-2	5,800	6,800	3.3 J	3.4 J	6.8 J	2.3 J	4.8 J	3.3 J	3.8 J	5.1 J	5.4 J	2.5 J	3.3 J	5.6 J
Silver, Total	7440-22-4	5,800	6,800	0.06 J	0.08 J	ND	0.68	0.24 J	0.06 J	0.04 J	0.08 J	6.2	0.59 U	0.06 J	0.98 J
Sodium, Total	7440-23-5	NS	NS	270 J	330 J	480 J	900 J	370 J	340 J	660 J	1,000 J	1,000 J	1,200 J	1,000	920
Thallium, Total	7440-28-0	12	NS	0.05 J	0.11 J	0.13 J	0.06 J	0.04 J	0.03 J	0.04 J	0.08 J	0.09 J	0.07 J	ND	0.04 J
Tin, Total	7440-31-5	NS	NS	1.5	2.3	1.4	14 J	5.9	2.2	38	0.75	1,700 J	85 J	1.8	1,000
Vanadium, Total	7440-62-2	5,800	NS	22	28	22	130	11	15	43	74	22	22	33	28
Zinc, Total	7440-66-6	350,000	10,000	42 J	62 J	52 J	610 J	34 J	35 J	47 J	49 J	17,000 J	810 J	1,300 J	1,200 J

Notes:

(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06.

(2) Not all intervals were analyzed. Intervals (-03) and beyond were not analyzed if they did not contain visual evidence of slag and followed two consecutive intervals without exceedances of NYSDEC IUSCOs.

b - The SCOs for commercial use were capped at a maximum value of 500 ppm.

d - The SCOs for metals were capped at a maximum value of 10,000 ppm.

f - For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the department and department of health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

j - This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See TSD Table 5.6-1.

NS - No Standard

J - Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.

UJ- (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

Highlighted text denotes concentrations exceeding NYSDEC Industrial Use SCO.

Bold text denotes concentrations exceeding EPA RMLs.

Table 1
Soil Analytical Summary Tables
Total Metals
USEPA Methods 6010/7471

Client Sample ID:	CAS	Project Action Limit		SB08-01		SB08-02		SB08-06		SB08-07		SB08-08		SB09-01		SB09-02		SB09-03		SB09-04		SB09-05		SB09-06	
Laboratory ID:	Number	EPA RMLs (mg/kg)	NYSDEC IUSCOs	L1622423-33		L1622423-34		L1622423-38		L1622423-39		L1622423-40		L1622423-43		L1622423-44		L1622423-45		L1622423-46		L1622423-47		L1622423-48	
Sampling Date:		(Industrial Soil)	(mg/kg)	7/19/2016		7/19/2016		7/19/2016		7/19/2016		7/19/2016		7/19/2016		7/19/2016		7/19/2016		7/19/2016		7/19/2016		7/19/2016	
Total Metals (mg/kg)																									
Aluminum, Total	7429-90-5	1,100,000	NS	6,800	J	5,400	J	31,000	J	11,000	J	5,400	J	6,600	J	7,200	J	8,700	J	7,500	J	7,300	J	1300	J
Antimony, Total	7440-36-0	470	NS	2.8		24	J	310		**490**		58		0.80	U	0.83	U	0.87	U	170	J	31	J	9.6	
Arsenic, Total	7440-38-2	300	16	2.8		10		39	J	81	J	26	J	5.2		6.1		4		39		9.5		6.5	J
Barium, Total	7440-39-3	220,000	10,000	38		280		1200		320		370		53		48		76		1,000		250		51	
Beryllium, Total	7440-41-7	2,300	2,700	0.17	J	0.32	J	1.1		2		0.32	J	0.39		0.46		0.34		0.32	J	0.32		0.33	U
Cadmium, Total	7440-43-9	980	60	0.25		2.8		21		2.4		12		0.16	J	0.24		0.18	J	16		2.4		0.51	
Calcium, Total	7440-70-2	NS	NS	28,000		31,000		78,000	J	7,000	J	38,000	J	14,000		7,400		54,000		22,000		26,000		97000	J
Chromium, Total	7440-47-3	NS	6,800	9.2	J	12	J	70		15		17		14	J	17	J	14	J	42	J	17	J	3.4	
Cobalt, Total	7440-48-4	350	NS	9.8		2.5		14		11		6		7.8		8.2		7.2		6.4		7.7		0.66	
Copper, Total	7440-50-8	47,000	10,000	77		270		4,500		3,400		4,000		31		36		37		2,200		12,000		170	
Iron, Total	7439-89-6	820,000	NS	19,000		13,000		35,000		29,000		20,000		26,000		32,000		18,000		38,000		28,000		3600	J
Lead, Total	7439-92-1	800	3,900	44	J	**1,500**	J	**17,000**	J	**14,000**	J	**7,200**	J	48	J	58	J	39	J	**10,000**	J	**2,300**	J	220	J
Magnesium, Total	7439-95-4	NS	NS	6,800		3,300		12,000	J	570	J	4,600	J	8,100		4,200		9,600		5,900		10,000		1400	
Manganese, Total	7439-96-5	26,000	10,000	240		190		520		160		280		620		620		350		430		390		100	J
Nickel, Total	7440-02-0	22,000	10,000	16	J	9.6	J	84	J	35	J	40	J	21	J	19	J	16	J	44	J	19	J	2.4	
Potassium, Total	7440-09-7	NS	NS	990	J	450	J	2,100		760		720		710	J	620	J	2,100	J	410	J	600	J	200	
Selenium, Total	7782-49-2	5,800	6,800	3.9	J	4	J	19	J	7	J	3	J	3.7	J	4.3	J	3.7	J	4.1	J	3.4	J	2.2	UJ
Silver, Total	7440-22-4	5,800	6,800	0.06	J	0.45	J	5.6		6.4		1.7		0.05	J	0.04	J	0.04	J	4.3		0.94		0.07	J
Sodium, Total	7440-23-5	NS	NS	390		550		2,100	J	820	J	470	J	210		170		620		540		820		300	J
Thallium, Total	7440-28-0	12	NS	0.05	J	0.07	J	0.16	J	0.19	J	0.09	J	0.12	J	0.12	J	0.08	J	0.07	J	0.07	J	0.04	J
Tin, Total	7440-31-5	NS	NS	15		83	J	1,100	J	1,800	J	750	J	2.9	J	7	J	2.3	J	730	J	160	J	13	
Vanadium, Total	7440-62-2	5,800	NS	39		18		56		35		19		23		29		28		25		34		6.7	
Zinc, Total	7440-66-6	350,000	10,000	61	J	740	J	37,000	J	1,700	J	7,600	J	60	J	110	J	56	J	7,100	J	760	J	130	

Notes:

(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06.

(2) Not all intervals were analyzed. Intervals (-03) and beyond were not analyzed if they did not contain visual evidence of slag and followed two consecutive intervals without exceedances of NYSDEC IUSCOs.

b - The SCOs for commercial use were capped at a maximum value of 500 ppm.

d - The SCOs for metals were capped at a maximum value of 10,000 ppm.

f - For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the department and department of health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

j - This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See TSD Table 5.6-1.

NS - No Standard

J - Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.

UJ- (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

Highlighted text denotes concentrations exceeding NYSDEC Industrial Use SCO.

Bold text denotes concentrations exceeding EPA RMLs.

Table 1
Soil Analytical Summary Tables
Total Metals
USEPA Methods 6010/7471

Client Sample ID:	CAS	Project Action Limit		SB010-01	SB010-02	SB010-03	SB010-04	SB010-05	SB010-06	SB010-07	SB010-08	SB011-01	SB011-02	SB011-07	SB012-01	SB012-02
Laboratory ID:	Number	EPA RMLs (mg/kg)	NYSDEC IUSCOs	L1622423-51	L1622423-52	L1622423-53	L1622423-54	L1622423-55	L1622423-56	L1622423-57	L1622423-58	L1622423-59	L1622423-60	L1622423-107	L1622423-109	L1622423-110
Sampling Date:		(Industrial Soil)	(mg/kg)	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016
Total Metals (mg/kg)																
Aluminum, Total	7429-90-5	1,100,000	NS	4,900 J	6,000 J	9,500 J	8,800 J	10000 J	4,200 J	14,000 J	3,200 J	6,300 J	6,800 J	5,600 J	6,000 J	6,800 J
Antimony, Total	7440-36-0	470	NS	0.86 U	10 J	**570** J	**470**	150	16 J	2.1	1.1	0.81 U	0.88 U	1.9	0.80 U	0.84 U
Arsenic, Total	7440-38-2	300	16	5.3	4	39	32 J	24 J	25	33	4.6 J	5.6	2.8	12	3.2	4.8
Barium, Total	7440-39-3	220,000	10,000	34	110	1,100	720	680	310	120 J	93	67 J	47 J	46	32	42
Beryllium, Total	7440-41-7	2,300	2,700	0.51	0.23 J	0.46	0.35 J	0.4	0.33 J	0.38	0.17 J	0.87	0.26 J	0.28 J	0.35	0.56
Cadmium, Total	7440-43-9	980	60	0.16 J	0.73	19	12	9.1	2	0.61	0.07 J	0.19 J	0.11 J	0.16 J	0.11 J	0.12 J
Calcium, Total	7440-70-2	NS	NS	5,200	30,000	28,000	42000 J	32000 J	38,000	26,000 J	3,900 J	3,600 J	26,000 J	36,000 J	6,100 J	3,800 J
Chromium, Total	7440-47-3	NS	6,800	13 J	15 J	53 J	40	59	71 J	11	3.7	16	10	15	13	18
Cobalt, Total	7440-48-4	350	NS	6.7	6	9.4	7.8	9.6	9.4	3.9	1.8	7.8	7.2	3.6	5.8	9.3
Copper, Total	7440-50-8	47,000	10,000	46	120	2,800	1600	1800	220	17	16	34	43	18	18	51
Iron, Total	7439-89-6	820,000	NS	45,000	17,000	58,000	59,000	39000 J	56,000	7,500	3,800	100,000	18,000	7,000	16,000	27,000
Lead, Total	7439-92-1	800	3,900	84 J	310 J	**25,000 J**	**16,000 J**	**8,400 J**	**1,100 J**	150 J	54 J	36 J	36 J	46	40	43
Magnesium, Total	7439-95-4	NS	NS	3,900	6,400	7,600	5,200 J	7900	2,600	850	560 J	2,600	5,300	2,200	4,400	2,600
Manganese, Total	7439-96-5	26,000	10,000	540	220	500	360	470 J	1,900	64 J	30	1,700 J	280 J	130	330	460
Nickel, Total	7440-02-0	22,000	10,000	19 J	15 J	56 J	62 J	69	34 J	9.4	5.8 J	24	17	13	24	20
Potassium, Total	7440-09-7	NS	NS	540 J	2,200 J	480 J	730	1700	610 J	580	560	570	1,000	860	700	720
Selenium, Total	7782-49-2	5,800	6,800	3.7 J	3.2 J	5.5 J	2.6 J	2.6 J	3.6 J	3.1 J	0.84 J	2 U	2.2 U	1.8 J	3 J	2.6 J
Silver, Total	7440-22-4	5,800	6,800	0.05 J	0.13 J	3.9	25	2.7	0.36 J	0.11 J	0.59 U	0.05 J	0.06 J	0.12 J	0.05 J	0.05 J
Sodium, Total	7440-23-5	NS	NS	120 J	270	550	750 J	480 J	720	680	790 J	23 J	270	620 J	110 J	200 J
Thallium, Total	7440-28-0	12	NS	0.09 J	0.11 J	0.1 J	0.1 J	0.22 U	0.11 J	0.15 J	0.24 U	0.28	0.07 J	0.07 J	0.08 J	0.1 J
Tin, Total	7440-31-5	NS	NS	3.2 J	22 J	1,300 J	2100 J	640	47 J	3.7	5 J	2.4	1.8	1.8	1.3	7.5
Vanadium, Total	7440-62-2	5,800	NS	25	22	60	43	56	57	26	10	25	35	16	23	32
Zinc, Total	7440-66-6	350,000	10,000	89 J	410 J	18,000 J	6,000 J	8600	550 J	150	28 J	75	48	280 J	37 J	150 J

Notes:

(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06.

(2) Not all intervals were analyzed. Intervals (-03) and beyond were not analyzed if they did not contain visual evidence of slag and followed two consecutive intervals without exceedances of NYSDEC IUSCOs.

b - The SCOs for commercial use were capped at a maximum value of 500 ppm.

d - The SCOs for metals were capped at a maximum value of 10,000 ppm.

f - For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the department and department of health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

j - This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See TSD Table 5.6-1.

NS - No Standard

J - Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.

UJ- (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

Highlighted text denotes concentrations exceeding NYSDEC Industrial Use SCO.

Bold text denotes concentrations exceeding EPA RMLs.

Table 1
Soil Analytical Summary Tables
Total Metals
USEPA Methods 6010/7471

Client Sample ID:	CAS	Project Action Limit		SB013-01	SB013-02	SB013-03	SB013-04	SB013-05	SB013-07	SB90013-07	SB014-01	SB014-02	SB90014-02	SB014-03	SB014-04	SB014-05	SB014-06
Laboratory ID:	Number	EPA RMLs (mg/kg)	NYSDEC IUSCOs	L1622423-65	L1622423-66	L1622423-67	L1622423-68	L1622423-69	L1622423-71	L1622423-72	L1622423-74	L1622423-75	L1622423-76	L1622423-77	L1622423-78	L1622423-79	L1622423-80
Sampling Date:		(Industrial Soil)	(mg/kg)	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016
Total Metals (mg/kg)																	
Aluminum, Total	7429-90-5	1,100,000	NS	3,400 J	5,700 J	3,700 J	4,900 J	1700 J	3,300 J	4,000 J	6,200 J	3,400 J	3,800 J	4,200 J	2,700 J	4,400 J	2,500 J
Antimony, Total	7440-36-0	470	NS	46	4.5	6.7	2.4	0.74 U	1 U	1.1 U	39	20	13	14	1.1	9.9	0.96 U
Arsenic, Total	7440-38-2	300	16	10	8.7	23 J	11 J	11 J	7.9	8.2	8.4	17	20	22 J	12	9.1 J	2.2 J
Barium, Total	7440-39-3	220,000	10,000	480 J	140 J	110 J	86	160	74 J	89 J	170 J	240 J	260 J	110	75 J	250	30
Beryllium, Total	7440-41-7	2,300	2,700	0.2 J	0.34	0.34 J	0.34	0.28 J	0.24 J	0.29 J	0.17 J	0.39	0.33	0.29 J	0.23 J	0.26 J	0.16 J
Cadmium, Total	7440-43-9	980	60	3.6	0.31	0.63	0.26	0.22 J	0.3	0.39	2.4	5.8	5.3	0.59	0.18 J	1.4	0.69
Calcium, Total	7440-70-2	NS	NS	20,000 J	25,000 J	3,800 J	20000 J	2100 J	2,800 J	3,600 J	30,000 J	2,300 J	4,200 J	13,000 J	9,700 J	11,000 J	1600 J
Chromium, Total	7440-47-3	NS	6,800	38	14	18 J	11	7.4	19	23	58	21	43	13	10	23	10
Cobalt, Total	7440-48-4	350	NS	10	5.3	4.9	5.3	8	3.9	4.5	13	14	4.7	6	4.6	6.2	2.6
Copper, Total	7440-50-8	47,000	10,000	1,100	110	1,200	65	25	20	23	900	420	390	600	76 J	250	16
Iron, Total	7439-89-6	820,000	NS	20,000	16,000	16,000	20,000	15000 J	8,200	10,000	38,000	25,000	14,000	23,000	8,500 J	15,000	6,300
Lead, Total	7439-92-1	800	3,900	**2,600 J**	270 J	600 J	200 J	47 J	140 J	170 J	**1,800 J**	**1,800 J**	**1,300** J	500 J	330 J	**800** J	180 J
Magnesium, Total	7439-95-4	NS	NS	19,000	3,500	1,900 J	1,800 J	330	1,400	1,400	17,000	690	980	2,000 J	1,200	2,600 J	1,800 J
Manganese, Total	7439-96-5	26,000	10,000	190 J	250 J	130 J	140	29 J	99 J	120 J	300 J	170 J	180 J	220	110 J	170	78
Nickel, Total	7440-02-0	22,000	10,000	120	40	24 J	20 J	19	16	18	100	77	60	25 J	16	27 J	20 J
Potassium, Total	7440-09-7	NS	NS	400	660	970 J	600	410	680	630	380	300	440	640	390	420	560
Selenium, Total	7782-49-2	5,800	6,800	2.2 U	2.2 U	2.4 U	2 J	3 U	2.8 J	2.8 U	2.6 J	2.3 U	2.3 J	2.5 J	2.3 U	1.5 J	1.4 J
Silver, Total	7440-22-4	5,800	6,800	0.81	0.21 J	0.5 J	0.57 U	0.74 U	0.1 J	0.34 J	0.53	0.9	0.69	0.59 U	0.13 J	0.56 U	0.6 U
Sodium, Total	7440-23-5	NS	NS	260	86 J	75 J	250 J	120 J	140 J	220	650	89 J	160 J	220 J	170	630 J	180 U
Thallium, Total	7440-28-0	12	NS	0.04 J	0.07 J	0.19 J	0.07 J	0.1 J	0.04 J	0.05 J	0.06 J	0.1 J	0.11 J	0.08 J	0.1 J	0.07 J	0.03 J
Tin, Total	7440-31-5	NS	NS	280	28	120 J	21 J	4	4.3	4.7	110	240	120	200 J	14	57 J	4.4 J
Vanadium, Total	7440-62-2	5,800	NS	36	14	13	18	12	12	14	67	24	24	18	12	29	7.9
Zinc, Total	7440-66-6	350,000	10,000	3,200	330	490	200 J	75	350	410	1,100	1,900	2,000	450 J	130 J	1,000 J	460 J

Notes:

(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06.

(2) Not all intervals were analyzed. Intervals (-03) and beyond were not analyzed if they did not contain visual evidence of slag and followed two consecutive intervals without exceedances of NYSDEC IUSCOs.

b - The SCOs for commercial use were capped at a maximum value of 500 ppm.

d - The SCOs for metals were capped at a maximum value of 10,000 ppm.

f - For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the department and department of health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

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NS - No Standard

J - Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.

UJ- (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

Highlighted text denotes concentrations exceeding NYSDEC Industrial Use SCO.

Bold text denotes concentrations exceeding EPA RMLs.

Table 1
Soil Analytical Summary Tables
Total Metals
USEPA Methods 6010/7471

Client Sample ID:	CAS	Project Action Limit		SB015-01		SB015-02		SB015-03		SB015-04		SB015-05		SB015-06		SB016-01		SB016-02		SB90016-02		SB016-03		SB016-04		SB016-05	
Laboratory ID:	Number	EPA RMLs (mg/kg)	NYSDEC IUSCOs	L1622604-01		L1622604-02		L1622604-03		L1622604-04		L1622604-05		L1622604-06		L1622604-10		L1622604-11		L1622604-12		L1622604-13		L1622604-14		L1622604-15	
Sampling Date:		(Industrial Soil)	(mg/kg)	7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016	
Total Metals (mg/kg)																											
Aluminum, Total	7429-90-5	1,100,000	NS	2,200	J	2,700	J	4,700	J	790	J	2,900	J	7,500		4,300	J	6,400	J	4,500	J	5,200	J	4,000	J	4,000	J
Antimony, Total	7440-36-0	470	NS	13	J	23	J	58		1.3		7.3		1.4		12	J	100	J	100	J	30		1.2	J	5.6	
Arsenic, Total	7440-38-2	300	16	4.7		30		110	J	4.2	J	11	J	7.8		4.9		29		24		11	J	4.6		9.4	J
Barium, Total	7440-39-3	220,000	10,000	110	J	1,100	J	510		26		29		72		86	J	1,100	J	490	J	52		28	J	78	
Beryllium, Total	7440-41-7	2,300	2,700	0.14	J	0.42		0.48		0.11	J	0.22	J	0.49		0.11	J	0.56		0.34	J	0.28	J	0.17	J	0.21	J
Cadmium, Total	7440-43-9	980	60	0.81		2.4		9.1		0.54		0.39		0.8		0.87		8.8		9.2		1.2		0.63		0.86	
Calcium, Total	7440-70-2	NS	NS	58,000		8,900		6,800	J	1,100	J	1,800	J	3,900		86,000		6,500		4,300		1,100	J	960		54,000	J
Chromium, Total	7440-47-3	NS	6,800	11		19		190		4.3		7.2		20		14		81		39		14		11		20	
Cobalt, Total	7440-48-4	350	NS	4.3		5.7		15		2.2		5		9.6		8.1		8		7.7		12		8.7		8.4	
Copper, Total	7440-50-8	47,000	10,000	290		250		**48,000**		250		30		32		430		6,400		3,900		16,000		250		2,800	
Iron, Total	7439-89-6	820,000	NS	17,000		27,000		71,000		4,700	J	26,000	J	16,000		45,000		37,000		71,000		31,000		28,000		62,000	
Lead, Total	7439-92-1	800	3,900	690	J	**1,500**	J	**4,600**	**J**	56	**J**	130	**J**	96		730	J	**6,600**	**J**	**4,300**	**J**	280	**J**	100	J	230	**J**
Magnesium, Total	7439-95-4	NS	NS	32,000		2,400		1,500	J	120		380		3,000		51,000		1,200		1,200		660	J	540		27,000	J
Manganese, Total	7439-96-5	26,000	10,000	150		240		320		29	J	59	J	380		310		300		320		570		700		540	
Nickel, Total	7440-02-0	22,000	10,000	14		34		44	J	7.5		15		30		14		34		31		16	J	13		16	J
Potassium, Total	7440-09-7	NS	NS	310		450		600		120		200		1400		450		460		380		400		350		480	
Selenium, Total	7782-49-2	5,800	6,800	2.5		5.2		3.5	J	2.3	U	4.1	J	2.4		1.9	J	3.8		4.4		1.4	J	1.9	J	1.3	J
Silver, Total	7440-22-4	5,800	6,800	0.25	J	0.83		8.2		0.07	J	0.14	J	0.11	J	0.33	J	2.8		2.8		0.55	U	0.66	U	0.86	
Sodium, Total	7440-23-5	NS	NS	220		170	J	520	J	42	J	130	J	280		340		260		230		180	J	130	J	200	J
Thallium, Total	7440-28-0	12	NS	0.04	J	0.15	J	0.1	J	0.06	J	0.14	J	0.19	J	0.05	J	0.27	U	0.3	U	0.06	J	0.26	U	0.05	J
Tin, Total	7440-31-5	NS	NS	58		120		820	J	2.7		8.1		6.8		49		1100		570		150	J	13		190	J
Vanadium, Total	7440-62-2	5,800	NS	35		23		24		7.8		13		19		55		36		28		22		19		20	
Zinc, Total	7440-66-6	350,000	10,000	410		930		6,700	J	190		440		720		530		6,700		4,400		390	J	190		300	J

Notes:

(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06.

(2) Not all intervals were analyzed. Intervals (-03) and beyond were not analyzed if they did not contain visual evidence of slag and followed two consecutive intervals without exceedances of NYSDEC IUSCOs.

b - The SCOs for commercial use were capped at a maximum value of 500 ppm.

d - The SCOs for metals were capped at a maximum value of 10,000 ppm.

f - For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the department and department of health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

j - This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See TSD Table 5.6-1.

NS - No Standard

J - Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.

UJ- (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

Highlighted text denotes concentrations exceeding NYSDEC Industrial Use SCO.

Bold text denotes concentrations exceeding EPA RMLs.

Table 1
Soil Analytical Summary Tables
Total Metals
USEPA Methods 6010/7471

Client Sample ID:	CAS	Project Action Limit		SB017-01		SB017-02		SB017-03		SB017-04		SB017-05		SB017-06		SB017-07		SB018-01		SB90018-01		SB018-02		SB018-03		SB018-04		SB018-05		SB018-06		SB018-07	
Laboratory ID:	Number	EPA RMLs (mg/kg)	NYSDEC IUSCOs	L1622604-19		L1622604-20		L1622604-21		L1622604-23		L1622604-24		L1622604-25		L1622604-26		L1622604-28		L1622604-29		L1622604-30		L1622604-87		L1622604-31		L1622604-33		L1622604-34		L1622604-35	
Sampling Date:		(Industrial Soil)	(mg/kg)	7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016	
Total Metals (mg/kg)																															
Aluminum, Total	7429-90-5	1,100,000	NS	3,900	J	4,400	J	2,300	J	2,900	J	3,000	J	1,900	J	3,800	J	10,000	J	9,600	J	5,700	J	4,500	J	440	J	2,000	J	2,200	J	3,100	J
Antimony, Total	7440-36-0	470	NS	7	J	110	J	15		170		63		3.1		2.2	J	340	J	1,200	J	160	J	120		8		42	J	3.1		3	
Arsenic, Total	7440-38-2	300	16	7.1		24		14	J	71	J	26	J	24	J	18		18		40		25		56	J	18		22		180	J	20	J
Barium, Total	7440-39-3	220,000	10,000	470	J	1,400	J	100		450		450		64		270	J	350	J	720	J	640	J	420	J	17		160	J	84		54	
Beryllium, Total	7440-41-7	2,300	2,700	0.14	J	0.27	J	0.38		0.3	J	0.27	J	0.13	J	0.29	J	0.17	J	0.15	J	0.34	J	0.35	J	0.16	J	0.19	J	0.22	J	0.45	
Cadmium, Total	7440-43-9	980	60	0.61		12	J	3		53		6.2	J	0.16	J	0.25	U	12		28		24		26		0.93		4.5		0.95		0.33	J
Calcium, Total	7440-70-2	NS	NS	100,000		9,600	J	5,100	J	39,000	J	21,000		2,800	J	8,200		23,000		36,000		16,000		10,000		870		6,200		4,300	J	13,000	
Chromium, Total	7440-47-3	NS	6,800	31		28		20		5200		420	J	5.7		8.8		23		43		26		120	J	7.3		18		49		9.5	J
Cobalt, Total	7440-48-4	350	NS	6.5		5.4		5.1		13		6.4	J	4.6		6.5		10		12		5.5		9	J	2		4.5		3.2		10	J
Copper, Total	7440-50-8	47,000	10,000	180		3,600	J	240		10,000		1,200	J	40		34		4,200		14,000		7,000		1400		64		510		200		60	J
Iron, Total	7439-89-6	820,000	NS	16,000		30,000	J	8,700		46,000	J	51,000	J	5,600	J	8,200		65,000		73,000		46,000		41,000		7,300		22,000		10,000		8,200	J
Lead, Total	7439-92-1	800	3,900	520	J	**17,000**	**J**	320	**J**	**5,600**	**J**	**1,900**		340	**J**	200	J	**12,000**	**J**	**21,000**	**J**	**14,000**	**J**	**4,200**		79		**1,500**	J	460	**J**	360	
Magnesium, Total	7439-95-4	NS	NS	64,000		2,000	J	490	J	2,500		7,600	J	400		1,300		13,000		21,000		1,200		2,100		620		1,800		1,000	J	1,200	J
Manganese, Total	7439-96-5	26,000	10,000	220		180	J	110		1400	J	300	J	94	J	91		240		340		300		490	J	36		190		120		160	J
Nickel, Total	7440-02-0	22,000	10,000	9.9		27		19	J	42		21	J	6.1		16		24		42		37		48	J	9.3		38		35	J	20	J
Potassium, Total	7440-09-7	NS	NS	400		290		430		960		500		370		660		920		710		350		840	J	200		440		550		600	
Selenium, Total	7782-49-2	5,800	6,800	3.2		5.1		3.6	J	3.6	U	2.3	J	2.3	U	2.9		2.5		3.7		1.5	J	5.2		2.3	U	3.9		2.4	J	2.3	J
Silver, Total	7440-22-4	5,800	6,800	0.52	U	1.7		0.63	U	6.3		1.2		0.3	J	0.63	U	1.7		2.8		4.6		37		0.43	J	1.6		0.64	U	0.24	J
Sodium, Total	7440-23-5	NS	NS	410		100	J	190	U	530	J	250		410	J	460		400		420		300		180	J	71	J	120	J	190	U	270	
Thallium, Total	7440-28-0	12	NS	0.21	U	0.23	U	0.22	J	0.26	J	0.28		0.06	J	0.25	U	0.2	U	0.23	U	0.15	J	0.29	J	0.31		0.23	J	0.11	J	0.09	J
Tin, Total	7440-31-5	NS	NS	30		880	J	29	J	230		150	J	8.3		6.6		350		1100		1100		370		9		200		52	J	6.8	J
Vanadium, Total	7440-62-2	5,800	NS	40		24		12		34		22		4.6		9.5		57		61		23		20		8.6		13		8.2		9.7	
Zinc, Total	7440-66-6	350,000	10,000	380		22,000		2,300	J	8,300		2,900		70		160		3,000		7,400		4,100		3,800		400		1,300		490	J	220	

Notes:

(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06.

(2) Not all intervals were analyzed. Intervals (-03) and beyond were not analyzed if they did not contain visual evidence of slag and followed two consecutive intervals without exceedances of NYSDEC IUSCOs.

b - The SCOs for commercial use were capped at a maximum value of 500 ppm.

d - The SCOs for metals were capped at a maximum value of 10,000 ppm.

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Highlighted text denotes concentrations exceeding NYSDEC Industrial Use SCO.

Bold text denotes concentrations exceeding EPA RMLs.

Table 1
Soil Analytical Summary Tables
Total Metals
USEPA Methods 6010/7471

Client Sample ID:	CAS	Project Action Limit		SB019-01		SB019-02		SB019-03		SB019-04		SB90019-04		SB019-05		SB019-06		SB019-07		SB020-01		SB90020-01		SB020-02		SB020-03		SB020-04		SB020-05		SB020-06		SB020-07	
Laboratory ID:	Number	EPA RMLs (mg/kg)	NYSDEC IUSCOs	L1622604-37		L1622604-38		L1622604-39		L1622604-40		L1622604-41		L1622604-42		L1622604-43		L1622604-44		L1622604-46		L1622604-47		L1622604-48		L1622604-49		L1622604-50		L1622604-51		L1622604-52		L1622604-53	
Sampling Date:		(Industrial Soil)	(mg/kg)	7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016	
Total Metals (mg/kg)																																	
Aluminum, Total	7429-90-5	1,100,000	NS	4,300	J	4,400	J	6,100	J	3,900	J	1,900	J	3,500	J	2,200	J	3,400	J	7,000	J	3,800	J	3,800	J	6,000	J	3,800	J	4,600	J	1,400	J	3,400	J
Antimony, Total	7440-36-0	470	NS	120	J	72	J	3.9		8.7		5.3		6.8	J	2	J	2.9	J	0.84	U	0.86	U	66	J	6.2		2.7		160		1.8	J	0.91	U
Arsenic, Total	7440-38-2	300	16	13	J	31		15	J	14	J	14	J	17		20		9.4		3.2		2		16		12	J	14	J	14	J	6		13	
Barium, Total	7440-39-3	220,000	10,000	170	J	360	J	130	J	140		100		170	J	90		68	J	21	J	10	J	140		140	J	160	J	160	J	83		66	
Beryllium, Total	7440-41-7	2,300	2,700	0.23	J	0.39		0.45		0.26	J	0.19	J	0.25	J	0.29	J	0.26	J	0.13	J	0.11	J	0.55		0.34	J	0.3	J	0.27	J	0.17	J	0.27	J
Cadmium, Total	7440-43-9	980	60	3.1	J	11		0.41		1.3		0.97		3.4		0.71		0.21	J	0.19	J	0.16	J	2.6	J	0.85		0.36		1.3		0.41	J	0.12	J
Calcium, Total	7440-70-2	NS	NS	70,000	J	6,100		28,000		8,700	J	8,500	J	11,000		6,800		8,000		52,000		99,000		2,600	J	24,000		5,900		13,000		1,300	J	3,400	J
Chromium, Total	7440-47-3	NS	6,800	15	J	70		26	J	24		24		28		17		11		6.5		4.3		12		17	J	12	J	28	J	32		7	
Cobalt, Total	7440-48-4	350	NS	7.8		6.8		7.7	J	6.3		6.2		5.2		7.7		3.9		12		6.4		6.7		8.7	J	6.7	J	5.7	J	2.9		4.5	
Copper, Total	7440-50-8	47,000	10,000	3,600	J	36,000		320		2000		800		180		35		30		95		46		420	J	180		180		550		240	J	18	J
Iron, Total	7439-89-6	820,000	NS	30,000	J	42,000		15,000		19,000	J	22,000	J	13,000		10,000		7,800		26,000		13,000		41,000	J	18,000		14,000		21,000		9,000	J	7,700	J
Lead, Total	7439-92-1	800	3,900	**5,400**	J	**3,900**	J	400		680	J	290	J	670	J	**1,200**	J	240	J	24	J	10	J	**1,300**	J	440		400		**4,500**		280	J	**1,300**	J
Magnesium, Total	7439-95-4	NS	NS	42,000	J	2,000		4,900		1,400		610		3,300		910		1,100		34,000		59,000		750	J	3,800		1,600		2,600		360	J	460	J
Manganese, Total	7439-96-5	26,000	10,000	240		260		210	J	360	J	350	J	160		200		69		230		220		180	J	250	J	180	J	180	J	74	J	54	J
Nickel, Total	7440-02-0	22,000	10,000	26	J	27		84	J	22		24		23		22		13		14		8.2		31	J	590	J	42	J	56	J	10	J	12	J
Potassium, Total	7440-09-7	NS	NS	530		710		1,000	J	600		470		550		480		530		440		260		810	J	800	J	500	J	570	J	190	J	380	J
Selenium, Total	7782-49-2	5,800	6,800	3.6	J	5.2		3.7		2.5	U	2.5	U	5.4		3.6		4.9		4.8		2.8		3.8	J	5.6		5.4		3.4		2.2	U	2.2	J
Silver, Total	7440-22-4	5,800	6,800	1		2.3		0.34	J	0.59	J	0.37	J	0.4	J	0.4	J	0.1	J	0.05	J	0.53	U	0.58	J	0.32	J	0.36	J	0.74		0.17	J	0.1	J
Sodium, Total	7440-23-5	NS	NS	260		210		160	J	150	J	160	J	200		270		190	J	540		410		200	U	270		140	J	180	J	170	U	260	
Thallium, Total	7440-28-0	12	NS	0.07	J	0.2	J	0.47		0.12	J	0.11	J	0.22	J	0.1	J	0.06	J	0.05	J	0.03	J	0.14	J	0.12	J	0.13	J	0.1	J	0.08	J	0.06	J
Tin, Total	7440-31-5	NS	NS	360	J	960		43		75		30		51		18		13		2.2		1	J	280	J	55		24		140		19	J	5.4	J
Vanadium, Total	7440-62-2	5,800	NS	35		18		20		16		11		19		11		18		82		31		29	J	20		13		16		8.9	J	15	J
Zinc, Total	7440-66-6	350,000	10,000	910	J	2,900		410		560		630		1,400		240		90		64		40		1,200	J	440		210		560		270	J	53	J

Notes:

(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06.

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Highlighted text denotes concentrations exceeding NYSDEC Industrial Use SCO.

Bold text denotes concentrations exceeding EPA RMLs.

Table 1
Soil Analytical Summary Tables
Total Metals
USEPA Methods 6010/7471

Client Sample ID:	CAS	Project Action Limit		SB021-01		SB021-02		SB90021-02		SB021-03		SB021-04		SB021-05		SB021-06		SB021-07		SB022-01		SB022-02		SB022-03		SB022-04		SB022-05		SB022-06		SB022-07		SB022-08	
Laboratory ID:	Number	EPA RMLs (mg/kg)	NYSDEC IUSCOs	L1622604-55		L1622604-56		L1622604-57		L1622604-58		L1622604-59		L1622604-60		L1622604-61		L1622604-62		L1622604-64		L1622604-65		L1622604-66		L1622604-67		L1622604-68		L1622604-69		L1622604-70		L1622604-71	
Sampling Date:		(Industrial Soil)	(mg/kg)	7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016	
Total Metals (mg/kg)																																	
Aluminum, Total	7429-90-5	1,100,000	NS	8,200	J	12,000	J	13,000	J	86,000	J	4,100	J	7,100	J	6,300	J	3,200	J	7,500	J	100,000	J	30,000	J	85,000	J	87,000	J	5,300	J	4,600	J	3,800	J
Antimony, Total	7440-36-0	470	NS	43	J	77	J	71	J	54	J	22		45		16		24	J	0.8	U	89	J	280	J	120	J	100		41	J	92		10	J
Arsenic, Total	7440-38-2	300	16	9.8		25		21		6.6		120	J	36	J	24	J	36		1.9		12		28		21		19	J	20		26	J	15	
Barium, Total	7440-39-3	220,000	10,000	790		2,300		1,000		3,000		240	J	610		220		280		100		1,600		1,100		75		1,100	J	450		260	J	84	
Beryllium, Total	7440-41-7	2,300	2,700	0.69		0.82		1.1		0.59	U	0.29	J	0.24	J	0.38		0.24	J	0.09	J	2.5		1.2		0.27	J	0.37		0.46		0.28	J	0.31	J
Cadmium, Total	7440-43-9	980	60	2.6	J	14	J	6.2	J	15	J	3		5.1		1.1		2.2	J	0.13	J	21	J	12	J	11	J	8.8		9	J	2.8		0.33	J
Calcium, Total	7440-70-2	NS	NS	16,000	J	30,000	J	32,000	J	18,000	J	5,400		18,000	J	9,400	J	3,200	J	40,000	J	26,000	J	23,000	J	2,000	J	22,000		20,000	J	55,000		36,000	J
Chromium, Total	7440-47-3	NS	6,800	13		150		26		160		600	J	1000		26		31		4		240		51		84		250	J	24		340	J	94	
Cobalt, Total	7440-48-4	350	NS	7.9		19		6.8		13		6.9	J	10		7.7		4.8		10		10		6.4		8.2		9.9	J	7.1		7.3	J	4.7	
Copper, Total	7440-50-8	47,000	10,000	1,300	J	6,400	J	1,700	J	5,800	J	1400		920		1100		8,000	J	85	J	8,300	J	6,900	J	**150,000**	J	**60,000**		450	J	3,400		76	J
Iron, Total	7439-89-6	820,000	NS	15,000	J	15,000	J	21,000	J	8,600	J	54,000		46,000	J	25,000	J	17,000	J	24,000	J	9,200	J	14,000	J	22,000	J	38,000		29,000	J	57,000		12,000	J
Lead, Total	7439-92-1	800	3,900	**7,600**	J	**16,000**	J	**9,200**	J	**26,000**	J	**1,200**		**1,600**	**J**	**860**	J	**2,100**	J	23	J	**30,000**	J	**17,000**	J	**5,500**	J	**6,500**		**2,200**	J	**2,200**		290	J
Magnesium, Total	7439-95-4	NS	NS	6400	J	41000	J	4100	J	15000	J	980		6800		3200		1200	J	26,000	J	28,000	J	5,800	J	920	J	7,900		2,700	J	4,800		3,800	J
Manganese, Total	7439-96-5	26,000	10,000	160	J	210	J	95	J	250	J	230	J	330	J	310	J	150	J	200	J	280	J	140	J	380	J	500	J	190	J	360	J	340	J
Nickel, Total	7440-02-0	22,000	10,000	18	J	240	J	40	J	75	J	98	J	88		44		34	J	12	J	160	J	53	J	640	J	330	J	22	J	39	J	15	J
Potassium, Total	7440-09-7	NS	NS	310	J	460	J	540	J	270	J	400	J	270		820		390	J	370	J	220	J	440	J	140	J	290	J	640	J	640	J	530	J
Selenium, Total	7782-49-2	5,800	6,800	6	J	6.4	J	6	J	2.4	J	4.1		2.4	J	3.5	J	3.2	J	3.1	J	15	J	12	J	3	J	6		2.5	J	2.9		3.3	J
Silver, Total	7440-22-4	5,800	6,800	0.8		1.7		1.2		1.1		1.3		0.77		0.57	J	3.2		0.5	U	1.2		2.1		36		12		1.2		1.8		0.18	J
Sodium, Total	7440-23-5	NS	NS	240		200	U	240		300	U	130	J	220	J	140	J	170	U	790		220	U	210	U	180	U	260		390		230		240	
Thallium, Total	7440-28-0	12	NS	0.06	J	0.11	J	0.11	J	0.06	J	0.18	J	0.35		0.13	J	0.06	J	0.2	U	0.06	J	0.13	J	0.24	U	0.06	J	0.12	J	0.13	J	0.17	J
Tin, Total	7440-31-5	NS	NS	130	J	920	J	320	J	1400	J	170		310		140		560	J	1.6	J	410	J	1,800	J	9,800	J	4,200		320	J	410		12	J
Vanadium, Total	7440-62-2	5,800	NS	43	J	30	J	27	J	18	J	16		32		21		15	J	63	J	31	J	34	J	13	J	36		32	J	18		15	J
Zinc, Total	7440-66-6	350,000	10,000	6600	J	17000	J	18000	J	8200	J	1800		3100		890		1100	J	150	J	54,000	J	31,000	J	9,700	J	12,000		3,600	J	1,400		98	J

Notes:

(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06.

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d - The SCOs for metals were capped at a maximum value of 10,000 ppm.

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UJ- (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

Highlighted text denotes concentrations exceeding NYSDEC Industrial Use SCO.

Bold text denotes concentrations exceeding EPA RMLs.

Table 1
Soil Analytical Summary Tables
Total Metals
USEPA Methods 6010/7471

Client Sample ID:	CAS	Project Action Limit		SB023-01		SB023-02		SB023-03		SB023-04		SB023-05		SB023-06		SB024-01		SB024-02		SB024-03		SB024-04		SB024-05		SB024-06		SB024-07	
Laboratory ID:	Number	EPA RMLs (mg/kg)	NYSDEC IUSCOs	L1622604-72		L1622604-73		L1622604-74		L1622604-75		L1622604-76		L1622604-77		L1622604-88		L1622604-80		L1622604-81		L1622604-82		L1622604-83		L1622604-84		L1622604-85	
Sampling Date:		(Industrial Soil)	(mg/kg)	7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016		7/20/2016	
Total Metals (mg/kg)																													
Aluminum, Total	7429-90-5	1,100,000	NS	5,000	J	3,500	J	4,200	J	3,800	J	6,200	J	4,800	J	3,100	J	4,500	J	3,800	J	4,600	J	4,300	J	2,500	J	4,200	J
Antimony, Total	7440-36-0	470	NS	11	J	38	J	6.3		2		18		3.8		43		27	J	20	J	2.9	J	25		0.52	U	1.8	J
Arsenic, Total	7440-38-2	300	16	4.5		18		16	J	11	J	18	J	18	J	17	J	33		23		18		18	J	6.6	J	37	
Barium, Total	7440-39-3	220,000	10,000	210		470		190	J	62		170		360		1,100	J	220		100		100		200		88	J	73	
Beryllium, Total	7440-41-7	2,300	2,700	0.14	J	0.4		0.55		0.32	J	0.54		0.45		0.34		0.92		0.43		0.43		0.3	J	0.27	J	0.2	J
Cadmium, Total	7440-43-9	980	60	0.92	J	4	J	0.56		0.92		1.4		1.6	J	4.4		1.5	J	1.3	J	7.4	J	2		1.4		0.81	J
Calcium, Total	7440-70-2	NS	NS	18,000	J	4,300	J	18,000		7,600	J	9,400	J	11,000		5,900		2,400	J	2,500	J	10,000	J	15,000	J	4,400		15,000	J
Chromium, Total	7440-47-3	NS	6,800	7.2		26		9.4	J	8.2		13		27	J	43		24		12		10		17		18		31	
Cobalt, Total	7440-48-4	350	NS	8.4		4.9		4.8	J	4.8		8.4		6.2	J	8.9		7		6		6		4.6		3		6.3	
Copper, Total	7440-50-8	47,000	10,000	380	J	450	J	50		23		46		85	J	1,200		280	J	300	J	38	J	270		46		25	J
Iron, Total	7439-89-6	820,000	NS	20,000	J	15,000	J	5,800		13,000	J	28,000	J	16,000	J	70,000		15,000	J	15,000	J	18,000	J	15,000	J	4,500		22,000	J
Lead, Total	7439-92-1	800	3,900	**940**	J	**2,000**	J	180		110	J	380	J	540		**3,000**	J	320	J	170	J	**1,600**	J	620	J	150	J	260	J
Magnesium, Total	7439-95-4	NS	NS	12,000	J	1,100	J	1,600		1,900		2,000		1,700	J	3,400		480	J	730	J	1,900	J	2,100		710		4,600	J
Manganese, Total	7439-96-5	26,000	10,000	140	J	240	J	120	J	160	J	270	J	170	J	310	J	86	J	96	J	210	J	160	J	89	J	170	J
Nickel, Total	7440-02-0	22,000	10,000	12	J	32	J	12	J	11		22		24	J	68		20	J	15	J	16	J	18		12		43	J
Potassium, Total	7440-09-7	NS	NS	460	J	380	J	360	J	580		790		870		440		500	J	380	J	570	J	570		330		530	J
Selenium, Total	7782-49-2	5,800	6,800	3.5	J	4.6	J	5.2		2.2	U	2.4	J	3.9		1.8	J	4.7	J	8.9	J	3.9	J	2.5	J	0.91	J	2.5	J
Silver, Total	7440-22-4	5,800	6,800	0.31	J	0.9		0.21	J	0.08	J	0.24	J	1.4		0.88		0.28	J	0.26	J	0.28	J	0.22	J	0.61	U	0.22	J
Sodium, Total	7440-23-5	NS	NS	420		420		540		320	J	700	J	1100		110	J	390		190	U	320		300	J	350		320	
Thallium, Total	7440-28-0	12	NS	0.06	J	0.16	J	0.38		0.07	J	0.1	J	0.14	J	1.34	U	0.3		0.28		0.1	J	0.1	J	8.2	J	0.04	J
Tin, Total	7440-31-5	NS	NS	42	J	150	J	8.9		7.1		68		33	J	100	J	15	J	30	J	10	J	49		10	J	44	J
Vanadium, Total	7440-62-2	5,800	NS	58	J	55	J	15		14		22		18		35		24	J	14	J	19	J	20		6.4		20	J
Zinc, Total	7440-66-6	350,000	10,000	880	J	2,200	J	450		1,700		2,300		960		2,100		800	J	900	J	12,000	J	2,500		1300		840	J

Notes:

(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06.

(2) Not all intervals were analyzed. Intervals (-03) and beyond were not analyzed if they did not contain visual evidence of slag and followed two consecutive intervals without exceedances of NYSDEC IUSCOs.

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d - The SCOs for metals were capped at a maximum value of 10,000 ppm.

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UJ- (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

Highlighted text denotes concentrations exceeding NYSDEC Industrial Use SCO.

Bold text denotes concentrations exceeding EPA RMLs.

Table 1
Soil Analytical Summary Tables
Total Metals
USEPA Methods 6010/7471

Client Sample ID:	CAS	Project Action Limit		SB025-01		SB025-02		SB025-03		SB025-04		SB025-05		SB025-06		SB025-07		SB90025-07		SB025-08		SB026-01		SB026-02		SB026-03		SB026-04		SB026-05		SB026-06		SB026-07		SB026-08	
Laboratory ID:	Number	EPA RMLs (mg/kg)	NYSDEC IUSCOs	L1632941-01		L1632941-02		L1632941-03		L1632941-04		L1632941-05		L1632941-06		L1632941-07		L1632941-08		L1632941-09		L1632941-10		L1632941-11		L1632941-12		L1632941-13		L1632941-14		L1632941-15		L1632941-16		L1632941-17	
Sampling Date:		(Industrial Soil)	(mg/kg)	10/13/2016		10/13/2016		10/13/2016		10/13/2016		10/13/2016		10/13/2016		10/13/2016		10/13/2016		10/13/2016		10/13/2016		10/13/2016		10/13/2016		10/13/2016		10/13/2016		10/13/2016		10/13/2016		10/13/2016	
Total Metals (mg/kg)																																			
Aluminum, Total	7429-90-5	1,100,000	NS	6,200	J	11,000	J	3,300	J	3,500	J	7,100	J	5,900	J	3,500	J	3,200	J	3,200	J	7,800	J	6,500	J	3,800	J	4,500	J	5,600	J	3,600	J	4,400	J	3,800	
Antimony, Total	7440-36-0	470	NS	460		1600		320		16		**1600**		11		8.4		3.5		63		120		190		8.7		13		30		34		180		170	
Arsenic, Total	7440-38-2	300	16	27	J	140	J	18	J	37	J	44	J	26	J	21	J	25	J	39	J	10	J	27	J	20	J	29	J	17	J	21	J	24	J	18	
Barium, Total	7440-39-3	220,000	10,000	880		810		270		1,300		390		190		160		86		130		240		300		160		130		120		260		410		550	
Beryllium, Total	7440-41-7	2,300	2,700	0.2	J	0.4	J	0.6		0.91		0.35		0.41		0.32	J	0.3	J	0.41		0.22	J	0.44		0.46		0.49		0.34	J	0.23	J	0.29	J	0.25	J
Cadmium, Total	7440-43-9	980	60	17		110		12		6.4		76		3.2		2.6		4.6		2		8.9		7.4		2		3.1		2.2		20		28		38	
Calcium, Total	7440-70-2	NS	NS	16,000	J	27,000	J	12,000	J	5,800	J	26,000	J	17,000	J	13,000	J	45,000	J	18,000	J	82,000	J	29,000	J	2,000	J	2,500	J	21,000	J	4,200	J	6,900	J	12,000	
Chromium, Total	7440-47-3	NS	6,800	60	J	87	J	12	J	73	J	41	J	18	J	29	J	16	J	49	J	10	J	30	J	52	J	90	J	34	J	24	J	28	J	22	
Cobalt, Total	7440-48-4	350	NS	16		20		9.4		18		15		9.8		7		13		44		10		11		8.7		13		11		13		8.3		6.8	
Copper, Total	7440-50-8	47,000	10,000	5,900		**56,000**		2,000		350		17,000		270		1100		180		380		710		1,100		740		2,500		690		5,200		9,700		28,000	
Iron, Total	7439-89-6	820,000	NS	120,000	J	71,000	J	33,000	J	120,000	J	72,000	J	26,000	J	29,000	J	32,000	J	99,000	J	24,000	J	70,000	J	46,000	J	68,000	J	61,000	J	99,000	J	30,000	J	40,000	
Lead, Total	7439-92-1	800	3,900	**21,000**		**56,000**		**13,000**		**41,000**		**34,000**		430		**2,800**		710		**4,700**		**9,200**		**13,000**		**1,200**		**1,000**		**2,600**		**5,200**		**27,000**		**34,000**	
Magnesium, Total	7439-95-4	NS	NS	8,900	J	11000	J	550	J	760	J	5,900	J	3,300	J	1,300	J	2,700	J	1,500	J	35,000	J	1,400	J	640	J	980	J	8,400	J	1400	J	2,100	J	1,600	
Manganese, Total	7439-96-5	26,000	10,000	680	J	840	J	300	J	670	J	560	J	300	J	240	J	290	J	300	J	190	J	360	J	480	J	780	J	510	J	680	J	590	J	2200	
Nickel, Total	7440-02-0	22,000	10,000	96	J	180	J	48	J	140	J	110	J	75	J	24	J	32	J	52	J	19	J	34	J	38	J	190	J	56	J	120	J	200	J	55	
Potassium, Total	7440-09-7	NS	NS	240		300		300		360		530		660		460		440		420		650		1,200		590		620		690		530		430		360	
Selenium, Total	7782-49-2	5,800	6,800	1.5	J	6.3		2.9	U	1.3	J	1.3	J	2.3	U	1.8	J	2.2	J	1.1	J	2.2	U	1	J	1.3	J	0.97	J	2.3	U	0.94	J	2.2	U	2.2	U
Silver, Total	7440-22-4	5,800	6,800	6.3		28		8.5		0.64	J	16		0.59		0.81		0.19	J	0.36	J	4.3		8		0.32	J	1.8		1		1.6		3.9		5.6	
Sodium, Total	7440-23-5	NS	NS	350	J	180	J	150	J	200	J	480	J	220	J	210	J	300	J	480	J	530	J	240	J	260	J	190	J	310	J	100	J	170	J	210	
Thallium, Total	7440-28-0	12	NS	0.12	J	0.23	J	0.13	J	0.24	J	0.13	J	0.11	J	0.09	J	0.12	J	0.15	J	0.09	J	0.06	J	0.71	J	0.1	J	0.08	J	0.23	UJ	0.07	J	0.2	J
Tin, Total	7440-31-5	NS	NS	1200	J	17000	J	4,800	J	59	J	16,000	J	140	J	180	J	33	J	1,000	J	650	J	1,100	J	67	J	470	J	210	J	380	J	2,400	J	4,200	
Vanadium, Total	7440-62-2	5,800	NS	54		59		20		32		30		24		18		18		25		48		27		16		29		39		23		15		21	
Zinc, Total	7440-66-6	350,000	10,000	11,000		81000		2,700		8,600		18,000		2,800		2,100		3,000		2,000		2,100		1700		590		2,100		930		8,700		7,500		13,000	

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Table 1

Groundwater Analytical Results

Total and Dissolved Metals

Client Sample ID:	NYSDEC	GW001				GW002				GW9002				GW003			
Sampling Date:		10/13/2016				10/13/2016				10/13/2016				10/13/2016			
Laboratory ID:	GQS/GVs[1]	L1632941-19				L1632941-20				L1632941-21				L1632941-22			
		Total		Dissolved		Total		Dissolved		Total		Dissolved		Total		Dissolved	
Metals by 6010 & 7470 (ug/L)																	
Aluminum	NS	3280	J	22		8110	J	56		6260	J	10	U	1230	J	20	
Antimony	3	4	UJ	4	U	4	UJ	4	U	4	UJ	4	U	4	UJ	4	U
Arsenic	25	3.0	J	0.9		6.1	J	1.1		6.0	J	1.1		1.4	J	0.4	J
Barium	NS	163	J	80.3		60.3	J	18.8		73.6	J	17.7		50.6	J	12.4	
Beryllium	3	0.3	J	0.5	U	0.6	J	0.5	U	0.5	J	0.5	U	0.1	J	0.5	U
Cadmium	5.5	0.2	UJ	0.2	U	0.2	J	0.2	U	0.1	J	0.2	U	0.2	UJ	0.2	U
Calcium	NS	203000	J	194000		117000	J	104000		128000	J	112000		87200	J	86000	
Chromium	50	13.6	J	2.6		26.6	J	1	U	21.4	J	1	U	5.9	J	1.3	
Cobalt	NS	3.4	J	0.7		8.4	J	1.3		7	J	1.4		1.2	J	0.2	J
Copper	200	11.5	J	1.8		24	J	3.1		21.5	J	2.4		4.2	UJ	1	U
Iron	300	17600	J	52		16800	J	50	U	13100	J	50	U	16100	J	40	J
Lead	25	59.3	J	1	U	32	J	1	U	24.2	J	1	U	7.0	UJ	1	U
Magnesium	35000	45800	J	39600	J	37600	J	32100	J	35200	J	32200	J	25200	J	22800	J
Manganese	300	1134	J	831.6		253	J	106.2		216	J	100.1		279	J	207.1	
Mercury	0.0026	NA		NA		0.06	J	0.2	U	0.2	UJ	0.2	U	0.2	UJ	0.2	U
Nickel	8.2	18.4	J	3.7		45.1	J	9.8		37.1	J	9.3		5.5	J	1.9	J
Potassium	NS	53400	J	45100		28900	J	26100		28700	J	26600		14500	J	13600	
Selenium	4.6	2.0	J	5	U	7	J	5	U	7	J	5	U	5	UJ	5	U
Silver	0.1	0.4	UJ	0.4	U	0.4	UJ	0.4	U	0.4	UJ	0.4	U	0.4	UJ	0.4	U
Sodium	20000	535000	J	488000		409000	J	379000		419000	J	400000		346000	J	333000	
Thallium	0.5	0.5	UJ	0.5	U	0.5	UJ	0.5	U	0.5	UJ	0.5	U	0.5	UJ	0.5	U
Tin	NS	3.6	J	3	U	3	UJ	3	U	3	UJ	3	U	3	UJ	3	U
Vanadium	NS	17.1	J	2.4	J	22	J	1.8	J	18	J	1.7	J	8.1	J	5	U
Zinc	5000	56.1	J	10	U	59.7	J	10	U	48.5	J	10	U	14.9	J	10	U

Notes:

All concentrations are ug/L (ppb)

1: 6 NYCRR Part 703: Surface Water & Groundwater Quality Standards and Groundwater Effluent Limitations. (Class SC/C)

NA : Not analyzed

NS : No standard established

J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

UJ- (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

Highlighted values indicate exceedance of the NYSDEC GQS or GV.

APPENDIX A
GEOPHYSICAL INVESTIGATION REPORT

GEOPHYSICAL INVESTIGATION REPORT

PERFORMED AT:

67 Delevan Street
Brooklyn, NY 11231

PREPARED FOR:

PW Grosser
Richard Kampf
One Penn Plaza, 36th Floor
New York, NY 10116

PREPARED BY:

Stephen Carle
Geophysical Technician
Enviroprobe Service, Inc.
81 Marter Avenue
Mt. Laurel, NJ 08054
(856) 858-8584
(800) 596-7472

June 25, 2016

1.0 INTRODUCTION

Enviroprobe Service, Inc. (Enviroprobe) is an environmental investigation services firm which provides monitoring well installation (HSA), Geoprobe (DPT) drilling services and Environmental & Engineering Geophysics (EEG) services to the environmental consulting and engineering community.

Enviroprobe conducted a subsurface geophysical investigation at the subject property within client-specified areas of concern. Due to conditions and objectives, the investigation utilized a Sensors and Software cart-mounted Ground Penetrating Radar (GPR) unit with a 250 MHz antenna, a Radiodetection RD8000TX3 multi-frequency transmitter, a Radio-detection RD8000PXL receiver, and a Fisher TW-6 metallic locator.

Ground penetrating radar (commonly called GPR) is a geophysical method that has been developed over the past thirty years for shallow, high-resolution, subsurface investigations of the earth. GPR uses high frequency pulsed electromagnetic waves (generally 10 MHz to 2,000 MHz) to acquire subsurface information. An EM wave is propagated downward into the ground by a transmitting antenna. Where abrupt changes in electrical properties occur in the subsurface, a portion of the energy is reflected back to the surface. This reflected wave is detected by a receiver antenna and transmitted to a control unit for real time processing and display. The penetration depth of the unit varies from several inches to tens of feet according to site-specific conditions. The penetration depth decreases with increased soil conductivity. The penetration depth is the greatest in ice, dry sands, and fine gravels. Clayey, highly saline or saturated soils, areas covered by concrete, foundry slag, or other highly conductive materials greatly reduce GPR penetration. GPR is a method that is commonly used for environmental, engineering, archaeological, and other shallow investigations.

The Radio-detection (RD) transmitter and receiver are commonly used for pipe and cable locating. The multi-frequency transmitter can be directly connected, clamped, or used to induce a signal in a target line while the multi-frequency receiver is used to measure the signal from energized lines.

The Fisher TW-6 metallic locator is designed to find pipes, cables and other metallic objects such as underground storage tanks (USTs). The TW-6 transmitter generates an electromagnetic field that induces electrical currents in the subsurface. These currents produce a secondary electromagnetic field that is measured by the TW-6 receiver. One surveyor can carry both the transmitter and receiver together to search for underground metallic objects, although the TW-6 response can also be affected by the electrical properties of non-metallic materials in the subsurface.

2.0 SCOPE OF WORK

On July 18, 2016, a geophysical technician from Enviroprobe Service Inc. was mobilized to the subject property to perform a geophysical investigation. The purpose of this investigation was to designate underground conduits/utilities in all accessible exterior

portions of the subject property [see Figure 1]. The ground surface of the survey area consisted of asphalt.

3.0 SURVEY RESULTS

The survey was conducted using a cart-mounted GPR unit with a 250 MHz antenna, a Fisher TW-6 metallic locator, and a RD unit. The RD unit was used to trace common utilities from sources in and around the survey area. The RD receiver was also used in the passive mode to search for live underground electrical power cables and other utilities emitting 60Hz electromagnetic signals. When possible, the locations of utilities were confirmed with the GPR. A GPR survey was also performed in a grid pattern in at least two orthogonal directions to search for underground utilities. Designated utilities were marked on-site with spray paint using the following colors; red - electric, blue – water, green – sanitary sewer and pink – unknowns [see Figure 1].

4.0 LIMITATIONS

The client-selected areas of the property had multiple obstructions, including scrap metal piles, possible lead and trash. These objects prevented a thorough investigation of the spaces beneath and immediately adjacent to them.

Due to surface conditions and subsurface content, the GPR signal penetration was estimated at 3 feet in the majority of the survey area. This penetration was reduced in areas of concrete cover.

The TW-6 survey was kept up to 6 feet away from above ground objects containing metals depending on the sizes, shapes and positions of the metal objects. The TW-6 survey was not effective in areas with reinforced concrete.

Due to the dielectric properties of the subsurface, plastic polymer and fiberglass utilities may not have been detected.

All field services were conducted in compliance with the industry standard of care guidelines found in ASCE 38-02 (Level B).

5.0 WARRANTIES

The field observations and measurements reported herein are considered sufficient in detail and scope for this project. Enviroprobe Service, Inc. warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted environmental engineering methods. There is a possibility that conditions may exist which could not be identified within the scope of this project and were not apparent during the site activities performed for this project.

Enviroprobe represents that the services were performed in a manner consistent with that level of care and skill ordinarily exercised by environmental consultants under similar circumstances. No other representations to Client, express or implied, and no warranty or guarantee is included or intended in this agreement, or in any report, document, or otherwise.

Enviroprobe Service, Inc. believes that the information provided in this report is reliable. However, Enviroprobe cannot warrant or guarantee that the information provided by others is complete or accurate. No other warranties or guarantees are implied or expressed.

GPR data is subject to signal anomalies and operator interpretation. The GPR data is intended to provide the locations of areas of concern requiring additional investigation or the approximate location of underground structures and utilities. Great care must be utilized when excavating and/or drilling around underground structures and utilities since GPR data can only be used for estimation purposes and GPR data is subject to misinterpretation. Enviroprobe cannot guarantee that utilities, post-tension cables, and/or rebar will not be incurred during drilling, cutting, coring, or excavating activities.

This report was prepared pursuant to the contract Enviroprobe has with the Client. That contractual relationship included an exchange of information about the property that was unique and between Enviroprobe and its client and serves as the basis upon which this report was prepared. Because of the importance of the communication between Enviroprobe and its client, reliance or any use of this report by anyone other than the Client, for whom it was prepared, is prohibited and therefore not foreseeable to Enviroprobe.

Reliance or use by any such third party without explicit authorization in the report does not make said third party a third party beneficiary to Enviroprobe contract with the Client. Any such unauthorized reliance on or use of this report, including any of its information or conclusions, will be at the third party's risk. For the same reasons, no warranties or representations, expressed or implied in this report, are made to any such third party.

Figure 1

KEY
Communications
Electric
Natural Gas
Sanitary Sewer
Storm Drainage
Unknown Utility
Water

APPENDIX B
SOIL BORING LOGS

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB01	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 80F, N 6mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/18/2016	Completion Date:	7/18/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	32"		GP	Gray	Dry	Gravel and Asphalt	0.0
2					Med Brown		Fine sand with gravel	
3					Black		Asphalt fill with brick and wood	
4				OL	Dark Brown		Clayey organic material with wood and brick	
5	4	20"		GM	Dark Brown		Sand with brick and with organic material	
6								
7					Red		Brick	
8					Dark Brown	Wet	Sand with organic material	

End of boring at 8 ' bgs. Groundwater reached at 7' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB02	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 80F, N 6mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/18/2016	Completion Date:	7/18/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	20"		GP	Black	Dry	Asphalt and sand	0.0
2				SP	Med Brown		Sand	
3					Med Brown to Black		Half sand, half vesicular slag-like material	
4					Med Brown		Sand with brick and concrete	
5	4	2'			Med Brown		Sand with brick	
6				GC	Gray to Med Brown		Gravelly, clayey sand with organic material and concrete	
7					Black to yellow		Slag, yellow brick and organic material	
8					Med Brown	Wet	Clayey sand with brick	

End of boring at 8 ' bgs. Groundwater reachd at 7' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB03	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 80F, N 6mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	4'
Start Date:	7/18/2016	Completion Date:	7/18/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	20"		GP	Black	Dry	Asphalt and gravelly, silty sand	0.0
2				GM	Dark Brown		Gravelly, silty sand and fill (rug)	
3								
4					Black to gray		Gravel (tar-encased), and organic material with some concrete	

End of boring at 4 ' bgs. Refusal. 5 attempts were made. Groundwater not reached.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB04	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 80F, N 6mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/18/2016	Completion Date:	7/18/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	30"		SP	Brown	Dry	Sand with asphalt	0.0
2				GP	Gray		Concrete	
3					Dark Gray		1" Semi rounded gravel with vesicular slag-like material	
4					Red		Brick	
5	4	18"		SP	Dark Gray		Sand with brick	
6					Black to Gray		Brick, concrete and organic material	
7					Gray		Sand with slag	
8				GC	Gray	Damp to Wet	Clayey sand with brick, organics, wood and vesicualr slag like material	

End of boring at 8 ' bgs. Groundwater encountered at 7.5' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB05	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 79F, WNW 6mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/19/2016	Completion Date:	7/19/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	2'		SP	Med Brown	Dry	Gravelly sand	0.0
2					Black to Med Brown		Asphalt and sand	
3					Med Brown to Black		Sand and gravel with vesicular slag-like material.	
4					Dark Brown to Red		Sand and brick	
5	4	30"			Dark Brown to Red		Sand with wood	
6					Black		Black slag-like vesicular material with brick (yellow and red) and concrete	
7								
8				SM	Med Brown	Damp	Sand	

End of boring at 8 ' bgs. Groundwater encountered at 7' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB06	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 79F, WNW 6mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/19/2016	Completion Date:	7/19/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	2'		GP	Black	Dry	Asphalt and sand	0.0
2				SP	Med Brown		Sand	
3					Light Brown		Sand with red brick	
4					Yellow and Brown		Yellow brick and wood	
5	4	22"			Dark Brown		Gravelly sand with brick	
6				CL/OL	Yellow, Black and Dark Brown		Half yellow brick and black glass slag, Half clay with organics	
7					Med Brown		Brick (yellow and red) and clay with wood	
8				GC	Dark Brown	Damp to Wet	Clayey sand with red brick	

End of boring at 8 ' bgs. Groundwater encountered at 7.5' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB07	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 79F, WNW 6mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/19/2016	Completion Date:	7/19/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	2'		GP	Black	Dry	Asphalt and vesicular slag-like material	0.0
2				GM	Black to Med Brown		Vesicular slag-like material and silty sand with brick and rock	
3					Med Brown to Red		Silty sand with brick and conglomerate	
4					Red to White		Conglomerate and sand with organics	
5	4	32"			Med Brown		Silty sand with rock and brick (pink and red)	
6					Black to Dark Brown		Loose, fine organic material and fine silty, clayey sand with glass and electronic material	
7								
8					Brown to Gray	Dry to Damp	Clayey sand with varigated, silty fine sand and brick	

End of boring at 8 ' bgs. Groundwater encountered at 7.25' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB08	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 79F, WNW 6mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/19/2016	Completion Date:	7/19/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	28"		GM		Dry	Asphalt and fine to medium gravelly, silty sand	0.0
2					Med Brown		Silty sand with brick (yellow and red) and varigated shale	
3					Med Brown		Silty sand with concrete, shale and yellowish flecks	
4					Dark Gray to Black		Fine, gravelly sand with conglomerate and metal and silty, clayey fine sand with organic material	
5	4	26"		SP	Med Brown		Fine to coarse gravelly sand with brick and concrete	
6					Gray to Black		Loose fine to medium gravelly sand with black vesicular slag-like material, glass slag and mica	
7								
8				GM	Black to Gray		Loose fine to medium gravelly sand with black vesicular slag-like material, glass slag and mica and silty sand	
9					Gray	Damp	Varigated, fine, silty sand with conglomerate and metal and black vesicular slag-like material	
10					Gray to Brown	Wet	Very fine, silty sand with black glass slag	

End of boring at 10 ' bgs. Groundwater encountered at 8' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB09	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 79F, WNW 6mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/19/2016	Completion Date:	7/19/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	30"		GM/GC	Black to Med brown	Dry	Asphalt and silty, clayey, gravelly sand	0.0
2					Med Brown		Silty, clayey, gravelly sand	
3				SP	Grayish Tan		Tar covered rock and fine to coarse gravelly sand with rock	
4					Grayish Tan to Black		Fine to coarse gravelly sand with rock and black glass slag with tar paper	
5	4	2'			Gray to Red		Sand with black glass slag and tar paper and red brick	
6					White		Sand with concrete	
7				GC	Gray to Black		Clayey sand with brick	
8				SM	Black to Dark Brown	Wet	Clayey sand grading to silty sand	

End of boring at 8 ' bgs. Groundwater encountered at 7' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB010	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 79F, WNW 6mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/19/2016	Completion Date:	7/19/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	2'		GP	Black	Dry	Asphalt and gravelly sand	0.0
2				SP	Med Brown		Gravelly sand	
3					Red to Black		Brick and conglomerate with black glass slag	
4				GM	Red to Med Brown		Silty gravelly sand and brick	
5	4	20"			Med Brown		Silty sand with mica and brick	
6					Med Brown to Red		Silty sand with mica and brick and reddish dyed sand	
7					Gray to Black		Fine sand with rock and vesicular slag-like material	
8					Med Brown	Dry to Damp	Silty sand with black glass slag	

End of boring at 8 ' bgs. Goundwater encountered at 8' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB011	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 79F, WNW 6mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/19/2016	Completion Date:	7/19/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	28"		GM	Black to Med Brown	Dry	Asphalt and silty sand	0.0
2					Black to Brown-Gray		Fine grained coal-like material and gravelly, silty sand	
3					Brown-Gray to Black		Gravelly, silty sand with coal-like rock material.	
4				GP	Red		Brick	
5	4	30"			Gray to Red		Sand and brick	
6					Red to Dark Brown		Brick and organic material	
7					Yellow, Red and Black		Brick and vesicular slag-like material	
8				SM	Dark Brown	Damp to Wet	Silty sand	

End of boring at 8 ' bgs. Goundwater encountered at 7.5' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB012	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 79F, WNW 6mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/19/2016	Completion Date:	7/19/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	32"		GM	Black to Med Brown		Asphalt and silty, gravelly sand	0.0
2					Med Brown to Black		Silty, gravelly sand with coal-like rock material	
3				MH	Med Brown		Sand with rock and mica	
4				GM	Med Brown		Silty, gravelly sand with organic material and brick	
5	4	26"			Med Brown to Gray		Gravelly sand with brick and conglomerate	
6					Gray		Conglomerate	
7					Dark Brown		Silty sand with glass	
8				SC	Medium Brown	Damp to Wet	Clayey sand	

End of boring at 8 ' bgs. Groundwater encountered at 7.5' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB013	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 79F, WNW 6mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/19/2016	Completion Date:	7/19/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	3'		SP	Black to Dark Gray	Dry	Asphalt and gravelly sand with vesicular slag-like amterial	0.0
2				GC	Med Brown		Gravelly, clayey sand with glass and ceramics	
3					Med Brown to Black		Gravelly, clayey sand with glass and ceramics and gravelly sand with vesicular slag-like material.	
4				SP	Black		Loose, fine, gravelly sand with wood	
5	4	3'			Dark Gray		Gravelly sand	
6				GM	Dark Brown		Gravelly, silty sand with brick	
7					Black	Damp	Vesicular slag-like material	
8				SW	Gray	Wet	Sand	

End of boring at 8 ' bgs. Groundwater encountered at 7' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB014	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 79F, WNW 6mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/19/2016	Completion Date:	7/19/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	3'		GP	Black	Dry	Asphalt and sand	0.0
2				SP	Dark Brown		Sand with black glass slag	
3				GM	Med Brown		Silty sand with brick (yellow and red)	
4					Black		Silty sand with vesicular slag-like material	
5	4	30"		SP	Black		Gravelly sand with vesicular slag-like material	
6					Gray		Half gravelly fine to coarse sand and half sand with vesicular slag-like material	
7				SW	Light Gray to Tan	Damp	Fine sand	
8				ML	Greenish Gray	Wet	Clayey silt	

End of boring at 8 ' bgs. Groundwater encountered at 6.5' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB015	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 77F, Variable 0-5mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/20/2016	Completion Date:	7/20/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	30"		GP	Black	Dry	Asphalt and gravelly, silty sand	0.0
2				GM	Med Brown		Gravelly, silty sand	
3								
4				SP	Black		Gravelly sand with rock	
5	4	3'			Black		Gravelly sand with vesicular slag-like material	
6				SM	Dark Gray to Med Brown		Silty sand	
7					Med Brown	Wet	Silty sand	
8				SW	Gray		Sand	

End of boring at 8 ' bgs. Groundwater encountered at 6' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB016	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 77F, Variable 0-5mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/20/2016	Completion Date:	7/20/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	32"		SP	Gray to Med Brown	Dry	Gravelly sand	0.0
2				GM	Black		Silty, gravelly sand	
3				GC	Tan to Med Brown		Clayey sand with vesicular slag-like material	
4				SP	Black		Gravelly sand with silver rock, glass and vesicular slag-like material	
5	4	32"		SM	Dark Brown		Silty sand	
6				SP	Black		Coarse sand with glass, ceramics and red brick	
7								
8				GM	Dark Brown	Wet	Gravelly, silty sand	

End of boring at 8 ' bgs. Groundwater encountered at 7' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB017	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 77F, Variable 0-5mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/20/2016	Completion Date:	7/20/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	2'		SP	Med Brown	Dry	Gravelly sand	0.0
2				GM	Black		Gravelly, silty sand with brick and vesicular slag-like material	
3								
4				CL	Yellow/White to Dark Brown		Half clayey sand and half silty organics	
5	4	2'		GM	Black		Silty, gravelly sand with brick and vesicular slag-like material	
6							Silty, gravelly sand with brick	
7				SP	Gray		Gravelly sand with brick, glass and vesicular slag-like material	
8						Wet		

End of boring at 8 ' bgs. Groundwater encountered at 7' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB018	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 77F, Variable 0-5mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/20/2016	Completion Date:	7/20/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	28"		SP	Dark brown	Dry	Gravelly sand	0.0
2				GM	Dark brown		Silty sand with vesicular slag-like material	
3				SC	Dark Brown		Clayey sand with organics	
4				GP	Gray to Black		Gravel and vesicualr slag-like material	
5	4	30"		SP	Black		Sand with vesicular slag-like material and wood	
6				GC	Black		Clayey, gravelly sand with organics	
7				SP	Gray		Gravelly sand with vesicular slag-like material	
8				GM	Gray to Med Brown	Wet	Silty sand with vesicular slag-like material and glass	

End of boring at 8 ' bgs. Groundwater encountered at 7' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB019	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 77F, Variable 0-5mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/20/2016	Completion Date:	7/20/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	3'		SP	Light brown	Dry	Gravelly sand	0.0
2					Med Brown		Sand with black glass slag and metal	
3				GM	Black to Light Brown		Sand and silty sand with black glass slag	
4					Light Brown to Black		Gravelly, silty sand with brick and vesicular slag-like material.	
5	4	3'		GC	Gray to Black		Half gravel with yellow brick and vesicular slag-like material and half clayey sand with red brick	
6				SP	Black		Coarse, gravelly sand with vesicular slag-like material	
7								
8				SW	Med Brown	Wet	Sand	

End of boring at 8 ' bgs. Goundwater encountered at 7' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB020	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 77F, Variable 0-5mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/20/2016	Completion Date:	7/20/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	3'		GM	Gray to Dark Brown	Dry	Gravel and silty sand	0.0
2					Light Brown to Dark Brown		Sand with black glass slag and vesicular slag-like material and half silty sand with brick	
3				SP	Med Brown		Sand with shale and brick	
4				GM	Black		Silty sand with rock and black glass slag	
5	4	30"		GC	Black		Gravelly, clayey sand	
6				GP	Black		Gravel with vesicular slag-like material	
7					Gray to Black		Gravelly sand with yellow brick and vesicular slag-like material	
8					Black	Wet	Gravel with red brick and vesicular slag-like material	

End of boring at 8 ' bgs. Groundwater encountered at 7' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB021	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 77F, Variable 0-5mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/20/2016	Completion Date:	7/20/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	3'		SP	Brown to Black	Dry	Asphalt and varigated gravelly sand with yellow brick and vesicular slag-like material	0.0
2								
3				GM	Blue-gray		Gravelly, silty sand with red brick, yellow brick, wood and vesicular slag-like material	
4					Dark Brown		Gravelly, silty sand with red brick	
5	4	3'			Med Brown to Light Brown		Gravelly, silty sand	
6				SM	Black		Silty sand	
7				SP	Med Brown		Gravelly sand with glass and vesicular slag-like material	
8					Black to Gray	Wet	Half gravelly sand and half fine sand	

End of boring at 8 ' bgs. Groundwater encountered at 7' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB022	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 77F, Variable 0-5mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/20/2016	Completion Date:	7/20/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	29"		GP	Black to Gray	Dry	Asphalt and concrete	0.0
2				SP	Black		Fine sand with yellow brick and vesicular slag-like material	
3								
4					Blue-Green with Sky Blue		Sand with sky blue flecks	
5	4	20"			Dark Brown		Gravelly sand with red brick	
6					Black		Sand with yellow brick , glass and vesicular slag-like material	
7				SM	Med Brown		Silty sand	
8				SP	Black	Dry to Damp	Gravelly sand with vesicular slag-like material	

End of boring at 8 ' bgs. Groundwater encountered at 8' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB023	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 77F, Variable 0-5mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/20/2016	Completion Date:	7/20/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	30"		GM	Black	Dry	Gravelly, silty sand	0.0
2				SM	Black		Silty sand	
3				GP	Black		Asphalt and yellow brick	
4				SP	Med Brown		Coarse, gravelly sand with red brick	
5	4	30"		GM	Med Brown		Gravelly, silty sand	
6				SP	Gray		Gravelly sand with yellow brick	
7				SW	Med Brown	Wet	Fine sand	
8								

End of boring at 8 ' bgs. Groundwater encountered at 6' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB024	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1601	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 77F, Variable 0-5mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Geoprobe GH42	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	7/20/2016	Completion Date:	7/20/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	28"		GM	Med Brown to Gray	Dry	Gravelly, silty sand	0.0
2				SP	Dark Brown		Gravelly sand	
3					Med Brown		Sand with yellow brick and vesicular slag-like material	
4					Gray to Med Brown		Gravelly sand and silty sand	
5	4	26"			Light Brown to Black		Gravelly sand	
6					Black		Loose sand with glass slag and vesicular slag-like material	
7				SC	Med Brown	Wet	Fine clayey sand	
8								

End of boring at 8 ' bgs. Groundwater encountered at 6' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB025	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1602	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 62F, Variable 0-5mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Dingo Geoprobe	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	10/14/2016	Completion Date:	10/14/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	22"		SP	Dark Brown	Dry	Asphalt and gravelly sand	0.0
2				SM			Silty sand	
3				SP			Gravelly sand with vesicular and glass slag	
4								
5	4	36"					Gravelly sand with red brick	
6				GM	Light Brown		Gravelly, silty sand with glass slag	
7					Dark Brown		Gravelly, silty sand with glass slag and red brick	
8				SP	Medium Brown	Damp to Wet	Gravelly sand with red brick	

End of boring at 8 ' bgs. Groundwater encountered at 7.5' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	SB026	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1602	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 62F, Variable 0-5mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Dingo Geoprobe	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	8'
Start Date:	10/14/2016	Completion Date:	10/14/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	20"		SP	Gray	Dry	Gravelly sand	0.0
2							Gravelly sand with vesicular slag	
3				GM	Dark Brown		Gravelly, silty sand with vesicular and glass slag	
4								
5	4	21"					Gravelly, silty sand	
6							Gravelly, silty sand with vesicular slag	
7				SM	Medium Brown		Silty sand with red brick	
8						Damp to Wet		

End of boring at 8 ' bgs. Groundwater encountered at 8' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	GW001	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1602	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 62F, Variable 0-5mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Dingo Geoprobe	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	12'
Start Date:	10/14/2016	Completion Date:	10/14/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	20"		SM	Medium Brown	Dry	Silty sand	0.0
2								
3				ML	Light Brown		Sandy silt	
4				SM	Black		Silty sand with vesicular slag	
5	4	23"			Medium Brown		Silty sand with red brick and fill	
6					Dark Brown		Silty sand with red brick and organics	
7				ML	Gray		Silty, clayey sand with vesicular slag for 1.8 ft of 2 ft	
8						Dry to Wet		
9	4	34"			Dark Brown	Wet	Clayey silt with organics	
10				SM	Medium Brown		Silty sand	
11								
12								

End of boring at 12 ' bgs. Groundwater encountered at 7.8' bgs.

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SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	GW002	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1602	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 62F, Variable 0-5mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Dingo Geoprobe	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	12'
Start Date:	10/14/2016	Completion Date:	10/14/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	30"		SM	Dark Brown	Dry	Silty sand	0.0
2								
3				SW	Medium Brown		Sand	
4								
5	4	28"						
6								
7				SC	Medium Gray		Clayey sand with brick and organics	
8						Wet		
9	4	21"		SW	Dark Gray		Sand	
10								
11				SM	Medium Gray		Silty sand	
12					Dark Gray			

End of boring at 12 ' bgs. Groundwater encountered at 7' bgs.

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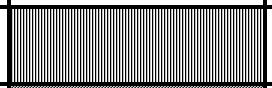
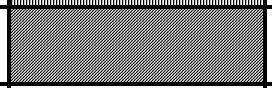
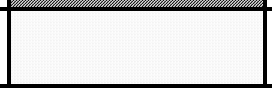
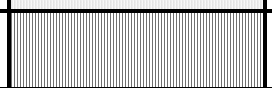
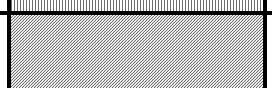
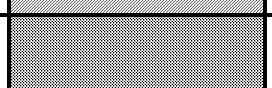
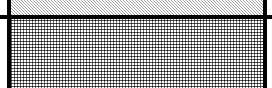
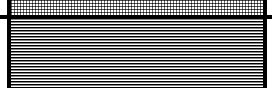
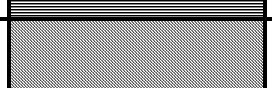
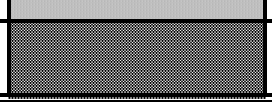
SOIL BORING LOG SHEET			
BOREHOLE NUMBER:	GW003	Geologist:	Michael Gaul
PROJECT NUMBER:	HHE1602	Project Manager:	Richard T. Kampf, P.G.
PROJECT NAME:	Atlas White Metal	Weather:	Sunny 62F, Variable 0-5mph
Drilling Contractor:	Enviroprobe	Sampling Method:	Macrocore
Drill Rig Type:	Dingo Geoprobe	Borehole Diameter:	2.5"
Drilling Method:	Direct Push	Borehole Depth:	12'
Start Date:	10/14/2016	Completion Date:	10/14/2016

Depth (ft)	Advance (ft)	Recovery (ft)	Graphic Log	USCS Code	Soil Color	Moisture Content	Soil Description	PID Reading (ppm)
1	4	32"		SM	Dark Brown	Dry	Silty sand	0.0
2				SW	Medium Brown		Sand	
3								
4								
5	4	34"						
6								
7								
8					Dark Gray	Wet		
9	4	30"		ML			Silty, clayey sand	
10								
11								
12								

End of boring at 12 ' bgs. Groundwater encountered at 7' bgs.

USCS Code	Pattern	Pattern Name
GW		6.25% Grey
GP		12.5% Grey
GM		Vertical Stripe
GC		Diagonal Stripe
SW		25% Grey
SP		50% Grey
SM		Thin Vertical Stripe
SC		Thin Diagonal Stripe
ML		Diagonal Crosshatch
CL		Thin Reverse Diagonal Stripe
OL		Thin Horizontal Crosshatch
MH		Horizontal Stripe
CH		Reverse Diagonal Stripe
OH		75% Grey
PT		Thick Diagonal Crosshatch

APPENDIX C
LABORATORY ANALYTICAL DATA

ANALYTICAL REPORT

Lab Number:	L1622423
Client:	P. W. Grosser 630 Johnson Avenue Suite 7 Bohemia, NY 11716
ATTN:	Richard Kampf
Phone:	(631) 589-6353
Project Name:	ATLAS WHITE METAL
Project Number:	HHE1601
Report Date:	07/26/16

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Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1622423-01	SB01-01	SOIL	Not Specified	07/18/16 10:36	07/20/16
L1622423-02	SB01-02	SOIL	Not Specified	07/18/16 10:58	07/20/16
L1622423-03	SB01-03	SOIL	Not Specified	07/18/16 10:59	07/20/16
L1622423-04	SB01-04	SOIL	Not Specified	07/18/16 11:01	07/20/16
L1622423-05	SB01-05	SOIL	Not Specified	07/18/16 11:52	07/20/16
L1622423-06	SB01-06	SOIL	Not Specified	07/18/16 11:54	07/20/16
L1622423-07	SB01-07	SOIL	Not Specified	07/18/16 11:56	07/20/16
L1622423-08	SB01-08	SOIL	Not Specified	07/18/16 11:58	07/20/16
L1622423-09	SB02-01	SOIL	Not Specified	07/18/16 12:07	07/20/16
L1622423-10	SB02-02	SOIL	Not Specified	07/18/16 12:59	07/20/16
L1622423-11	SB02-03	SOIL	Not Specified	07/18/16 12:11	07/20/16
L1622423-12	SB02-04	SOIL	Not Specified	07/18/16 12:13	07/20/16
L1622423-13	SB02-05	SOIL	Not Specified	07/18/16 13:02	07/20/16
L1622423-14	SB02-06	SOIL	Not Specified	07/18/16 13:04	07/20/16
L1622423-15	SB02-07	SOIL	Not Specified	07/18/16 13:06	07/20/16
L1622423-16	SB02-08	SOIL	Not Specified	07/18/16 13:08	07/20/16
L1622423-17	SB03-01	SOIL	Not Specified	07/18/16 13:18	07/20/16
L1622423-18	SB03-02	SOIL	Not Specified	07/18/16 13:20	07/20/16
L1622423-19	SB03-03	SOIL	Not Specified	07/18/16 13:22	07/20/16
L1622423-20	SB03-04	SOIL	Not Specified	07/18/16 13:24	07/20/16
L1622423-21	SB06-05	SOIL	Not Specified	07/19/16 09:15	07/20/16
L1622423-22	SB06-06	SOIL	Not Specified	07/19/16 09:17	07/20/16
L1622423-23	SB06-07	SOIL	Not Specified	07/19/16 09:19	07/20/16
L1622423-24	SB06-08	SOIL	Not Specified	07/19/16 09:21	07/20/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1622423-25	SB07-01	SOIL	Not Specified	07/19/16 09:24	07/20/16
L1622423-26	SB07-02	SOIL	Not Specified	07/19/16 09:26	07/20/16
L1622423-27	SB07-03	SOIL	Not Specified	07/19/16 09:28	07/20/16
L1622423-28	SB07-04	SOIL	Not Specified	07/19/16 09:30	07/20/16
L1622423-29	SB07-05	SOIL	Not Specified	07/19/16 09:38	07/20/16
L1622423-30	SB07-06	SOIL	Not Specified	07/19/16 09:37	07/20/16
L1622423-31	SB07-07	SOIL	Not Specified	07/19/16 09:39	07/20/16
L1622423-32	SB07-08	SOIL	Not Specified	07/19/16 09:41	07/20/16
L1622423-33	SB08-01	SOIL	Not Specified	07/19/16 10:04	07/20/16
L1622423-34	SB08-02	SOIL	Not Specified	07/19/16 10:06	07/20/16
L1622423-35	SB08-03	SOIL	Not Specified	07/19/16 10:08	07/20/16
L1622423-36	SB08-04	SOIL	Not Specified	07/19/16 10:10	07/20/16
L1622423-37	SB08-05	SOIL	Not Specified	07/19/16 10:31	07/20/16
L1622423-38	SB08-06	SOIL	Not Specified	07/19/16 10:33	07/20/16
L1622423-39	SB08-07	SOIL	Not Specified	07/19/16 10:35	07/20/16
L1622423-40	SB08-08	SOIL	Not Specified	07/19/16 10:37	07/20/16
L1622423-41	SB08-09	SOIL	Not Specified	07/19/16 10:39	07/20/16
L1622423-42	SB08-10	SOIL	Not Specified	07/19/16 10:41	07/20/16
L1622423-43	SB09-01	SOIL	Not Specified	07/19/16 10:51	07/20/16
L1622423-44	SB09-02	SOIL	Not Specified	07/19/16 10:53	07/20/16
L1622423-45	SB09-03	SOIL	Not Specified	07/19/16 10:55	07/20/16
L1622423-46	SB09-04	SOIL	Not Specified	07/19/16 10:57	07/20/16
L1622423-47	SB09-05	SOIL	Not Specified	07/19/16 11:00	07/20/16
L1622423-48	SB09-06	SOIL	Not Specified	07/19/16 11:12	07/20/16
L1622423-49	SB09-07	SOIL	Not Specified	07/19/16 11:14	07/20/16
L1622423-50	SB09-08	SOIL	Not Specified	07/19/16 11:16	07/20/16
L1622423-51	SB010-01	SOIL	Not Specified	07/19/16 11:27	07/20/16
L1622423-52	SB010-02	SOIL	Not Specified	07/19/16 11:29	07/20/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1622423-53	SB010-03	SOIL	Not Specified	07/19/16 11:31	07/20/16
L1622423-54	SB010-04	SOIL	Not Specified	07/19/16 11:35	07/20/16
L1622423-55	SB010-05	SOIL	Not Specified	07/19/16 11:53	07/20/16
L1622423-56	SB010-06	SOIL	Not Specified	07/19/16 11:55	07/20/16
L1622423-57	SB010-07	SOIL	Not Specified	07/19/16 11:57	07/20/16
L1622423-58	SB010-08	SOIL	Not Specified	07/19/16 11:59	07/20/16
L1622423-59	SB011-01	SOIL	Not Specified	07/19/16 12:11	07/20/16
L1622423-60	SB011-02	SOIL	Not Specified	07/19/16 12:13	07/20/16
L1622423-61	SB012-05	SOIL	Not Specified	07/19/16 12:57	07/20/16
L1622423-62	SB012-06	SOIL	Not Specified	07/19/16 13:00	07/20/16
L1622423-63	SB012-07	SOIL	Not Specified	07/19/16 13:02	07/20/16
L1622423-64	SB012-08	SOIL	Not Specified	07/19/16 13:04	07/20/16
L1622423-65	SB013-01	SOIL	Not Specified	07/19/16 14:49	07/20/16
L1622423-66	SB013-02	SOIL	Not Specified	07/19/16 14:50	07/20/16
L1622423-67	SB013-03	SOIL	Not Specified	07/19/16 14:51	07/20/16
L1622423-68	SB013-04	SOIL	Not Specified	07/19/16 14:55	07/20/16
L1622423-69	SB013-05	SOIL	Not Specified	07/19/16 15:07	07/20/16
L1622423-70	SB013-06	SOIL	Not Specified	07/19/16 15:09	07/20/16
L1622423-71	SB013-07	SOIL	Not Specified	07/19/16 15:11	07/20/16
L1622423-72	SB9003-07	SOIL	Not Specified	07/19/16 15:11	07/20/16
L1622423-73	SB013-08	SOIL	Not Specified	07/19/16 15:13	07/20/16
L1622423-74	SB014-01	SOIL	Not Specified	07/19/16 15:35	07/20/16
L1622423-75	SB014-02	SOIL	Not Specified	07/19/16 15:37	07/20/16
L1622423-76	SB90014-02	SOIL	Not Specified	07/19/16 15:37	07/20/16
L1622423-77	SB014-03	SOIL	Not Specified	07/19/16 15:39	07/20/16
L1622423-78	SB014-04	SOIL	Not Specified	07/19/16 15:41	07/20/16
L1622423-79	SB014-05	SOIL	Not Specified	07/19/16 16:11	07/20/16
L1622423-80	SB014-06	SOIL	Not Specified	07/19/16 16:15	07/20/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1622423-81	SB014-07	SOIL	Not Specified	07/19/16 16:17	07/20/16
L1622423-82	SB014-08	SOIL	Not Specified	07/19/16 16:19	07/20/16
L1622423-83	SB04-01	SOIL	Not Specified	07/18/16 15:15	07/20/16
L1622423-84	SB04-02	SOIL	Not Specified	07/18/16 15:17	07/20/16
L1622423-85	SB04-03	SOIL	Not Specified	07/18/16 15:19	07/20/16
L1622423-86	SB04-04	SOIL	Not Specified	07/18/16 15:21	07/20/16
L1622423-87	SB04-05	SOIL	Not Specified	07/18/16 15:56	07/20/16
L1622423-88	SB04-06	SOIL	Not Specified	07/18/16 15:58	07/20/16
L1622423-89	SB04-07	SOIL	Not Specified	07/18/16 16:00	07/20/16
L1622423-90	SB04-08	SOIL	Not Specified	07/18/16 16:02	07/20/16
L1622423-91	SB05-01	SOIL	Not Specified	07/19/16 08:26	07/20/16
L1622423-92	SB05-02	SOIL	Not Specified	07/19/16 08:28	07/20/16
L1622423-93	SB05-03	SOIL	Not Specified	07/19/16 08:30	07/20/16
L1622423-94	SB05-04	SOIL	Not Specified	07/19/16 08:32	07/20/16
L1622423-95	SB05-05	SOIL	Not Specified	07/19/16 08:41	07/20/16
L1622423-96	SB05-06	SOIL	Not Specified	07/19/16 08:45	07/20/16
L1622423-97	SB05-07	SOIL	Not Specified	07/19/16 08:48	07/20/16
L1622423-98	SB05-08	SOIL	Not Specified	07/19/16 08:49	07/20/16
L1622423-99	SB06-01	SOIL	Not Specified	07/19/16 08:56	07/20/16
L1622423-100	SB06-02	SOIL	Not Specified	07/19/16 08:58	07/20/16
L1622423-101	SB06-03	SOIL	Not Specified	07/19/16 08:59	07/20/16
L1622423-102	SB06-04	SOIL	Not Specified	07/19/16 09:01	07/20/16
L1622423-103	SB011-03	SOIL	Not Specified	07/19/16 12:15	07/20/16
L1622423-104	SB011-04	SOIL	Not Specified	07/19/16 12:17	07/20/16
L1622423-105	SB011-05	SOIL	Not Specified	07/19/16 12:32	07/20/16
L1622423-106	SB011-06	SOIL	Not Specified	07/19/16 12:34	07/20/16
L1622423-107	SB011-07	SOIL	Not Specified	07/19/16 12:36	07/20/16
L1622423-108	SB011-08	SOIL	Not Specified	07/19/16 12:38	07/20/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1622423-109	SB012-01	SOIL	Not Specified	07/19/16 12:50	07/20/16
L1622423-110	SB012-02	SOIL	Not Specified	07/19/16 12:52	07/20/16
L1622423-111	SB012-03	SOIL	Not Specified	07/19/16 12:54	07/20/16
L1622423-112	SB012-04	SOIL	Not Specified	07/19/16 12:56	07/20/16

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: ATLAS WHITE METAL **Lab Number:** L1622423
Project Number: HHE1601 **Report Date:** 07/26/16

Case Narrative (continued)

Report Submission
This is a partial report. A final report will be issued as soon as the results of all requested analyses become available.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Metals
The WG915983-4 MS recoveries, performed on L1622423-01, are outside the acceptance criteria for aluminum (248%), chromium (69%), potassium (73%), and selenium (178%). A post digestion spike was performed and yielded an unacceptable recovery for aluminum (4550%); all other compounds were within acceptance criteria. This has been attributed to sample matrix.
The WG915983-4 MS recoveries for calcium (4840%), iron (0%), magnesium (2710%), manganese (46%), and zinc (0%), performed on L1622423-01, do not apply because the sample concentrations are greater than four times the spike amounts added.
The WG915984-3/-4 MS/MSD recoveries, performed on L1622423-67, are outside the acceptance criteria for aluminum (16%/11%), arsenic (192%/142%), barium (MS 126%), calcium (MS 136%), chromium (MS 136%), magnesium (157%/128%), manganese (188%/149%), nickel (136%/126%), potassium (66%/46%), and selenium (MS 209%). A post digestion spike was performed.
The WG915984-3/-4 MS/MSD recoveries for copper (418%/852%), iron (1670%/1380%), lead (20%/0%), and zinc (MS 209%), performed on L1622423-67, do not apply because the sample concentrations are greater than four times the spike amounts added.
The WG915984-4 MSD recovery, performed on L1622423-67, is outside the acceptance criteria for tin (53%). A post digestion spike was performed and was within acceptance criteria.
The WG915984-7/-8 MS/MSD recoveries, performed on L1622423-78, are outside the acceptance criteria for aluminum (34%/45%), barium (MSD 127%), copper (MSD 50%), manganese (45%/203%), selenium (MS 161%), and zinc (68%/135%). A post digestion spike was performed.
The WG915984-7/-8 MS/MSD recoveries for calcium (0%/0%), iron (MS 0%), and lead (MSD 641%),

Project Name: ATLAS WHITE METAL **Lab Number:** L1622423
Project Number: HHE1601 **Report Date:** 07/26/16

Case Narrative (continued)

performed on L1622423-78, do not apply because the sample concentrations are greater than four times the spike amounts added.

The WG915985-4 MS recoveries, performed on L1622423-83, are outside the acceptance criteria for aluminum (52%), calcium (128%), selenium (132%), and sodium (133%). A post digestion spike was performed.

The WG915985-4 MS recovery for manganese (186%), performed on L1622423-83, does not apply because the sample concentration is greater than four times the spike amount added.

The WG915993-4 MS recovery, performed on L1622423-01, is outside the acceptance criteria for mercury (145%). A post digestion spike was performed and was within acceptance criteria.

The WG915996-3/-4 MS/MSD recoveries for mercury (0%/0%), performed on L1622423-67, do not apply because the sample concentration is greater than four times the spike amount added.

The WG915996-5 MS recovery for mercury (165%), performed on L1622423-78, does not apply because the sample concentration is greater than four times the spike amount added.

The WG915983-3 Laboratory Duplicate RPDs, performed on L1622423-01, are outside the acceptance criteria for barium (22%), cadmium (37%), lead (33%), nickel (30%), potassium (27%), tin (67%), and zinc (32%). The elevated RPDs have been attributed to the non-homogeneous nature of the native sample.

The WG915984-8 Laboratory Duplicate RPDs, performed on L1622423-78, are outside the acceptance criteria for calcium (28%), iron (27%), lead (48%), manganese (42%), and selenium (43%). The elevated RPDs have been attributed to the non-homogeneous nature of the native sample.

The WG915985-3 Laboratory Duplicate RPD, performed on L1622423-83, is outside the acceptance criteria for calcium (29%). The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 07/26/16

METALS

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-01
Client ID: SB01-01
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 91%

Date Collected: 07/18/16 10:36
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5300		mg/kg	4000	1600	1000	07/22/16 05:01	07/23/16 15:03	EPA 3050B	1,6020A	AM
Antimony, Total	0.73	J	mg/kg	0.84	0.07	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Arsenic, Total	3.8		mg/kg	0.53	0.07	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Barium, Total	60		mg/kg	3.2	0.21	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Beryllium, Total	0.32		mg/kg	0.32	0.09	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Cadmium, Total	1.1		mg/kg	0.21	0.03	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Calcium, Total	42000		mg/kg	5300	640	100	07/22/16 05:01	07/22/16 18:07	EPA 3050B	1,6020A	AM
Chromium, Total	24		mg/kg	2.1	0.49	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Cobalt, Total	4.9		mg/kg	0.53	0.06	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Copper, Total	31		mg/kg	2.1	0.16	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Iron, Total	12000		mg/kg	210	22.	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Lead, Total	39		mg/kg	0.63	0.07	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Magnesium, Total	6500		mg/kg	100	13.	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Manganese, Total	200		mg/kg	21	4.7	100	07/22/16 05:01	07/22/16 18:07	EPA 3050B	1,6020A	AM
Mercury, Total	0.06	J	mg/kg	0.08	0.02	1	07/22/16 08:25	07/26/16 10:13	EPA 7471B	1,7471B	BV
Nickel, Total	23		mg/kg	1.0	0.24	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Potassium, Total	870		mg/kg	100	16.	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Selenium, Total	3.5		mg/kg	2.1	0.42	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Silver, Total	0.13	J	mg/kg	0.53	0.04	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Sodium, Total	210		mg/kg	160	12.	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Thallium, Total	0.34		mg/kg	0.21	0.03	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Tin, Total	3.6		mg/kg	1.3	0.05	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Vanadium, Total	23		mg/kg	1.0	0.40	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM
Zinc, Total	180		mg/kg	10	2.7	10	07/22/16 05:01	07/22/16 18:03	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-02
Client ID: SB01-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 93%

Date Collected: 07/18/16 10:58
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5000		mg/kg	4000	1500	1000	07/22/16 05:01	07/23/16 15:12	EPA 3050B	1,6020A	AM
Antimony, Total	0.20	J	mg/kg	0.82	0.07	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Arsenic, Total	3.3		mg/kg	0.52	0.07	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Barium, Total	29		mg/kg	3.1	0.21	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Beryllium, Total	0.39		mg/kg	0.31	0.09	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Cadmium, Total	0.08	J	mg/kg	0.21	0.03	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Calcium, Total	1500		mg/kg	520	63.	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Chromium, Total	12		mg/kg	2.1	0.48	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Cobalt, Total	5.2		mg/kg	0.52	0.06	10	07/22/16 05:01	07/23/16 13:33	EPA 3050B	1,6020A	AM
Copper, Total	17		mg/kg	2.1	0.15	10	07/22/16 05:01	07/23/16 13:33	EPA 3050B	1,6020A	AM
Iron, Total	13000		mg/kg	210	21.	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Lead, Total	28		mg/kg	0.62	0.07	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Magnesium, Total	2000		mg/kg	100	13.	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Manganese, Total	240		mg/kg	21	4.6	100	07/22/16 05:01	07/22/16 18:34	EPA 3050B	1,6020A	AM
Mercury, Total	0.11		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 10:20	EPA 7471B	1,7471B	BV
Nickel, Total	19		mg/kg	1.0	0.23	10	07/22/16 05:01	07/23/16 13:33	EPA 3050B	1,6020A	AM
Potassium, Total	650		mg/kg	100	16.	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Selenium, Total	5.1		mg/kg	2.1	0.41	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Silver, Total	0.05	J	mg/kg	0.52	0.04	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Sodium, Total	190		mg/kg	150	12.	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Thallium, Total	0.08	J	mg/kg	0.21	0.03	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Tin, Total	3.0		mg/kg	1.2	0.04	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Vanadium, Total	18		mg/kg	1.0	0.39	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM
Zinc, Total	57		mg/kg	10	2.7	10	07/22/16 05:01	07/22/16 18:31	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-09
Client ID: SB02-01
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 93%

Date Collected: 07/18/16 12:07
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5300		mg/kg	4400	1600	1000	07/22/16 05:01	07/23/16 15:24	EPA 3050B	1,6020A	AM
Antimony, Total	0.53	J	mg/kg	0.85	0.07	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM
Arsenic, Total	4.6		mg/kg	0.53	0.07	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM
Barium, Total	43		mg/kg	3.2	0.21	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM
Beryllium, Total	0.35		mg/kg	0.32	0.09	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM
Cadmium, Total	0.18	J	mg/kg	0.21	0.03	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM
Calcium, Total	15000		mg/kg	530	64.	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM
Chromium, Total	14		mg/kg	2.1	0.50	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM
Cobalt, Total	6.9		mg/kg	0.53	0.06	10	07/22/16 05:01	07/23/16 13:36	EPA 3050B	1,6020A	AM
Copper, Total	32		mg/kg	2.1	0.16	10	07/22/16 05:01	07/23/16 13:36	EPA 3050B	1,6020A	AM
Iron, Total	27000		mg/kg	2100	220	100	07/22/16 05:01	07/22/16 18:41	EPA 3050B	1,6020A	AM
Lead, Total	61		mg/kg	0.64	0.07	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM
Magnesium, Total	8800		mg/kg	110	13.	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM
Manganese, Total	500		mg/kg	21	4.7	100	07/22/16 05:01	07/22/16 18:41	EPA 3050B	1,6020A	AM
Mercury, Total	0.10		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 10:22	EPA 7471B	1,7471B	BV
Nickel, Total	17		mg/kg	1.1	0.24	10	07/22/16 05:01	07/23/16 13:36	EPA 3050B	1,6020A	AM
Potassium, Total	650		mg/kg	110	16.	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM
Selenium, Total	4.2		mg/kg	2.1	0.42	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM
Silver, Total	0.11	J	mg/kg	0.53	0.04	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM
Sodium, Total	89	J	mg/kg	160	12.	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM
Thallium, Total	0.12	J	mg/kg	0.21	0.03	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM
Tin, Total	2.5		mg/kg	1.3	0.05	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM
Vanadium, Total	22		mg/kg	1.1	0.40	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM
Zinc, Total	62		mg/kg	11	2.8	10	07/22/16 05:01	07/22/16 18:37	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-10
Client ID: SB02-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 92%

Date Collected: 07/18/16 12:59
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	4300		mg/kg	4400	1600	1000	07/22/16 05:01	07/23/16 15:27	EPA 3050B	1,6020A	AM
Antimony, Total	0.10	J	mg/kg	0.86	0.07	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Arsenic, Total	2.7		mg/kg	0.54	0.07	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Barium, Total	28		mg/kg	3.2	0.22	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Beryllium, Total	0.30	J	mg/kg	0.32	0.09	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Cadmium, Total	0.08	J	mg/kg	0.22	0.03	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Calcium, Total	1100		mg/kg	540	66.	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Chromium, Total	9.6		mg/kg	2.2	0.50	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Cobalt, Total	4.9		mg/kg	0.54	0.06	10	07/22/16 05:01	07/23/16 13:39	EPA 3050B	1,6020A	AM
Copper, Total	16		mg/kg	2.2	0.16	10	07/22/16 05:01	07/23/16 13:39	EPA 3050B	1,6020A	AM
Iron, Total	10000		mg/kg	220	22.	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Lead, Total	32		mg/kg	0.65	0.08	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Magnesium, Total	2200		mg/kg	110	13.	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Manganese, Total	270		mg/kg	22	4.8	100	07/22/16 05:01	07/22/16 18:47	EPA 3050B	1,6020A	AM
Mercury, Total	0.05	J	mg/kg	0.07	0.01	1	07/22/16 08:25	07/26/16 10:24	EPA 7471B	1,7471B	BV
Nickel, Total	21		mg/kg	1.1	0.24	10	07/22/16 05:01	07/23/16 13:39	EPA 3050B	1,6020A	AM
Potassium, Total	610		mg/kg	110	16.	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Selenium, Total	3.6		mg/kg	2.2	0.43	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Silver, Total	0.05	J	mg/kg	0.54	0.04	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Sodium, Total	65	J	mg/kg	160	13.	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Thallium, Total	0.06	J	mg/kg	0.22	0.03	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Tin, Total	1.4		mg/kg	1.3	0.05	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Vanadium, Total	15		mg/kg	1.1	0.41	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM
Zinc, Total	32		mg/kg	11	2.8	10	07/22/16 05:01	07/22/16 18:44	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-15
Client ID: SB02-07
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 84%

Date Collected: 07/18/16 13:06
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	1900		mg/kg	1200	170	100	07/22/16 05:01	07/22/16 18:59	EPA 3050B	1,6020A	AM
Antimony, Total	3.4		mg/kg	0.94	0.08	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Arsenic, Total	6.7		mg/kg	0.59	0.08	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Barium, Total	45		mg/kg	3.5	0.24	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Beryllium, Total	0.16	J	mg/kg	0.35	0.10	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Cadmium, Total	0.11	J	mg/kg	0.23	0.03	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Calcium, Total	9800		mg/kg	590	71.	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Chromium, Total	5.4		mg/kg	2.3	0.55	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Cobalt, Total	3.9		mg/kg	0.59	0.06	10	07/22/16 05:01	07/23/16 13:42	EPA 3050B	1,6020A	AM
Copper, Total	37		mg/kg	2.3	0.17	10	07/22/16 05:01	07/23/16 13:42	EPA 3050B	1,6020A	AM
Iron, Total	7800		mg/kg	230	24.	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Lead, Total	5900		mg/kg	70	8.1	1000	07/22/16 05:01	07/23/16 15:30	EPA 3050B	1,6020A	AM
Magnesium, Total	800		mg/kg	120	14.	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Manganese, Total	82		mg/kg	2.3	0.52	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Mercury, Total	0.16		mg/kg	0.08	0.02	1	07/22/16 08:25	07/26/16 10:26	EPA 7471B	1,7471B	BV
Nickel, Total	8.7		mg/kg	1.2	0.26	10	07/22/16 05:01	07/23/16 13:42	EPA 3050B	1,6020A	AM
Potassium, Total	250		mg/kg	120	18.	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Selenium, Total	2.2	J	mg/kg	2.3	0.47	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Silver, Total	0.35	J	mg/kg	0.59	0.04	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Sodium, Total	550		mg/kg	180	14.	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Thallium, Total	0.06	J	mg/kg	0.23	0.03	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Tin, Total	4.2		mg/kg	1.4	0.05	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Vanadium, Total	10		mg/kg	1.2	0.44	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM
Zinc, Total	42		mg/kg	12	3.0	10	07/22/16 05:01	07/22/16 18:50	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-17
Client ID: SB03-01
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 90%

Date Collected: 07/18/16 13:18
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5400		mg/kg	4400	1600	1000	07/22/16 05:01	07/23/16 15:33	EPA 3050B	1,6020A	AM
Antimony, Total	0.36	J	mg/kg	0.87	0.07	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM
Arsenic, Total	4.7		mg/kg	0.54	0.08	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM
Barium, Total	44		mg/kg	3.3	0.22	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM
Beryllium, Total	0.33		mg/kg	0.33	0.10	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM
Cadmium, Total	0.17	J	mg/kg	0.22	0.03	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM
Calcium, Total	8900		mg/kg	540	66.	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM
Chromium, Total	15		mg/kg	2.2	0.51	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM
Cobalt, Total	7.8		mg/kg	0.54	0.06	10	07/22/16 05:01	07/23/16 13:45	EPA 3050B	1,6020A	AM
Copper, Total	30		mg/kg	2.2	0.16	10	07/22/16 05:01	07/23/16 13:45	EPA 3050B	1,6020A	AM
Iron, Total	27000		mg/kg	2200	220	100	07/22/16 05:01	07/22/16 19:05	EPA 3050B	1,6020A	AM
Lead, Total	47		mg/kg	0.65	0.08	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM
Magnesium, Total	5200		mg/kg	110	13.	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM
Manganese, Total	510		mg/kg	22	4.8	100	07/22/16 05:01	07/22/16 19:05	EPA 3050B	1,6020A	AM
Mercury, Total	0.10		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 10:31	EPA 7471B	1,7471B	BV
Nickel, Total	20		mg/kg	1.1	0.24	10	07/22/16 05:01	07/23/16 13:45	EPA 3050B	1,6020A	AM
Potassium, Total	780		mg/kg	110	16.	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM
Selenium, Total	3.0		mg/kg	2.2	0.44	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM
Silver, Total	0.06	J	mg/kg	0.54	0.04	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM
Sodium, Total	220		mg/kg	160	13.	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM
Thallium, Total	0.13	J	mg/kg	0.22	0.03	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM
Tin, Total	2.3		mg/kg	1.3	0.05	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM
Vanadium, Total	28		mg/kg	1.1	0.41	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM
Zinc, Total	66		mg/kg	11	2.8	10	07/22/16 05:01	07/22/16 19:02	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-18
Client ID: SB03-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 90%

Date Collected: 07/18/16 13:20
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5800		mg/kg	4400	1600	1000	07/22/16 05:01	07/23/16 15:37	EPA 3050B	1,6020A	AM
Antimony, Total	0.44	J	mg/kg	0.86	0.07	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM
Arsenic, Total	10		mg/kg	0.54	0.07	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM
Barium, Total	43		mg/kg	3.2	0.22	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM
Beryllium, Total	0.49		mg/kg	0.32	0.09	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM
Cadmium, Total	0.17	J	mg/kg	0.21	0.03	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM
Calcium, Total	3600		mg/kg	540	65.	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM
Chromium, Total	15		mg/kg	2.1	0.50	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM
Cobalt, Total	7.8		mg/kg	0.54	0.06	10	07/22/16 05:01	07/23/16 13:48	EPA 3050B	1,6020A	AM
Copper, Total	31		mg/kg	2.1	0.16	10	07/22/16 05:01	07/23/16 13:48	EPA 3050B	1,6020A	AM
Iron, Total	30000		mg/kg	2100	220	100	07/22/16 05:01	07/22/16 19:11	EPA 3050B	1,6020A	AM
Lead, Total	54		mg/kg	0.64	0.07	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM
Magnesium, Total	2200		mg/kg	110	13.	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM
Manganese, Total	530		mg/kg	21	4.8	100	07/22/16 05:01	07/22/16 19:11	EPA 3050B	1,6020A	AM
Mercury, Total	0.09		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 10:33	EPA 7471B	1,7471B	BV
Nickel, Total	28		mg/kg	1.1	0.24	10	07/22/16 05:01	07/23/16 13:48	EPA 3050B	1,6020A	AM
Potassium, Total	660		mg/kg	110	16.	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM
Selenium, Total	4.3		mg/kg	2.1	0.43	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM
Silver, Total	0.07	J	mg/kg	0.54	0.04	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM
Sodium, Total	220		mg/kg	160	12.	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM
Thallium, Total	0.12	J	mg/kg	0.21	0.03	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM
Tin, Total	1.8		mg/kg	1.3	0.05	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM
Vanadium, Total	25		mg/kg	1.1	0.41	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM
Zinc, Total	54		mg/kg	11	2.8	10	07/22/16 05:01	07/22/16 19:08	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-25
Client ID: SB07-01
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 97%

Date Collected: 07/19/16 09:24
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5400		mg/kg	4000	1500	1000	07/22/16 05:01	07/23/16 15:40	EPA 3050B	1,6020A	AM
Antimony, Total	0.23	J	mg/kg	0.79	0.07	10	07/22/16 05:01	07/22/16 19:14	EPA 3050B	1,6020A	AM
Arsenic, Total	2.8		mg/kg	0.49	0.07	10	07/22/16 05:01	07/22/16 19:14	EPA 3050B	1,6020A	AM
Barium, Total	20		mg/kg	3.0	0.20	10	07/22/16 05:01	07/22/16 19:14	EPA 3050B	1,6020A	AM
Beryllium, Total	0.11	J	mg/kg	0.30	0.09	10	07/22/16 05:01	07/22/16 19:14	EPA 3050B	1,6020A	AM
Cadmium, Total	1.4		mg/kg	0.20	0.03	10	07/22/16 05:01	07/22/16 19:14	EPA 3050B	1,6020A	AM
Calcium, Total	29000		mg/kg	4900	600	100	07/22/16 05:01	07/22/16 19:18	EPA 3050B	1,6020A	AM
Chromium, Total	7.6		mg/kg	2.0	0.46	10	07/22/16 05:01	07/22/16 19:14	EPA 3050B	1,6020A	AM
Cobalt, Total	9.8		mg/kg	0.49	0.05	10	07/22/16 05:01	07/23/16 13:51	EPA 3050B	1,6020A	AM
Copper, Total	130		mg/kg	2.0	0.15	10	07/22/16 05:01	07/23/16 13:51	EPA 3050B	1,6020A	AM
Iron, Total	18000		mg/kg	200	20.	10	07/22/16 05:01	07/22/16 19:14	EPA 3050B	1,6020A	AM
Lead, Total	22		mg/kg	0.59	0.07	10	07/22/16 05:01	07/22/16 19:14	EPA 3050B	1,6020A	AM
Magnesium, Total	12000		mg/kg	99	12.	10	07/22/16 05:01	07/22/16 19:14	EPA 3050B	1,6020A	AM
Manganese, Total	250		mg/kg	20	4.4	100	07/22/16 05:01	07/22/16 19:18	EPA 3050B	1,6020A	AM
Mercury, Total	0.04	J	mg/kg	0.07	0.01	1	07/22/16 08:25	07/26/16 10:35	EPA 7471B	1,7471B	BV
Nickel, Total	16		mg/kg	0.99	0.22	10	07/22/16 05:01	07/23/16 13:51	EPA 3050B	1,6020A	AM
Potassium, Total	310		mg/kg	99	15.	10	07/22/16 05:01	07/22/16 19:14	EPA 3050B	1,6020A	AM
Selenium, Total	3.3		mg/kg	2.0	0.40	10	07/22/16 05:01	07/22/16 19:14	EPA 3050B	1,6020A	AM
Silver, Total	0.06	J	mg/kg	0.49	0.04	10	07/22/16 05:01	07/22/16 19:14	EPA 3050B	1,6020A	AM
Sodium, Total	1000		mg/kg	150	12.	10	07/22/16 05:01	07/22/16 19:14	EPA 3050B	1,6020A	AM
Thallium, Total	ND		mg/kg	0.20	0.03	10	07/22/16 05:01	07/22/16 19:14	EPA 3050B	1,6020A	AM
Tin, Total	1.8		mg/kg	1.2	0.04	10	07/22/16 05:01	07/22/16 19:14	EPA 3050B	1,6020A	AM
Vanadium, Total	33		mg/kg	0.99	0.37	10	07/22/16 05:01	07/22/16 19:14	EPA 3050B	1,6020A	AM
Zinc, Total	1300		mg/kg	99	26.	100	07/22/16 05:01	07/22/16 19:18	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-26
Client ID: SB07-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 87%

Date Collected: 07/19/16 09:26
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5100		mg/kg	4400	1600	1000	07/22/16 05:01	07/23/16 15:43	EPA 3050B	1,6020A	AM
Antimony, Total	11		mg/kg	0.89	0.07	10	07/22/16 05:01	07/22/16 19:21	EPA 3050B	1,6020A	AM
Arsenic, Total	8.0		mg/kg	0.56	0.08	10	07/22/16 05:01	07/22/16 19:21	EPA 3050B	1,6020A	AM
Barium, Total	190		mg/kg	3.3	0.22	10	07/22/16 05:01	07/22/16 19:21	EPA 3050B	1,6020A	AM
Beryllium, Total	0.28	J	mg/kg	0.33	0.10	10	07/22/16 05:01	07/22/16 19:21	EPA 3050B	1,6020A	AM
Cadmium, Total	12		mg/kg	0.22	0.03	10	07/22/16 05:01	07/22/16 19:21	EPA 3050B	1,6020A	AM
Calcium, Total	46000		mg/kg	5600	680	100	07/22/16 05:01	07/22/16 19:24	EPA 3050B	1,6020A	AM
Chromium, Total	22		mg/kg	2.2	0.52	10	07/22/16 05:01	07/22/16 19:21	EPA 3050B	1,6020A	AM
Cobalt, Total	4.5		mg/kg	0.56	0.06	10	07/22/16 05:01	07/23/16 14:10	EPA 3050B	1,6020A	AM
Copper, Total	7100		mg/kg	220	16.	1000	07/22/16 05:01	07/23/16 15:43	EPA 3050B	1,6020A	AM
Iron, Total	14000		mg/kg	220	23.	10	07/22/16 05:01	07/22/16 19:21	EPA 3050B	1,6020A	AM
Lead, Total	860		mg/kg	6.7	0.77	100	07/22/16 05:01	07/22/16 19:24	EPA 3050B	1,6020A	AM
Magnesium, Total	8900		mg/kg	110	14.	10	07/22/16 05:01	07/22/16 19:21	EPA 3050B	1,6020A	AM
Manganese, Total	580		mg/kg	22	4.9	100	07/22/16 05:01	07/22/16 19:24	EPA 3050B	1,6020A	AM
Mercury, Total	1.1		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 10:37	EPA 7471B	1,7471B	BV
Nickel, Total	19		mg/kg	1.1	0.25	10	07/22/16 05:01	07/23/16 14:10	EPA 3050B	1,6020A	AM
Potassium, Total	660		mg/kg	110	17.	10	07/22/16 05:01	07/22/16 19:21	EPA 3050B	1,6020A	AM
Selenium, Total	5.6		mg/kg	2.2	0.44	10	07/22/16 05:01	07/22/16 19:21	EPA 3050B	1,6020A	AM
Silver, Total	0.98		mg/kg	0.56	0.04	10	07/22/16 05:01	07/22/16 19:21	EPA 3050B	1,6020A	AM
Sodium, Total	920		mg/kg	170	13.	10	07/22/16 05:01	07/22/16 19:21	EPA 3050B	1,6020A	AM
Thallium, Total	0.04	J	mg/kg	0.22	0.03	10	07/22/16 05:01	07/22/16 19:21	EPA 3050B	1,6020A	AM
Tin, Total	1000		mg/kg	13	0.48	100	07/22/16 05:01	07/22/16 19:24	EPA 3050B	1,6020A	AM
Vanadium, Total	28		mg/kg	1.1	0.42	10	07/22/16 05:01	07/22/16 19:21	EPA 3050B	1,6020A	AM
Zinc, Total	1200		mg/kg	110	29.	100	07/22/16 05:01	07/22/16 19:24	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-33
Client ID: SB08-01
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 95%

Date Collected: 07/19/16 10:04
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6800		mg/kg	4000	1500	1000	07/22/16 05:01	07/23/16 15:46	EPA 3050B	1,6020A	AM
Antimony, Total	2.8		mg/kg	0.82	0.07	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM
Arsenic, Total	2.8		mg/kg	0.51	0.07	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM
Barium, Total	38		mg/kg	3.1	0.21	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM
Beryllium, Total	0.17	J	mg/kg	0.31	0.09	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM
Cadmium, Total	0.25		mg/kg	0.20	0.03	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM
Calcium, Total	28000		mg/kg	5100	620	100	07/22/16 05:01	07/22/16 19:36	EPA 3050B	1,6020A	AM
Chromium, Total	9.2		mg/kg	2.0	0.48	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM
Cobalt, Total	9.8		mg/kg	0.51	0.06	10	07/22/16 05:01	07/23/16 14:14	EPA 3050B	1,6020A	AM
Copper, Total	77		mg/kg	2.0	0.15	10	07/22/16 05:01	07/23/16 14:14	EPA 3050B	1,6020A	AM
Iron, Total	19000		mg/kg	200	21.	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM
Lead, Total	44		mg/kg	0.62	0.07	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM
Magnesium, Total	6800		mg/kg	100	13.	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM
Manganese, Total	240		mg/kg	20	4.6	100	07/22/16 05:01	07/22/16 19:36	EPA 3050B	1,6020A	AM
Mercury, Total	0.04	J	mg/kg	0.07	0.01	1	07/22/16 08:25	07/26/16 10:38	EPA 7471B	1,7471B	BV
Nickel, Total	16		mg/kg	1.0	0.23	10	07/22/16 05:01	07/23/16 14:14	EPA 3050B	1,6020A	AM
Potassium, Total	990		mg/kg	100	16.	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM
Selenium, Total	3.9		mg/kg	2.0	0.41	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM
Silver, Total	0.06	J	mg/kg	0.51	0.04	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM
Sodium, Total	390		mg/kg	150	12.	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM
Thallium, Total	0.05	J	mg/kg	0.20	0.03	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM
Tin, Total	15		mg/kg	1.2	0.04	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM
Vanadium, Total	39		mg/kg	1.0	0.39	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM
Zinc, Total	61		mg/kg	10	2.7	10	07/22/16 05:01	07/22/16 19:27	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-34
Client ID: SB08-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 88%

Date Collected: 07/19/16 10:06
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5400		mg/kg	4400	1700	1000	07/22/16 05:01	07/23/16 15:49	EPA 3050B	1,6020A	AM
Antimony, Total	24		mg/kg	0.90	0.07	10	07/22/16 05:01	07/22/16 19:39	EPA 3050B	1,6020A	AM
Arsenic, Total	10		mg/kg	0.56	0.08	10	07/22/16 05:01	07/22/16 19:39	EPA 3050B	1,6020A	AM
Barium, Total	280		mg/kg	34	2.3	100	07/22/16 05:01	07/23/16 14:57	EPA 3050B	1,6020A	AM
Beryllium, Total	0.32	J	mg/kg	0.34	0.10	10	07/22/16 05:01	07/22/16 19:39	EPA 3050B	1,6020A	AM
Cadmium, Total	2.8		mg/kg	0.22	0.03	10	07/22/16 05:01	07/22/16 19:39	EPA 3050B	1,6020A	AM
Calcium, Total	31000		mg/kg	5600	690	100	07/22/16 05:01	07/23/16 14:57	EPA 3050B	1,6020A	AM
Chromium, Total	12		mg/kg	2.2	0.53	10	07/22/16 05:01	07/22/16 19:39	EPA 3050B	1,6020A	AM
Cobalt, Total	2.5		mg/kg	0.56	0.06	10	07/22/16 05:01	07/23/16 14:17	EPA 3050B	1,6020A	AM
Copper, Total	270		mg/kg	2.2	0.17	10	07/22/16 05:01	07/23/16 14:17	EPA 3050B	1,6020A	AM
Iron, Total	13000		mg/kg	220	23.	10	07/22/16 05:01	07/22/16 19:39	EPA 3050B	1,6020A	AM
Lead, Total	1500		mg/kg	6.8	0.78	100	07/22/16 05:01	07/23/16 14:57	EPA 3050B	1,6020A	AM
Magnesium, Total	3300		mg/kg	110	14.	10	07/22/16 05:01	07/22/16 19:39	EPA 3050B	1,6020A	AM
Manganese, Total	190		mg/kg	2.2	0.50	10	07/22/16 05:01	07/22/16 19:39	EPA 3050B	1,6020A	AM
Mercury, Total	1.1		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 10:40	EPA 7471B	1,7471B	BV
Nickel, Total	9.6		mg/kg	1.1	0.25	10	07/22/16 05:01	07/23/16 14:17	EPA 3050B	1,6020A	AM
Potassium, Total	450		mg/kg	110	17.	10	07/22/16 05:01	07/22/16 19:39	EPA 3050B	1,6020A	AM
Selenium, Total	4.0		mg/kg	2.2	0.45	10	07/22/16 05:01	07/22/16 19:39	EPA 3050B	1,6020A	AM
Silver, Total	0.45	J	mg/kg	0.56	0.04	10	07/22/16 05:01	07/22/16 19:39	EPA 3050B	1,6020A	AM
Sodium, Total	550		mg/kg	170	13.	10	07/22/16 05:01	07/22/16 19:39	EPA 3050B	1,6020A	AM
Thallium, Total	0.07	J	mg/kg	0.22	0.03	10	07/22/16 05:01	07/22/16 19:39	EPA 3050B	1,6020A	AM
Tin, Total	83		mg/kg	1.4	0.05	10	07/22/16 05:01	07/22/16 19:39	EPA 3050B	1,6020A	AM
Vanadium, Total	18		mg/kg	1.1	0.43	10	07/22/16 05:01	07/22/16 19:39	EPA 3050B	1,6020A	AM
Zinc, Total	740		mg/kg	110	29.	100	07/22/16 05:01	07/23/16 14:57	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-43
Client ID: SB09-01
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 94%

Date Collected: 07/19/16 10:51
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6600		mg/kg	4000	1500	1000	07/22/16 05:01	07/23/16 16:01	EPA 3050B	1,6020A	AM
Antimony, Total	0.45	J	mg/kg	0.80	0.07	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM
Arsenic, Total	5.2		mg/kg	0.50	0.07	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM
Barium, Total	53		mg/kg	3.0	0.20	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM
Beryllium, Total	0.39		mg/kg	0.30	0.09	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM
Cadmium, Total	0.16	J	mg/kg	0.20	0.03	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM
Calcium, Total	14000		mg/kg	500	61.	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM
Chromium, Total	14		mg/kg	2.0	0.47	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM
Cobalt, Total	7.8		mg/kg	0.50	0.05	10	07/22/16 05:01	07/23/16 14:20	EPA 3050B	1,6020A	AM
Copper, Total	31		mg/kg	2.0	0.15	10	07/22/16 05:01	07/23/16 14:20	EPA 3050B	1,6020A	AM
Iron, Total	26000		mg/kg	2000	210	100	07/22/16 05:01	07/22/16 19:48	EPA 3050B	1,6020A	AM
Lead, Total	48		mg/kg	0.60	0.07	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM
Magnesium, Total	8100		mg/kg	100	12.	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM
Manganese, Total	620		mg/kg	20	4.5	100	07/22/16 05:01	07/22/16 19:48	EPA 3050B	1,6020A	AM
Mercury, Total	0.09		mg/kg	0.07	0.01	1	07/22/16 08:25	07/26/16 10:42	EPA 7471B	1,7471B	BV
Nickel, Total	21		mg/kg	1.0	0.22	10	07/22/16 05:01	07/23/16 14:20	EPA 3050B	1,6020A	AM
Potassium, Total	710		mg/kg	100	15.	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM
Selenium, Total	3.7		mg/kg	2.0	0.40	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM
Silver, Total	0.05	J	mg/kg	0.50	0.04	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM
Sodium, Total	210		mg/kg	150	12.	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM
Thallium, Total	0.12	J	mg/kg	0.20	0.03	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM
Tin, Total	2.9		mg/kg	1.2	0.04	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM
Vanadium, Total	23		mg/kg	1.0	0.38	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM
Zinc, Total	60		mg/kg	10	2.6	10	07/22/16 05:01	07/22/16 19:45	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-44
Client ID: SB09-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 94%

Date Collected: 07/19/16 10:53
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7200		mg/kg	4000	1500	1000	07/22/16 05:01	07/23/16 16:04	EPA 3050B	1,6020A	AM
Antimony, Total	0.57	J	mg/kg	0.83	0.07	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM
Arsenic, Total	6.1		mg/kg	0.52	0.07	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM
Barium, Total	48		mg/kg	3.1	0.21	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM
Beryllium, Total	0.46		mg/kg	0.31	0.09	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM
Cadmium, Total	0.24		mg/kg	0.21	0.03	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM
Calcium, Total	7400		mg/kg	520	63.	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM
Chromium, Total	17		mg/kg	2.1	0.48	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM
Cobalt, Total	8.2		mg/kg	0.52	0.06	10	07/22/16 05:01	07/23/16 14:23	EPA 3050B	1,6020A	AM
Copper, Total	36		mg/kg	2.1	0.15	10	07/22/16 05:01	07/23/16 14:23	EPA 3050B	1,6020A	AM
Iron, Total	32000		mg/kg	2100	210	100	07/22/16 05:01	07/22/16 19:55	EPA 3050B	1,6020A	AM
Lead, Total	58		mg/kg	0.62	0.07	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM
Magnesium, Total	4200		mg/kg	100	13.	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM
Manganese, Total	620		mg/kg	21	4.6	100	07/22/16 05:01	07/22/16 19:55	EPA 3050B	1,6020A	AM
Mercury, Total	0.07		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 10:44	EPA 7471B	1,7471B	BV
Nickel, Total	19		mg/kg	1.0	0.23	10	07/22/16 05:01	07/23/16 14:23	EPA 3050B	1,6020A	AM
Potassium, Total	620		mg/kg	100	16.	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM
Selenium, Total	4.3		mg/kg	2.1	0.41	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM
Silver, Total	0.04	J	mg/kg	0.52	0.04	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM
Sodium, Total	170		mg/kg	160	12.	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM
Thallium, Total	0.12	J	mg/kg	0.21	0.03	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM
Tin, Total	7.0		mg/kg	1.2	0.04	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM
Vanadium, Total	29		mg/kg	1.0	0.39	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM
Zinc, Total	110		mg/kg	10	2.7	10	07/22/16 05:01	07/22/16 19:51	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-45
Client ID: SB09-03
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 89%

Date Collected: 07/19/16 10:55
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	8700		mg/kg	4400	1600	1000	07/22/16 05:01	07/23/16 16:07	EPA 3050B	1,6020A	AM
Antimony, Total	0.60	J	mg/kg	0.87	0.07	10	07/22/16 05:01	07/22/16 19:58	EPA 3050B	1,6020A	AM
Arsenic, Total	4.0		mg/kg	0.54	0.08	10	07/22/16 05:01	07/22/16 19:58	EPA 3050B	1,6020A	AM
Barium, Total	76		mg/kg	3.3	0.22	10	07/22/16 05:01	07/22/16 19:58	EPA 3050B	1,6020A	AM
Beryllium, Total	0.34		mg/kg	0.33	0.10	10	07/22/16 05:01	07/22/16 19:58	EPA 3050B	1,6020A	AM
Cadmium, Total	0.18	J	mg/kg	0.22	0.03	10	07/22/16 05:01	07/22/16 19:58	EPA 3050B	1,6020A	AM
Calcium, Total	54000		mg/kg	5400	660	100	07/22/16 05:01	07/22/16 20:01	EPA 3050B	1,6020A	AM
Chromium, Total	14		mg/kg	2.2	0.51	10	07/22/16 05:01	07/22/16 19:58	EPA 3050B	1,6020A	AM
Cobalt, Total	7.2		mg/kg	0.54	0.06	10	07/22/16 05:01	07/23/16 14:26	EPA 3050B	1,6020A	AM
Copper, Total	37		mg/kg	2.2	0.16	10	07/22/16 05:01	07/23/16 14:26	EPA 3050B	1,6020A	AM
Iron, Total	18000		mg/kg	2200	220	100	07/22/16 05:01	07/22/16 20:01	EPA 3050B	1,6020A	AM
Lead, Total	39		mg/kg	0.65	0.08	10	07/22/16 05:01	07/22/16 19:58	EPA 3050B	1,6020A	AM
Magnesium, Total	9600		mg/kg	110	13.	10	07/22/16 05:01	07/22/16 19:58	EPA 3050B	1,6020A	AM
Manganese, Total	350		mg/kg	22	4.8	100	07/22/16 05:01	07/22/16 20:01	EPA 3050B	1,6020A	AM
Mercury, Total	0.29		mg/kg	0.08	0.02	1	07/22/16 08:25	07/26/16 10:46	EPA 7471B	1,7471B	BV
Nickel, Total	16		mg/kg	1.1	0.24	10	07/22/16 05:01	07/23/16 14:26	EPA 3050B	1,6020A	AM
Potassium, Total	2100		mg/kg	110	16.	10	07/22/16 05:01	07/22/16 19:58	EPA 3050B	1,6020A	AM
Selenium, Total	3.7		mg/kg	2.2	0.44	10	07/22/16 05:01	07/22/16 19:58	EPA 3050B	1,6020A	AM
Silver, Total	0.04	J	mg/kg	0.54	0.04	10	07/22/16 05:01	07/22/16 19:58	EPA 3050B	1,6020A	AM
Sodium, Total	620		mg/kg	160	13.	10	07/22/16 05:01	07/22/16 19:58	EPA 3050B	1,6020A	AM
Thallium, Total	0.08	J	mg/kg	0.22	0.03	10	07/22/16 05:01	07/22/16 19:58	EPA 3050B	1,6020A	AM
Tin, Total	2.3		mg/kg	1.3	0.05	10	07/22/16 05:01	07/22/16 19:58	EPA 3050B	1,6020A	AM
Vanadium, Total	28		mg/kg	1.1	0.41	10	07/22/16 05:01	07/22/16 19:58	EPA 3050B	1,6020A	AM
Zinc, Total	56		mg/kg	11	2.8	10	07/22/16 05:01	07/22/16 19:58	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-46
Client ID: SB09-04
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 82%

Date Collected: 07/19/16 10:57
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7500		mg/kg	4800	1700	1000	07/22/16 05:01	07/23/16 16:10	EPA 3050B	1,6020A	AM
Antimony, Total	170		mg/kg	0.94	0.08	10	07/22/16 05:01	07/22/16 20:04	EPA 3050B	1,6020A	AM
Arsenic, Total	39		mg/kg	0.59	0.08	10	07/22/16 05:01	07/22/16 20:04	EPA 3050B	1,6020A	AM
Barium, Total	1000		mg/kg	35	2.4	100	07/22/16 05:01	07/22/16 20:13	EPA 3050B	1,6020A	AM
Beryllium, Total	0.32	J	mg/kg	0.35	0.10	10	07/22/16 05:01	07/22/16 20:04	EPA 3050B	1,6020A	AM
Cadmium, Total	16		mg/kg	0.24	0.03	10	07/22/16 05:01	07/22/16 20:04	EPA 3050B	1,6020A	AM
Calcium, Total	22000		mg/kg	5900	720	100	07/22/16 05:01	07/22/16 20:13	EPA 3050B	1,6020A	AM
Chromium, Total	42		mg/kg	2.4	0.55	10	07/22/16 05:01	07/22/16 20:04	EPA 3050B	1,6020A	AM
Cobalt, Total	6.4		mg/kg	0.59	0.06	10	07/22/16 05:01	07/23/16 14:29	EPA 3050B	1,6020A	AM
Copper, Total	2200		mg/kg	240	17.	1000	07/22/16 05:01	07/23/16 16:10	EPA 3050B	1,6020A	AM
Iron, Total	38000		mg/kg	2400	240	100	07/22/16 05:01	07/22/16 20:13	EPA 3050B	1,6020A	AM
Lead, Total	10000		mg/kg	71	8.2	1000	07/22/16 05:01	07/23/16 16:10	EPA 3050B	1,6020A	AM
Magnesium, Total	5900		mg/kg	120	14.	10	07/22/16 05:01	07/22/16 20:04	EPA 3050B	1,6020A	AM
Manganese, Total	430		mg/kg	24	5.2	100	07/22/16 05:01	07/22/16 20:13	EPA 3050B	1,6020A	AM
Mercury, Total	3.6		mg/kg	0.40	0.08	5	07/22/16 08:25	07/26/16 12:07	EPA 7471B	1,7471B	BV
Nickel, Total	44		mg/kg	1.2	0.26	10	07/22/16 05:01	07/23/16 14:29	EPA 3050B	1,6020A	AM
Potassium, Total	410		mg/kg	120	18.	10	07/22/16 05:01	07/22/16 20:04	EPA 3050B	1,6020A	AM
Selenium, Total	4.1		mg/kg	2.4	0.47	10	07/22/16 05:01	07/22/16 20:04	EPA 3050B	1,6020A	AM
Silver, Total	4.3		mg/kg	0.59	0.04	10	07/22/16 05:01	07/22/16 20:04	EPA 3050B	1,6020A	AM
Sodium, Total	540		mg/kg	180	14.	10	07/22/16 05:01	07/22/16 20:04	EPA 3050B	1,6020A	AM
Thallium, Total	0.07	J	mg/kg	0.24	0.03	10	07/22/16 05:01	07/22/16 20:04	EPA 3050B	1,6020A	AM
Tin, Total	730		mg/kg	14	0.50	100	07/22/16 05:01	07/22/16 20:13	EPA 3050B	1,6020A	AM
Vanadium, Total	25		mg/kg	1.2	0.45	10	07/22/16 05:01	07/22/16 20:04	EPA 3050B	1,6020A	AM
Zinc, Total	7100		mg/kg	1200	310	1000	07/22/16 05:01	07/23/16 16:10	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Lab Number: L1622423
Project Number: HHE1601
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-47
Client ID: SB09-05
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 90%

Date Collected: 07/19/16 11:00
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7300		mg/kg	4400	1600	1000	07/22/16 05:01	07/23/16 16:13	EPA 3050B	1,6020A	AM
Antimony, Total	31		mg/kg	0.86	0.07	10	07/22/16 05:01	07/22/16 20:16	EPA 3050B	1,6020A	AM
Arsenic, Total	9.5		mg/kg	0.54	0.07	10	07/22/16 05:01	07/22/16 20:16	EPA 3050B	1,6020A	AM
Barium, Total	250		mg/kg	32	2.2	100	07/22/16 05:01	07/22/16 20:19	EPA 3050B	1,6020A	AM
Beryllium, Total	0.32		mg/kg	0.32	0.09	10	07/22/16 05:01	07/22/16 20:16	EPA 3050B	1,6020A	AM
Cadmium, Total	2.4		mg/kg	0.22	0.03	10	07/22/16 05:01	07/22/16 20:16	EPA 3050B	1,6020A	AM
Calcium, Total	26000		mg/kg	5400	650	100	07/22/16 05:01	07/22/16 20:19	EPA 3050B	1,6020A	AM
Chromium, Total	17		mg/kg	2.2	0.50	10	07/22/16 05:01	07/22/16 20:16	EPA 3050B	1,6020A	AM
Cobalt, Total	7.7		mg/kg	0.54	0.06	10	07/22/16 05:01	07/23/16 14:32	EPA 3050B	1,6020A	AM
Copper, Total	12000		mg/kg	220	16.	1000	07/22/16 05:01	07/23/16 16:13	EPA 3050B	1,6020A	AM
Iron, Total	28000		mg/kg	2200	220	100	07/22/16 05:01	07/22/16 20:19	EPA 3050B	1,6020A	AM
Lead, Total	2300		mg/kg	65	7.4	1000	07/22/16 05:01	07/23/16 16:13	EPA 3050B	1,6020A	AM
Magnesium, Total	10000		mg/kg	110	13.	10	07/22/16 05:01	07/22/16 20:16	EPA 3050B	1,6020A	AM
Manganese, Total	390		mg/kg	22	4.8	100	07/22/16 05:01	07/22/16 20:19	EPA 3050B	1,6020A	AM
Mercury, Total	0.59		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 10:53	EPA 7471B	1,7471B	BV
Nickel, Total	19		mg/kg	1.1	0.24	10	07/22/16 05:01	07/23/16 14:32	EPA 3050B	1,6020A	AM
Potassium, Total	600		mg/kg	110	16.	10	07/22/16 05:01	07/22/16 20:16	EPA 3050B	1,6020A	AM
Selenium, Total	3.4		mg/kg	2.2	0.43	10	07/22/16 05:01	07/22/16 20:16	EPA 3050B	1,6020A	AM
Silver, Total	0.94		mg/kg	0.54	0.04	10	07/22/16 05:01	07/22/16 20:16	EPA 3050B	1,6020A	AM
Sodium, Total	820		mg/kg	160	13.	10	07/22/16 05:01	07/22/16 20:16	EPA 3050B	1,6020A	AM
Thallium, Total	0.07	J	mg/kg	0.22	0.03	10	07/22/16 05:01	07/22/16 20:16	EPA 3050B	1,6020A	AM
Tin, Total	160		mg/kg	1.3	0.05	10	07/22/16 05:01	07/22/16 20:16	EPA 3050B	1,6020A	AM
Vanadium, Total	34		mg/kg	1.1	0.41	10	07/22/16 05:01	07/22/16 20:16	EPA 3050B	1,6020A	AM
Zinc, Total	760		mg/kg	110	28.	100	07/22/16 05:01	07/22/16 20:19	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-51
Client ID: SB010-01
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 91%

Date Collected: 07/19/16 11:27
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	4900		mg/kg	4400	1600	1000	07/22/16 05:01	07/23/16 16:16	EPA 3050B	1,6020A	AM
Antimony, Total	0.41	J	mg/kg	0.86	0.07	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM
Arsenic, Total	5.3		mg/kg	0.54	0.07	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM
Barium, Total	34		mg/kg	3.2	0.22	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM
Beryllium, Total	0.51		mg/kg	0.32	0.09	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM
Cadmium, Total	0.16	J	mg/kg	0.22	0.03	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM
Calcium, Total	5200		mg/kg	540	65.	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM
Chromium, Total	13		mg/kg	2.2	0.50	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM
Cobalt, Total	6.7		mg/kg	0.54	0.06	10	07/22/16 05:01	07/23/16 14:35	EPA 3050B	1,6020A	AM
Copper, Total	46		mg/kg	2.2	0.16	10	07/22/16 05:01	07/23/16 14:35	EPA 3050B	1,6020A	AM
Iron, Total	45000		mg/kg	2200	220	100	07/22/16 05:01	07/22/16 20:25	EPA 3050B	1,6020A	AM
Lead, Total	84		mg/kg	0.65	0.07	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM
Magnesium, Total	3900		mg/kg	110	13.	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM
Manganese, Total	540		mg/kg	22	4.8	100	07/22/16 05:01	07/22/16 20:25	EPA 3050B	1,6020A	AM
Mercury, Total	0.09		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 10:55	EPA 7471B	1,7471B	BV
Nickel, Total	19		mg/kg	1.1	0.24	10	07/22/16 05:01	07/23/16 14:35	EPA 3050B	1,6020A	AM
Potassium, Total	540		mg/kg	110	16.	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM
Selenium, Total	3.7		mg/kg	2.2	0.43	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM
Silver, Total	0.05	J	mg/kg	0.54	0.04	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM
Sodium, Total	120	J	mg/kg	160	13.	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM
Thallium, Total	0.09	J	mg/kg	0.22	0.03	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM
Tin, Total	3.2		mg/kg	1.3	0.05	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM
Vanadium, Total	25		mg/kg	1.1	0.41	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM
Zinc, Total	89		mg/kg	11	2.8	10	07/22/16 05:01	07/22/16 20:22	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-52
Client ID: SB010-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 76%

Date Collected: 07/19/16 11:29
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6000		mg/kg	5200	1900	1000	07/22/16 05:01	07/23/16 16:20	EPA 3050B	1,6020A	AM
Antimony, Total	10		mg/kg	1.0	0.08	10	07/22/16 05:01	07/22/16 20:29	EPA 3050B	1,6020A	AM
Arsenic, Total	4.0		mg/kg	0.64	0.09	10	07/22/16 05:01	07/22/16 20:29	EPA 3050B	1,6020A	AM
Barium, Total	110		mg/kg	3.8	0.26	10	07/22/16 05:01	07/22/16 20:29	EPA 3050B	1,6020A	AM
Beryllium, Total	0.23	J	mg/kg	0.38	0.11	10	07/22/16 05:01	07/22/16 20:29	EPA 3050B	1,6020A	AM
Cadmium, Total	0.73		mg/kg	0.26	0.03	10	07/22/16 05:01	07/22/16 20:29	EPA 3050B	1,6020A	AM
Calcium, Total	30000		mg/kg	6400	780	100	07/22/16 05:01	07/22/16 20:32	EPA 3050B	1,6020A	AM
Chromium, Total	15		mg/kg	2.6	0.60	10	07/22/16 05:01	07/22/16 20:29	EPA 3050B	1,6020A	AM
Cobalt, Total	6.0		mg/kg	0.64	0.07	10	07/22/16 05:01	07/23/16 14:47	EPA 3050B	1,6020A	AM
Copper, Total	120		mg/kg	2.6	0.19	10	07/22/16 05:01	07/23/16 14:47	EPA 3050B	1,6020A	AM
Iron, Total	17000		mg/kg	260	26.	10	07/22/16 05:01	07/22/16 20:29	EPA 3050B	1,6020A	AM
Lead, Total	310		mg/kg	7.7	0.88	100	07/22/16 05:01	07/22/16 20:32	EPA 3050B	1,6020A	AM
Magnesium, Total	6400		mg/kg	130	16.	10	07/22/16 05:01	07/22/16 20:29	EPA 3050B	1,6020A	AM
Manganese, Total	220		mg/kg	2.6	0.57	10	07/22/16 05:01	07/22/16 20:29	EPA 3050B	1,6020A	AM
Mercury, Total	0.50		mg/kg	0.08	0.02	1	07/22/16 08:25	07/26/16 10:57	EPA 7471B	1,7471B	BV
Nickel, Total	15		mg/kg	1.3	0.28	10	07/22/16 05:01	07/23/16 14:47	EPA 3050B	1,6020A	AM
Potassium, Total	2200		mg/kg	130	19.	10	07/22/16 05:01	07/22/16 20:29	EPA 3050B	1,6020A	AM
Selenium, Total	3.2		mg/kg	2.6	0.51	10	07/22/16 05:01	07/22/16 20:29	EPA 3050B	1,6020A	AM
Silver, Total	0.13	J	mg/kg	0.64	0.05	10	07/22/16 05:01	07/22/16 20:29	EPA 3050B	1,6020A	AM
Sodium, Total	270		mg/kg	190	15.	10	07/22/16 05:01	07/22/16 20:29	EPA 3050B	1,6020A	AM
Thallium, Total	0.11	J	mg/kg	0.26	0.03	10	07/22/16 05:01	07/22/16 20:29	EPA 3050B	1,6020A	AM
Tin, Total	22		mg/kg	1.5	0.06	10	07/22/16 05:01	07/22/16 20:29	EPA 3050B	1,6020A	AM
Vanadium, Total	22		mg/kg	1.3	0.48	10	07/22/16 05:01	07/22/16 20:29	EPA 3050B	1,6020A	AM
Zinc, Total	410		mg/kg	130	33.	100	07/22/16 05:01	07/22/16 20:32	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-53
Client ID: SB010-03
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 84%

Date Collected: 07/19/16 11:31
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	9500		mg/kg	9200	3400	2000	07/22/16 05:01	07/23/16 16:23	EPA 3050B	1,6020A	AM
Antimony, Total	570		mg/kg	9.2	0.75	100	07/22/16 05:01	07/22/16 20:38	EPA 3050B	1,6020A	AM
Arsenic, Total	39		mg/kg	0.57	0.08	10	07/22/16 05:01	07/22/16 20:35	EPA 3050B	1,6020A	AM
Barium, Total	1100		mg/kg	34	2.3	100	07/22/16 05:01	07/22/16 20:38	EPA 3050B	1,6020A	AM
Beryllium, Total	0.46		mg/kg	0.34	0.10	10	07/22/16 05:01	07/22/16 20:35	EPA 3050B	1,6020A	AM
Cadmium, Total	19		mg/kg	0.23	0.03	10	07/22/16 05:01	07/22/16 20:35	EPA 3050B	1,6020A	AM
Calcium, Total	28000		mg/kg	5700	700	100	07/22/16 05:01	07/22/16 20:38	EPA 3050B	1,6020A	AM
Chromium, Total	53		mg/kg	2.3	0.54	10	07/22/16 05:01	07/22/16 20:35	EPA 3050B	1,6020A	AM
Cobalt, Total	9.4		mg/kg	0.57	0.06	10	07/22/16 05:01	07/23/16 14:50	EPA 3050B	1,6020A	AM
Copper, Total	2800		mg/kg	460	34.	2000	07/22/16 05:01	07/23/16 16:23	EPA 3050B	1,6020A	AM
Iron, Total	58000		mg/kg	2300	240	100	07/22/16 05:01	07/22/16 20:38	EPA 3050B	1,6020A	AM
Lead, Total	25000		mg/kg	140	16.	2000	07/22/16 05:01	07/23/16 16:23	EPA 3050B	1,6020A	AM
Magnesium, Total	7600		mg/kg	110	14.	10	07/22/16 05:01	07/22/16 20:35	EPA 3050B	1,6020A	AM
Manganese, Total	500		mg/kg	23	5.1	100	07/22/16 05:01	07/22/16 20:38	EPA 3050B	1,6020A	AM
Mercury, Total	1.5		mg/kg	0.08	0.02	1	07/22/16 08:25	07/26/16 10:58	EPA 7471B	1,7471B	BV
Nickel, Total	56		mg/kg	1.1	0.26	10	07/22/16 05:01	07/23/16 14:50	EPA 3050B	1,6020A	AM
Potassium, Total	480		mg/kg	110	17.	10	07/22/16 05:01	07/22/16 20:35	EPA 3050B	1,6020A	AM
Selenium, Total	5.5		mg/kg	2.3	0.46	10	07/22/16 05:01	07/22/16 20:35	EPA 3050B	1,6020A	AM
Silver, Total	3.9		mg/kg	0.57	0.04	10	07/22/16 05:01	07/22/16 20:35	EPA 3050B	1,6020A	AM
Sodium, Total	550		mg/kg	170	13.	10	07/22/16 05:01	07/22/16 20:35	EPA 3050B	1,6020A	AM
Thallium, Total	0.10	J	mg/kg	0.23	0.03	10	07/22/16 05:01	07/22/16 20:35	EPA 3050B	1,6020A	AM
Tin, Total	1300		mg/kg	14	0.49	100	07/22/16 05:01	07/22/16 20:38	EPA 3050B	1,6020A	AM
Vanadium, Total	60		mg/kg	1.1	0.44	10	07/22/16 05:01	07/22/16 20:35	EPA 3050B	1,6020A	AM
Zinc, Total	18000		mg/kg	2300	600	2000	07/22/16 05:01	07/23/16 16:23	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-56
Client ID: SB010-06
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 78%

Date Collected: 07/19/16 11:55
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	4200		mg/kg	3900	1800	1000	07/22/16 05:01	07/23/16 16:26	EPA 3050B	1,6020A	AM
Antimony, Total	16		mg/kg	0.98	0.08	10	07/22/16 05:01	07/22/16 20:41	EPA 3050B	1,6020A	AM
Arsenic, Total	25		mg/kg	0.61	0.08	10	07/22/16 05:01	07/22/16 20:41	EPA 3050B	1,6020A	AM
Barium, Total	310		mg/kg	37	2.4	100	07/22/16 05:01	07/23/16 15:00	EPA 3050B	1,6020A	AM
Beryllium, Total	0.33	J	mg/kg	0.37	0.11	10	07/22/16 05:01	07/22/16 20:41	EPA 3050B	1,6020A	AM
Cadmium, Total	2.0		mg/kg	0.24	0.03	10	07/22/16 05:01	07/22/16 20:41	EPA 3050B	1,6020A	AM
Calcium, Total	38000		mg/kg	6100	740	100	07/22/16 05:01	07/23/16 15:00	EPA 3050B	1,6020A	AM
Chromium, Total	71		mg/kg	2.4	0.57	10	07/22/16 05:01	07/22/16 20:41	EPA 3050B	1,6020A	AM
Cobalt, Total	9.4		mg/kg	0.61	0.07	10	07/22/16 05:01	07/23/16 14:53	EPA 3050B	1,6020A	AM
Copper, Total	220		mg/kg	24	1.8	100	07/22/16 05:01	07/23/16 15:00	EPA 3050B	1,6020A	AM
Iron, Total	56000		mg/kg	2400	250	100	07/22/16 05:01	07/23/16 15:00	EPA 3050B	1,6020A	AM
Lead, Total	1100		mg/kg	7.3	0.84	100	07/22/16 05:01	07/23/16 15:00	EPA 3050B	1,6020A	AM
Magnesium, Total	2600		mg/kg	120	15.	10	07/22/16 05:01	07/22/16 20:41	EPA 3050B	1,6020A	AM
Manganese, Total	1900		mg/kg	24	5.4	100	07/22/16 05:01	07/23/16 15:00	EPA 3050B	1,6020A	AM
Mercury, Total	1.0		mg/kg	0.08	0.02	1	07/22/16 08:25	07/26/16 11:00	EPA 7471B	1,7471B	BV
Nickel, Total	34		mg/kg	1.2	0.27	10	07/22/16 05:01	07/23/16 14:53	EPA 3050B	1,6020A	AM
Potassium, Total	610		mg/kg	120	18.	10	07/22/16 05:01	07/22/16 20:41	EPA 3050B	1,6020A	AM
Selenium, Total	3.6		mg/kg	2.4	0.49	10	07/22/16 05:01	07/22/16 20:41	EPA 3050B	1,6020A	AM
Silver, Total	0.36	J	mg/kg	0.61	0.05	10	07/22/16 05:01	07/22/16 20:41	EPA 3050B	1,6020A	AM
Sodium, Total	720		mg/kg	180	14.	10	07/22/16 05:01	07/22/16 20:41	EPA 3050B	1,6020A	AM
Thallium, Total	0.11	J	mg/kg	0.24	0.03	10	07/22/16 05:01	07/22/16 20:41	EPA 3050B	1,6020A	AM
Tin, Total	47		mg/kg	1.5	0.05	10	07/22/16 05:01	07/22/16 20:41	EPA 3050B	1,6020A	AM
Vanadium, Total	57		mg/kg	1.2	0.46	10	07/22/16 05:01	07/22/16 20:41	EPA 3050B	1,6020A	AM
Zinc, Total	550		mg/kg	120	32.	100	07/22/16 05:01	07/23/16 15:00	EPA 3050B	1,6020A	AM

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-57
Client ID: SB010-07
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 81%

Date Collected: 07/19/16 11:57
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	14000		mg/kg	12000	1800	1000	07/22/16 05:15	07/25/16 11:02	EPA 3050B	1,6020A	TT
Antimony, Total	2.1		mg/kg	0.99	0.08	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Arsenic, Total	33		mg/kg	0.62	0.09	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Barium, Total	120		mg/kg	3.7	0.25	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Beryllium, Total	0.38		mg/kg	0.37	0.11	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Cadmium, Total	0.61		mg/kg	0.25	0.03	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Calcium, Total	26000		mg/kg	6200	750	100	07/22/16 05:15	07/25/16 11:00	EPA 3050B	1,6020A	TT
Chromium, Total	11		mg/kg	2.5	0.58	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Cobalt, Total	3.9		mg/kg	0.62	0.07	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Copper, Total	17		mg/kg	2.5	0.18	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Iron, Total	7500		mg/kg	250	26.	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Lead, Total	150		mg/kg	0.74	0.09	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Magnesium, Total	850		mg/kg	120	15.	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Manganese, Total	64		mg/kg	2.5	0.55	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Mercury, Total	0.09		mg/kg	0.08	0.02	1	07/22/16 08:25	07/26/16 11:25	EPA 7471B	1,7471B	BV
Nickel, Total	9.4		mg/kg	1.2	0.28	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Potassium, Total	580		mg/kg	120	19.	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Selenium, Total	3.1		mg/kg	2.5	0.50	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Silver, Total	0.11	J	mg/kg	0.62	0.05	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Sodium, Total	680		mg/kg	180	14.	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Thallium, Total	0.15	J	mg/kg	0.25	0.03	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Tin, Total	3.7		mg/kg	1.5	0.05	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Vanadium, Total	26		mg/kg	1.2	0.47	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT
Zinc, Total	150		mg/kg	12	3.2	10	07/22/16 05:15	07/25/16 10:57	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-59
Client ID: SB011-01
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 94%

Date Collected: 07/19/16 12:11
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6300	J	mg/kg	10000	1500	1000	07/22/16 05:15	07/25/16 11:11	EPA 3050B	1,6020A	TT
Antimony, Total	0.55	J	mg/kg	0.81	0.07	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Arsenic, Total	5.6		mg/kg	0.51	0.07	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Barium, Total	67		mg/kg	3.0	0.20	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Beryllium, Total	0.87		mg/kg	0.30	0.09	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Cadmium, Total	0.19	J	mg/kg	0.20	0.03	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Calcium, Total	3600		mg/kg	510	62.	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Chromium, Total	16		mg/kg	2.0	0.47	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Cobalt, Total	7.8		mg/kg	0.51	0.05	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Copper, Total	34		mg/kg	2.0	0.15	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Iron, Total	100000		mg/kg	2000	210	100	07/22/16 05:15	07/25/16 11:08	EPA 3050B	1,6020A	TT
Lead, Total	36		mg/kg	0.61	0.07	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Magnesium, Total	2600		mg/kg	100	12.	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Manganese, Total	1700		mg/kg	20	4.5	100	07/22/16 05:15	07/25/16 11:08	EPA 3050B	1,6020A	TT
Mercury, Total	0.08		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 11:27	EPA 7471B	1,7471B	BV
Nickel, Total	24		mg/kg	1.0	0.23	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Potassium, Total	570		mg/kg	100	15.	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Selenium, Total	1.8	J	mg/kg	2.0	0.40	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Silver, Total	0.05	J	mg/kg	0.51	0.04	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Sodium, Total	23	J	mg/kg	150	12.	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Thallium, Total	0.28		mg/kg	0.20	0.03	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Tin, Total	2.4		mg/kg	1.2	0.04	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Vanadium, Total	25		mg/kg	1.0	0.38	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT
Zinc, Total	75		mg/kg	10	2.6	10	07/22/16 05:15	07/25/16 11:05	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-60
Client ID: SB011-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 87%

Date Collected: 07/19/16 12:13
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6800		mg/kg	2200	1600	1000	07/22/16 05:15	07/25/16 11:29	EPA 3050B	1,6020A	TT
Antimony, Total	0.30	J	mg/kg	0.88	0.07	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Arsenic, Total	2.8		mg/kg	0.55	0.08	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Barium, Total	47		mg/kg	3.3	0.22	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Beryllium, Total	0.26	J	mg/kg	0.33	0.10	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Cadmium, Total	0.11	J	mg/kg	0.22	0.03	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Calcium, Total	26000		mg/kg	5500	670	100	07/22/16 05:15	07/25/16 11:27	EPA 3050B	1,6020A	TT
Chromium, Total	10		mg/kg	2.2	0.51	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Cobalt, Total	7.2		mg/kg	0.55	0.06	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Copper, Total	43		mg/kg	2.2	0.16	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Iron, Total	18000		mg/kg	220	22.	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Lead, Total	36		mg/kg	0.66	0.08	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Magnesium, Total	5300		mg/kg	110	14.	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Manganese, Total	280		mg/kg	22	4.9	100	07/22/16 05:15	07/25/16 11:27	EPA 3050B	1,6020A	TT
Mercury, Total	0.15		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 11:28	EPA 7471B	1,7471B	BV
Nickel, Total	17		mg/kg	1.1	0.24	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Potassium, Total	1000		mg/kg	110	16.	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Selenium, Total	1.5	J	mg/kg	2.2	0.44	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Silver, Total	0.06	J	mg/kg	0.55	0.04	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Sodium, Total	270		mg/kg	160	13.	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Thallium, Total	0.07	J	mg/kg	0.22	0.03	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Tin, Total	1.8		mg/kg	1.3	0.05	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Vanadium, Total	35		mg/kg	1.1	0.42	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT
Zinc, Total	48		mg/kg	11	2.8	10	07/22/16 05:15	07/25/16 11:13	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-65
Client ID: SB013-01
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 90%

Date Collected: 07/19/16 14:49
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3400		mg/kg	2200	1600	1000	07/22/16 05:15	07/25/16 11:38	EPA 3050B	1,6020A	TT
Antimony, Total	46		mg/kg	0.88	0.07	10	07/22/16 05:15	07/25/16 11:32	EPA 3050B	1,6020A	TT
Arsenic, Total	10		mg/kg	0.55	0.08	10	07/22/16 05:15	07/25/16 11:32	EPA 3050B	1,6020A	TT
Barium, Total	480		mg/kg	33	2.2	100	07/22/16 05:15	07/25/16 11:35	EPA 3050B	1,6020A	TT
Beryllium, Total	0.20	J	mg/kg	0.33	0.10	10	07/22/16 05:15	07/25/16 11:32	EPA 3050B	1,6020A	TT
Cadmium, Total	3.6		mg/kg	0.22	0.03	10	07/22/16 05:15	07/25/16 11:32	EPA 3050B	1,6020A	TT
Calcium, Total	20000		mg/kg	5500	660	100	07/22/16 05:15	07/25/16 11:35	EPA 3050B	1,6020A	TT
Chromium, Total	38		mg/kg	2.2	0.51	10	07/22/16 05:15	07/25/16 11:32	EPA 3050B	1,6020A	TT
Cobalt, Total	10		mg/kg	0.55	0.06	10	07/22/16 05:15	07/25/16 11:32	EPA 3050B	1,6020A	TT
Copper, Total	1100		mg/kg	22	1.6	100	07/22/16 05:15	07/25/16 11:35	EPA 3050B	1,6020A	TT
Iron, Total	20000		mg/kg	2200	220	100	07/22/16 05:15	07/25/16 11:35	EPA 3050B	1,6020A	TT
Lead, Total	2600		mg/kg	66	7.6	1000	07/22/16 05:15	07/25/16 11:38	EPA 3050B	1,6020A	TT
Magnesium, Total	19000		mg/kg	110	13.	10	07/22/16 05:15	07/25/16 11:32	EPA 3050B	1,6020A	TT
Manganese, Total	190		mg/kg	2.2	0.49	10	07/22/16 05:15	07/25/16 11:32	EPA 3050B	1,6020A	TT
Mercury, Total	0.32		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 11:30	EPA 7471B	1,7471B	BV
Nickel, Total	120		mg/kg	1.1	0.24	10	07/22/16 05:15	07/25/16 11:32	EPA 3050B	1,6020A	TT
Potassium, Total	400		mg/kg	110	16.	10	07/22/16 05:15	07/25/16 11:32	EPA 3050B	1,6020A	TT
Selenium, Total	2.0	J	mg/kg	2.2	0.44	10	07/22/16 05:15	07/25/16 11:32	EPA 3050B	1,6020A	TT
Silver, Total	0.81		mg/kg	0.55	0.04	10	07/22/16 05:15	07/25/16 11:32	EPA 3050B	1,6020A	TT
Sodium, Total	260		mg/kg	160	13.	10	07/22/16 05:15	07/25/16 11:32	EPA 3050B	1,6020A	TT
Thallium, Total	0.04	J	mg/kg	0.22	0.03	10	07/22/16 05:15	07/25/16 11:32	EPA 3050B	1,6020A	TT
Tin, Total	280		mg/kg	2.2	0.47	100	07/22/16 05:15	07/25/16 11:35	EPA 3050B	1,6020A	TT
Vanadium, Total	36		mg/kg	1.1	0.42	10	07/22/16 05:15	07/25/16 11:32	EPA 3050B	1,6020A	TT
Zinc, Total	3200		mg/kg	1100	280	1000	07/22/16 05:15	07/25/16 11:38	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-66
Client ID: SB013-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 87%

Date Collected: 07/19/16 14:50
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5700		mg/kg	2200	1600	1000	07/22/16 05:15	07/25/16 11:46	EPA 3050B	1,6020A	TT
Antimony, Total	4.5		mg/kg	0.90	0.07	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Arsenic, Total	8.7		mg/kg	0.56	0.08	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Barium, Total	140		mg/kg	3.4	0.22	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Beryllium, Total	0.34		mg/kg	0.34	0.10	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Cadmium, Total	0.31		mg/kg	0.22	0.03	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Calcium, Total	25000		mg/kg	5600	680	100	07/22/16 05:15	07/25/16 11:43	EPA 3050B	1,6020A	TT
Chromium, Total	14		mg/kg	2.2	0.52	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Cobalt, Total	5.3		mg/kg	0.56	0.06	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Copper, Total	110		mg/kg	2.2	0.16	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Iron, Total	16000		mg/kg	220	23.	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Lead, Total	270		mg/kg	6.7	0.78	100	07/22/16 05:15	07/25/16 11:43	EPA 3050B	1,6020A	TT
Magnesium, Total	3500		mg/kg	110	14.	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Manganese, Total	250		mg/kg	22	5.0	100	07/22/16 05:15	07/25/16 11:43	EPA 3050B	1,6020A	TT
Mercury, Total	0.71		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 11:32	EPA 7471B	1,7471B	BV
Nickel, Total	40		mg/kg	1.1	0.25	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Potassium, Total	660		mg/kg	110	17.	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Selenium, Total	1.9	J	mg/kg	2.2	0.45	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Silver, Total	0.21	J	mg/kg	0.56	0.04	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Sodium, Total	86	J	mg/kg	170	13.	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Thallium, Total	0.07	J	mg/kg	0.22	0.03	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Tin, Total	28		mg/kg	0.22	0.05	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Vanadium, Total	14		mg/kg	1.1	0.42	10	07/22/16 05:15	07/25/16 11:41	EPA 3050B	1,6020A	TT
Zinc, Total	330		mg/kg	110	29.	100	07/22/16 05:15	07/25/16 11:43	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-67
Client ID: SB013-03
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 84%

Date Collected: 07/19/16 14:51
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3700		mg/kg	2400	1800	1000	07/22/16 05:15	07/25/16 10:05	EPA 3050B	1,6020A	TT
Antimony, Total	6.7		mg/kg	0.95	0.08	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Arsenic, Total	23		mg/kg	0.59	0.08	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Barium, Total	110		mg/kg	3.6	0.24	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Beryllium, Total	0.34	J	mg/kg	0.36	0.10	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Cadmium, Total	0.63		mg/kg	0.24	0.03	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Calcium, Total	3800		mg/kg	590	72.	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Chromium, Total	18		mg/kg	2.4	0.56	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Cobalt, Total	4.9		mg/kg	0.59	0.06	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Copper, Total	1200		mg/kg	24	1.8	100	07/22/16 05:15	07/25/16 10:02	EPA 3050B	1,6020A	TT
Iron, Total	16000		mg/kg	240	24.	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Lead, Total	600		mg/kg	7.1	0.82	100	07/22/16 05:15	07/25/16 10:02	EPA 3050B	1,6020A	TT
Magnesium, Total	1900		mg/kg	120	15.	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Manganese, Total	130		mg/kg	2.4	0.53	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Mercury, Total	2.7		mg/kg	0.08	0.02	1	07/22/16 08:25	07/26/16 11:06	EPA 7471B	1,7471B	BV
Nickel, Total	24		mg/kg	1.2	0.26	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Potassium, Total	970		mg/kg	120	18.	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Selenium, Total	1.4	J	mg/kg	2.4	0.47	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Silver, Total	0.50	J	mg/kg	0.59	0.04	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Sodium, Total	75	J	mg/kg	180	14.	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Thallium, Total	0.19	J	mg/kg	0.24	0.03	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Tin, Total	120		mg/kg	1.4	0.05	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Vanadium, Total	13		mg/kg	1.2	0.45	10	07/22/16 05:15	07/25/16 09:59	EPA 3050B	1,6020A	TT
Zinc, Total	490		mg/kg	120	31.	100	07/22/16 05:15	07/25/16 10:02	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-71
Client ID: SB013-07
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 75%

Date Collected: 07/19/16 15:11
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3300		mg/kg	2600	2000	1000	07/22/16 05:15	07/25/16 12:02	EPA 3050B	1,6020A	TT
Antimony, Total	0.92	J	mg/kg	1.0	0.09	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Arsenic, Total	7.9		mg/kg	0.66	0.09	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Barium, Total	74		mg/kg	4.0	0.26	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Beryllium, Total	0.24	J	mg/kg	0.40	0.11	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Cadmium, Total	0.30		mg/kg	0.26	0.04	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Calcium, Total	2800		mg/kg	660	80.	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Chromium, Total	19		mg/kg	2.6	0.62	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Cobalt, Total	3.9		mg/kg	0.66	0.07	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Copper, Total	20		mg/kg	2.6	0.20	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Iron, Total	8200		mg/kg	260	27.	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Lead, Total	140		mg/kg	0.79	0.09	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Magnesium, Total	1400		mg/kg	130	16.	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Manganese, Total	99		mg/kg	2.6	0.58	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Mercury, Total	0.21		mg/kg	0.09	0.02	1	07/22/16 08:25	07/26/16 11:37	EPA 7471B	1,7471B	BV
Nickel, Total	16		mg/kg	1.3	0.29	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Potassium, Total	680		mg/kg	130	20.	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Selenium, Total	2.8		mg/kg	2.6	0.53	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Silver, Total	0.10	J	mg/kg	0.66	0.05	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Sodium, Total	140	J	mg/kg	200	15.	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Thallium, Total	0.04	J	mg/kg	0.26	0.04	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Tin, Total	4.3		mg/kg	1.6	0.06	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Vanadium, Total	12		mg/kg	1.3	0.50	10	07/22/16 05:15	07/25/16 11:49	EPA 3050B	1,6020A	TT
Zinc, Total	350		mg/kg	130	34.	100	07/22/16 05:15	07/25/16 11:52	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-72
Client ID: SB9003-07
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 70%

Date Collected: 07/19/16 15:11
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	4000		mg/kg	2800	2100	1000	07/22/16 05:15	07/25/16 12:10	EPA 3050B	1,6020A	TT
Antimony, Total	0.97	J	mg/kg	1.1	0.09	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Arsenic, Total	8.2		mg/kg	0.70	0.10	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Barium, Total	89		mg/kg	4.2	0.28	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Beryllium, Total	0.29	J	mg/kg	0.42	0.12	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Cadmium, Total	0.39		mg/kg	0.28	0.04	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Calcium, Total	3600		mg/kg	700	86.	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Chromium, Total	23		mg/kg	2.8	0.66	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Cobalt, Total	4.5		mg/kg	0.70	0.08	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Copper, Total	23		mg/kg	2.8	0.21	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Iron, Total	10000		mg/kg	280	29.	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Lead, Total	170		mg/kg	0.85	0.10	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Magnesium, Total	1400		mg/kg	140	17.	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Manganese, Total	120		mg/kg	2.8	0.63	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Mercury, Total	0.11		mg/kg	0.10	0.02	1	07/22/16 08:25	07/26/16 11:39	EPA 7471B	1,7471B	BV
Nickel, Total	18		mg/kg	1.4	0.32	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Potassium, Total	630		mg/kg	140	21.	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Selenium, Total	1.9	J	mg/kg	2.8	0.56	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Silver, Total	0.34	J	mg/kg	0.70	0.05	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Sodium, Total	220		mg/kg	210	16.	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Thallium, Total	0.05	J	mg/kg	0.28	0.04	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Tin, Total	4.7		mg/kg	1.7	0.06	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Vanadium, Total	14		mg/kg	1.4	0.54	10	07/22/16 05:15	07/25/16 12:05	EPA 3050B	1,6020A	TT
Zinc, Total	410		mg/kg	140	37.	100	07/22/16 05:15	07/25/16 12:08	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-74
Client ID: SB014-01
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 96%

Date Collected: 07/19/16 15:35
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6200		mg/kg	2000	1500	1000	07/22/16 05:15	07/25/16 12:19	EPA 3050B	1,6020A	TT
Antimony, Total	39		mg/kg	0.80	0.07	10	07/22/16 05:15	07/25/16 12:13	EPA 3050B	1,6020A	TT
Arsenic, Total	8.4		mg/kg	0.50	0.07	10	07/22/16 05:15	07/25/16 12:13	EPA 3050B	1,6020A	TT
Barium, Total	170		mg/kg	30	2.0	100	07/22/16 05:15	07/25/16 12:16	EPA 3050B	1,6020A	TT
Beryllium, Total	0.17	J	mg/kg	0.30	0.09	10	07/22/16 05:15	07/25/16 12:13	EPA 3050B	1,6020A	TT
Cadmium, Total	2.4		mg/kg	0.20	0.03	10	07/22/16 05:15	07/25/16 12:13	EPA 3050B	1,6020A	TT
Calcium, Total	30000		mg/kg	5000	610	100	07/22/16 05:15	07/25/16 12:16	EPA 3050B	1,6020A	TT
Chromium, Total	58		mg/kg	2.0	0.47	10	07/22/16 05:15	07/25/16 12:13	EPA 3050B	1,6020A	TT
Cobalt, Total	13		mg/kg	0.50	0.05	10	07/22/16 05:15	07/25/16 12:13	EPA 3050B	1,6020A	TT
Copper, Total	900		mg/kg	20	1.5	100	07/22/16 05:15	07/25/16 12:16	EPA 3050B	1,6020A	TT
Iron, Total	38000		mg/kg	2000	210	100	07/22/16 05:15	07/25/16 12:16	EPA 3050B	1,6020A	TT
Lead, Total	1800		mg/kg	0.60	0.07	10	07/22/16 05:15	07/25/16 12:13	EPA 3050B	1,6020A	TT
Magnesium, Total	17000		mg/kg	100	12.	10	07/22/16 05:15	07/25/16 12:13	EPA 3050B	1,6020A	TT
Manganese, Total	300		mg/kg	20	4.5	100	07/22/16 05:15	07/25/16 12:16	EPA 3050B	1,6020A	TT
Mercury, Total	0.11		mg/kg	0.07	0.01	1	07/22/16 08:25	07/26/16 11:41	EPA 7471B	1,7471B	BV
Nickel, Total	100		mg/kg	1.0	0.22	10	07/22/16 05:15	07/25/16 12:13	EPA 3050B	1,6020A	TT
Potassium, Total	380		mg/kg	100	15.	10	07/22/16 05:15	07/25/16 12:13	EPA 3050B	1,6020A	TT
Selenium, Total	2.6		mg/kg	2.0	0.40	10	07/22/16 05:15	07/25/16 12:13	EPA 3050B	1,6020A	TT
Silver, Total	0.53		mg/kg	0.50	0.04	10	07/22/16 05:15	07/25/16 12:13	EPA 3050B	1,6020A	TT
Sodium, Total	650		mg/kg	150	12.	10	07/22/16 05:15	07/25/16 12:13	EPA 3050B	1,6020A	TT
Thallium, Total	0.06	J	mg/kg	0.20	0.03	10	07/22/16 05:15	07/25/16 12:13	EPA 3050B	1,6020A	TT
Tin, Total	110		mg/kg	1.2	0.04	10	07/22/16 05:15	07/25/16 12:13	EPA 3050B	1,6020A	TT
Vanadium, Total	67		mg/kg	1.0	0.38	10	07/22/16 05:15	07/25/16 12:13	EPA 3050B	1,6020A	TT
Zinc, Total	1100		mg/kg	100	26.	100	07/22/16 05:15	07/25/16 12:16	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-75
Client ID: SB014-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 88%

Date Collected: 07/19/16 15:37
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3400		mg/kg	2300	1700	1000	07/22/16 05:15	07/25/16 12:27	EPA 3050B	1,6020A	TT
Antimony, Total	20		mg/kg	0.91	0.07	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Arsenic, Total	17		mg/kg	0.57	0.08	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Barium, Total	240		mg/kg	34	2.3	100	07/22/16 05:15	07/25/16 12:25	EPA 3050B	1,6020A	TT
Beryllium, Total	0.39		mg/kg	0.34	0.10	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Cadmium, Total	5.8		mg/kg	0.23	0.03	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Calcium, Total	2300		mg/kg	570	69.	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Chromium, Total	21		mg/kg	2.3	0.53	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Cobalt, Total	14		mg/kg	0.57	0.06	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Copper, Total	420		mg/kg	23	1.7	100	07/22/16 05:15	07/25/16 12:25	EPA 3050B	1,6020A	TT
Iron, Total	25000		mg/kg	2300	230	100	07/22/16 05:15	07/25/16 12:25	EPA 3050B	1,6020A	TT
Lead, Total	1800		mg/kg	6.8	0.78	100	07/22/16 05:15	07/25/16 12:25	EPA 3050B	1,6020A	TT
Magnesium, Total	690		mg/kg	110	14.	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Manganese, Total	170		mg/kg	2.3	0.50	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Mercury, Total	1.1		mg/kg	0.08	0.02	1	07/22/16 08:25	07/26/16 11:43	EPA 7471B	1,7471B	BV
Nickel, Total	77		mg/kg	1.1	0.25	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Potassium, Total	300		mg/kg	110	17.	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Selenium, Total	2.2	J	mg/kg	2.3	0.45	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Silver, Total	0.90		mg/kg	0.57	0.04	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Sodium, Total	89	J	mg/kg	170	13.	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Thallium, Total	0.10	J	mg/kg	0.23	0.03	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Tin, Total	240		mg/kg	1.4	0.05	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Vanadium, Total	24		mg/kg	1.1	0.43	10	07/22/16 05:15	07/25/16 12:22	EPA 3050B	1,6020A	TT
Zinc, Total	1900		mg/kg	110	29.	100	07/22/16 05:15	07/25/16 12:25	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-76
Client ID: SB90014-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 87%

Date Collected: 07/19/16 15:37
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3800		mg/kg	2200	1600	1000	07/22/16 05:15	07/25/16 12:47	EPA 3050B	1,6020A	TT
Antimony, Total	13		mg/kg	0.89	0.07	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Arsenic, Total	20		mg/kg	0.56	0.08	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Barium, Total	260		mg/kg	33	2.2	100	07/22/16 05:15	07/25/16 12:44	EPA 3050B	1,6020A	TT
Beryllium, Total	0.33		mg/kg	0.33	0.10	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Cadmium, Total	5.3		mg/kg	0.22	0.03	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Calcium, Total	4200		mg/kg	560	68.	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Chromium, Total	43		mg/kg	2.2	0.52	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Cobalt, Total	4.7		mg/kg	0.56	0.06	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Copper, Total	390		mg/kg	22	1.6	100	07/22/16 05:15	07/25/16 12:44	EPA 3050B	1,6020A	TT
Iron, Total	14000		mg/kg	220	23.	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Lead, Total	1300		mg/kg	6.7	0.77	100	07/22/16 05:15	07/25/16 12:44	EPA 3050B	1,6020A	TT
Magnesium, Total	980		mg/kg	110	14.	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Manganese, Total	180		mg/kg	2.2	0.49	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Mercury, Total	2.0		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 11:45	EPA 7471B	1,7471B	BV
Nickel, Total	60		mg/kg	1.1	0.25	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Potassium, Total	440		mg/kg	110	17.	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Selenium, Total	2.3		mg/kg	2.2	0.44	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Silver, Total	0.69		mg/kg	0.56	0.04	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Sodium, Total	160	J	mg/kg	170	13.	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Thallium, Total	0.11	J	mg/kg	0.22	0.03	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Tin, Total	120		mg/kg	1.3	0.05	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Vanadium, Total	24		mg/kg	1.1	0.42	10	07/22/16 05:15	07/25/16 12:41	EPA 3050B	1,6020A	TT
Zinc, Total	2000		mg/kg	110	29.	100	07/22/16 05:15	07/25/16 12:44	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-78
Client ID: SB014-04
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 87%

Date Collected: 07/19/16 15:41
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	2700		mg/kg	2300	1700	1000	07/22/16 05:15	07/25/16 10:40	EPA 3050B	1,6020A	TT
Antimony, Total	1.1		mg/kg	0.92	0.08	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Arsenic, Total	12		mg/kg	0.57	0.08	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Barium, Total	75		mg/kg	3.4	0.23	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Beryllium, Total	0.23	J	mg/kg	0.34	0.10	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Cadmium, Total	0.18	J	mg/kg	0.23	0.03	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Calcium, Total	9700		mg/kg	570	70.	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Chromium, Total	10		mg/kg	2.3	0.54	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Cobalt, Total	4.6		mg/kg	0.57	0.06	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Copper, Total	76		mg/kg	2.3	0.17	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Iron, Total	8500		mg/kg	230	24.	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Lead, Total	330		mg/kg	6.9	0.79	100	07/22/16 05:15	07/25/16 10:37	EPA 3050B	1,6020A	TT
Magnesium, Total	1200		mg/kg	110	14.	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Manganese, Total	110		mg/kg	2.3	0.51	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Mercury, Total	0.96		mg/kg	0.08	0.02	1	07/22/16 08:25	07/26/16 11:17	EPA 7471B	1,7471B	BV
Nickel, Total	16		mg/kg	1.1	0.26	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Potassium, Total	390		mg/kg	110	17.	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Selenium, Total	1.5	J	mg/kg	2.3	0.46	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Silver, Total	0.13	J	mg/kg	0.57	0.04	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Sodium, Total	170		mg/kg	170	13.	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Thallium, Total	0.10	J	mg/kg	0.23	0.03	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Tin, Total	14		mg/kg	1.4	0.05	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Vanadium, Total	12		mg/kg	1.1	0.43	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT
Zinc, Total	130		mg/kg	11	3.0	10	07/22/16 05:15	07/25/16 10:34	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-83
Client ID: SB04-01
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 92%

Date Collected: 07/18/16 15:15
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5600		mg/kg	4400	1600	1000	07/22/16 05:35	07/25/16 09:40	EPA 3050B	1,6020A	TT
Antimony, Total	0.15	J	mg/kg	0.86	0.07	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Arsenic, Total	2.8		mg/kg	0.54	0.07	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Barium, Total	30		mg/kg	3.2	0.22	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Beryllium, Total	0.36		mg/kg	0.32	0.09	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Cadmium, Total	0.09	J	mg/kg	0.22	0.03	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Calcium, Total	2000		mg/kg	540	66.	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Chromium, Total	11		mg/kg	2.2	0.50	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Cobalt, Total	5.0		mg/kg	0.54	0.06	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Copper, Total	19		mg/kg	2.2	0.16	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Iron, Total	11000		mg/kg	220	22.	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Lead, Total	29		mg/kg	0.65	0.08	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Magnesium, Total	3000		mg/kg	110	13.	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Manganese, Total	230		mg/kg	22	4.8	100	07/22/16 05:35	07/25/16 09:37	EPA 3050B	1,6020A	TT
Mercury, Total	0.06	J	mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 11:47	EPA 7471B	1,7471B	BV
Nickel, Total	26		mg/kg	1.1	0.24	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Potassium, Total	970		mg/kg	110	16.	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Selenium, Total	3.4		mg/kg	2.2	0.43	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Silver, Total	0.04	J	mg/kg	0.54	0.04	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Sodium, Total	260		mg/kg	160	13.	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Thallium, Total	0.10	J	mg/kg	0.22	0.03	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Tin, Total	1.2		mg/kg	0.22	0.05	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Vanadium, Total	20		mg/kg	1.1	0.41	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT
Zinc, Total	33		mg/kg	11	2.8	10	07/22/16 05:35	07/25/16 09:34	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-84
Client ID: SB04-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 92%

Date Collected: 07/18/16 15:17
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7200		mg/kg	4200	1600	1000	07/22/16 05:35	07/25/16 11:11	EPA 3050B	1,6020A	TT
Antimony, Total	0.23	J	mg/kg	0.85	0.07	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Arsenic, Total	2.2		mg/kg	0.53	0.07	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Barium, Total	76		mg/kg	3.2	0.21	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Beryllium, Total	0.26	J	mg/kg	0.32	0.09	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Cadmium, Total	0.09	J	mg/kg	0.21	0.03	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Calcium, Total	72000		mg/kg	5300	650	100	07/22/16 05:35	07/25/16 11:08	EPA 3050B	1,6020A	TT
Chromium, Total	12		mg/kg	2.1	0.50	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Cobalt, Total	4.3		mg/kg	0.53	0.06	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Copper, Total	18		mg/kg	2.1	0.16	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Iron, Total	10000		mg/kg	210	22.	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Lead, Total	30		mg/kg	0.64	0.07	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Magnesium, Total	18000		mg/kg	110	13.	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Manganese, Total	180		mg/kg	2.1	0.47	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Mercury, Total	0.60		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 11:49	EPA 7471B	1,7471B	BV
Nickel, Total	10		mg/kg	1.1	0.24	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Potassium, Total	2800		mg/kg	110	16.	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Selenium, Total	2.6		mg/kg	2.1	0.42	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Silver, Total	0.04	J	mg/kg	0.53	0.04	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Sodium, Total	330		mg/kg	160	12.	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Thallium, Total	0.11	J	mg/kg	0.21	0.03	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Tin, Total	2.0		mg/kg	1.3	0.05	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Vanadium, Total	21		mg/kg	1.1	0.40	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT
Zinc, Total	38		mg/kg	11	2.8	10	07/22/16 05:35	07/25/16 11:05	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-85
Client ID: SB04-03
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 90%

Date Collected: 07/18/16 15:19
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5900		mg/kg	4400	1600	1000	07/22/16 05:35	07/25/16 11:30	EPA 3050B	1,6020A	TT
Antimony, Total	46		mg/kg	0.87	0.07	10	07/22/16 05:35	07/25/16 11:24	EPA 3050B	1,6020A	TT
Arsenic, Total	17		mg/kg	0.55	0.08	10	07/22/16 05:35	07/25/16 11:24	EPA 3050B	1,6020A	TT
Barium, Total	450		mg/kg	33	2.2	100	07/22/16 05:35	07/25/16 11:27	EPA 3050B	1,6020A	TT
Beryllium, Total	0.59		mg/kg	0.33	0.10	10	07/22/16 05:35	07/25/16 11:24	EPA 3050B	1,6020A	TT
Cadmium, Total	9.5		mg/kg	0.22	0.03	10	07/22/16 05:35	07/25/16 11:24	EPA 3050B	1,6020A	TT
Calcium, Total	52000		mg/kg	5500	660	100	07/22/16 05:35	07/25/16 11:27	EPA 3050B	1,6020A	TT
Chromium, Total	110		mg/kg	2.2	0.51	10	07/22/16 05:35	07/25/16 11:24	EPA 3050B	1,6020A	TT
Cobalt, Total	5.6		mg/kg	0.55	0.06	10	07/22/16 05:35	07/25/16 11:24	EPA 3050B	1,6020A	TT
Copper, Total	780		mg/kg	2.2	0.16	10	07/22/16 05:35	07/25/16 11:24	EPA 3050B	1,6020A	TT
Iron, Total	26000		mg/kg	2200	220	100	07/22/16 05:35	07/25/16 11:27	EPA 3050B	1,6020A	TT
Lead, Total	3300		mg/kg	66	7.6	1000	07/22/16 05:35	07/25/16 11:30	EPA 3050B	1,6020A	TT
Magnesium, Total	25000		mg/kg	1100	130	100	07/22/16 05:35	07/25/16 11:27	EPA 3050B	1,6020A	TT
Manganese, Total	440		mg/kg	22	4.8	100	07/22/16 05:35	07/25/16 11:27	EPA 3050B	1,6020A	TT
Mercury, Total	1.8		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 11:50	EPA 7471B	1,7471B	BV
Nickel, Total	33		mg/kg	1.1	0.24	10	07/22/16 05:35	07/25/16 11:24	EPA 3050B	1,6020A	TT
Potassium, Total	560		mg/kg	110	16.	10	07/22/16 05:35	07/25/16 11:24	EPA 3050B	1,6020A	TT
Selenium, Total	3.2		mg/kg	2.2	0.44	10	07/22/16 05:35	07/25/16 11:24	EPA 3050B	1,6020A	TT
Silver, Total	1.6		mg/kg	0.55	0.04	10	07/22/16 05:35	07/25/16 11:24	EPA 3050B	1,6020A	TT
Sodium, Total	520		mg/kg	160	13.	10	07/22/16 05:35	07/25/16 11:24	EPA 3050B	1,6020A	TT
Thallium, Total	0.12	J	mg/kg	0.22	0.03	10	07/22/16 05:35	07/25/16 11:24	EPA 3050B	1,6020A	TT
Tin, Total	140		mg/kg	1.3	0.05	10	07/22/16 05:35	07/25/16 11:24	EPA 3050B	1,6020A	TT
Vanadium, Total	95		mg/kg	1.1	0.41	10	07/22/16 05:35	07/25/16 11:24	EPA 3050B	1,6020A	TT
Zinc, Total	1700		mg/kg	110	28.	100	07/22/16 05:35	07/25/16 11:27	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-89
Client ID: SB04-07
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 80%

Date Collected: 07/18/16 16:00
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6600		mg/kg	4900	1800	1000	07/22/16 05:35	07/25/16 11:39	EPA 3050B	1,6020A	TT
Antimony, Total	4.3		mg/kg	0.98	0.08	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Arsenic, Total	9.0		mg/kg	0.61	0.08	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Barium, Total	170		mg/kg	3.7	0.25	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Beryllium, Total	0.44		mg/kg	0.37	0.11	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Cadmium, Total	0.94		mg/kg	0.24	0.03	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Calcium, Total	58000		mg/kg	6100	750	100	07/22/16 05:35	07/25/16 11:36	EPA 3050B	1,6020A	TT
Chromium, Total	42		mg/kg	2.4	0.58	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Cobalt, Total	5.6		mg/kg	0.61	0.07	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Copper, Total	65		mg/kg	2.4	0.18	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Iron, Total	12000		mg/kg	240	25.	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Lead, Total	390		mg/kg	7.4	0.85	100	07/22/16 05:35	07/25/16 11:36	EPA 3050B	1,6020A	TT
Magnesium, Total	4100		mg/kg	120	15.	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Manganese, Total	240		mg/kg	24	5.4	100	07/22/16 05:35	07/25/16 11:36	EPA 3050B	1,6020A	TT
Mercury, Total	1.2		mg/kg	0.08	0.02	1	07/22/16 08:25	07/26/16 11:53	EPA 7471B	1,7471B	BV
Nickel, Total	24		mg/kg	1.2	0.27	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Potassium, Total	1100		mg/kg	120	18.	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Selenium, Total	3.1		mg/kg	2.4	0.49	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Silver, Total	0.28	J	mg/kg	0.61	0.05	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Sodium, Total	1400		mg/kg	180	14.	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Thallium, Total	0.12	J	mg/kg	0.24	0.03	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Tin, Total	50		mg/kg	0.24	0.05	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Vanadium, Total	24		mg/kg	1.2	0.47	10	07/22/16 05:35	07/25/16 11:33	EPA 3050B	1,6020A	TT
Zinc, Total	310		mg/kg	120	32.	100	07/22/16 05:35	07/25/16 11:36	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-91
Client ID: SB05-01
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 88%

Date Collected: 07/19/16 08:26
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6000		mg/kg	4400	1600	1000	07/22/16 05:35	07/25/16 11:49	EPA 3050B	1,6020A	TT
Antimony, Total	0.36	J	mg/kg	0.89	0.07	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Arsenic, Total	4.0		mg/kg	0.56	0.08	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Barium, Total	42		mg/kg	3.3	0.22	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Beryllium, Total	0.27	J	mg/kg	0.33	0.10	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Cadmium, Total	0.08	J	mg/kg	0.22	0.03	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Calcium, Total	49000		mg/kg	5600	680	100	07/22/16 05:35	07/25/16 11:46	EPA 3050B	1,6020A	TT
Chromium, Total	16		mg/kg	2.2	0.52	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Cobalt, Total	4.8		mg/kg	0.56	0.06	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Copper, Total	19		mg/kg	2.2	0.16	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Iron, Total	11000		mg/kg	220	23.	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Lead, Total	18		mg/kg	0.67	0.08	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Magnesium, Total	9600		mg/kg	110	14.	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Manganese, Total	140		mg/kg	2.2	0.49	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Mercury, Total	0.03	J	mg/kg	0.08	0.02	1	07/22/16 08:25	07/26/16 11:54	EPA 7471B	1,7471B	BV
Nickel, Total	16		mg/kg	1.1	0.25	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Potassium, Total	960		mg/kg	110	17.	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Selenium, Total	3.3		mg/kg	2.2	0.44	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Silver, Total	0.06	J	mg/kg	0.56	0.04	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Sodium, Total	270		mg/kg	170	13.	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Thallium, Total	0.05	J	mg/kg	0.22	0.03	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Tin, Total	1.5		mg/kg	1.3	0.05	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Vanadium, Total	22		mg/kg	1.1	0.42	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT
Zinc, Total	42		mg/kg	11	2.9	10	07/22/16 05:35	07/25/16 11:43	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-92
Client ID: SB05-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 91%

Date Collected: 07/19/16 08:28
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6800		mg/kg	4200	1600	1000	07/22/16 05:35	07/25/16 12:16	EPA 3050B	1,6020A	TT
Antimony, Total	0.37	J	mg/kg	0.84	0.07	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Arsenic, Total	4.5		mg/kg	0.53	0.07	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Barium, Total	48		mg/kg	3.2	0.21	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Beryllium, Total	0.36		mg/kg	0.32	0.09	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Cadmium, Total	0.16	J	mg/kg	0.21	0.03	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Calcium, Total	19000		mg/kg	530	64.	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Chromium, Total	15		mg/kg	2.1	0.49	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Cobalt, Total	9.8		mg/kg	0.53	0.06	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Copper, Total	42		mg/kg	2.1	0.16	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Iron, Total	25000		mg/kg	2100	220	100	07/22/16 05:35	07/25/16 12:13	EPA 3050B	1,6020A	TT
Lead, Total	50		mg/kg	0.63	0.07	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Magnesium, Total	13000		mg/kg	100	13.	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Manganese, Total	540		mg/kg	21	4.7	100	07/22/16 05:35	07/25/16 12:13	EPA 3050B	1,6020A	TT
Mercury, Total	0.08		mg/kg	0.07	0.01	1	07/22/16 08:25	07/26/16 12:00	EPA 7471B	1,7471B	BV
Nickel, Total	100		mg/kg	1.0	0.24	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Potassium, Total	810		mg/kg	100	16.	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Selenium, Total	3.4		mg/kg	2.1	0.42	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Silver, Total	0.08	J	mg/kg	0.53	0.04	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Sodium, Total	330		mg/kg	160	12.	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Thallium, Total	0.11	J	mg/kg	0.21	0.03	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Tin, Total	2.3		mg/kg	1.3	0.05	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Vanadium, Total	28		mg/kg	1.0	0.40	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT
Zinc, Total	62		mg/kg	10	2.7	10	07/22/16 05:35	07/25/16 12:10	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-93
Client ID: SB05-03
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 92%

Date Collected: 07/19/16 08:30
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	8100		mg/kg	4300	1600	1000	07/22/16 05:35	07/25/16 12:26	EPA 3050B	1,6020A	TT
Antimony, Total	0.22	J	mg/kg	0.85	0.07	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Arsenic, Total	3.2		mg/kg	0.53	0.07	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Barium, Total	97		mg/kg	3.2	0.21	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Beryllium, Total	0.28	J	mg/kg	0.32	0.09	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Cadmium, Total	0.09	J	mg/kg	0.21	0.03	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Calcium, Total	35000		mg/kg	5300	650	100	07/22/16 05:35	07/25/16 12:23	EPA 3050B	1,6020A	TT
Chromium, Total	14		mg/kg	2.1	0.50	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Cobalt, Total	6.3		mg/kg	0.53	0.06	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Copper, Total	29		mg/kg	2.1	0.16	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Iron, Total	13000		mg/kg	210	22.	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Lead, Total	24		mg/kg	0.64	0.07	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Magnesium, Total	6400		mg/kg	110	13.	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Manganese, Total	190		mg/kg	2.1	0.47	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Mercury, Total	0.59		mg/kg	0.07	0.02	1	07/22/16 08:25	07/26/16 12:02	EPA 7471B	1,7471B	BV
Nickel, Total	13		mg/kg	1.1	0.24	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Potassium, Total	3900		mg/kg	110	16.	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Selenium, Total	6.8		mg/kg	2.1	0.43	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Silver, Total	ND		mg/kg	0.53	0.04	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Sodium, Total	480		mg/kg	160	12.	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Thallium, Total	0.13	J	mg/kg	0.21	0.03	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Tin, Total	1.4		mg/kg	1.3	0.05	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Vanadium, Total	22		mg/kg	1.1	0.40	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT
Zinc, Total	52		mg/kg	11	2.8	10	07/22/16 05:35	07/25/16 12:20	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-96
Client ID: SB05-06
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 83%

Date Collected: 07/19/16 08:45
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3200		mg/kg	2400	1700	1000	07/22/16 05:35	07/25/16 12:35	EPA 3050B	1,6020A	TT
Antimony, Total	1.4		mg/kg	0.94	0.08	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Arsenic, Total	4.3		mg/kg	0.59	0.08	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Barium, Total	17		mg/kg	3.5	0.24	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Beryllium, Total	0.49		mg/kg	0.35	0.10	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Cadmium, Total	0.05	J	mg/kg	0.24	0.03	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Calcium, Total	7100		mg/kg	590	72.	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Chromium, Total	7.4		mg/kg	2.4	0.55	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Cobalt, Total	3.2		mg/kg	0.59	0.06	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Copper, Total	37		mg/kg	2.4	0.17	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Iron, Total	5100		mg/kg	240	24.	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Lead, Total	170		mg/kg	0.71	0.08	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Magnesium, Total	920		mg/kg	120	14.	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Manganese, Total	60		mg/kg	2.4	0.52	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Mercury, Total	0.19		mg/kg	0.08	0.02	1	07/22/16 08:25	07/26/16 12:03	EPA 7471B	1,7471B	BV
Nickel, Total	13		mg/kg	1.2	0.26	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Potassium, Total	450		mg/kg	120	18.	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Selenium, Total	4.8		mg/kg	2.4	0.47	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Silver, Total	0.24	J	mg/kg	0.59	0.04	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Sodium, Total	370		mg/kg	180	14.	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Thallium, Total	0.04	J	mg/kg	0.24	0.03	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Tin, Total	5.9		mg/kg	1.4	0.05	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Vanadium, Total	11		mg/kg	1.2	0.45	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT
Zinc, Total	34		mg/kg	12	3.1	10	07/22/16 05:35	07/25/16 12:29	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-97
Client ID: SB05-07
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 86%

Date Collected: 07/19/16 08:48
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5100		mg/kg	4600	1700	1000	07/22/16 05:35	07/25/16 12:52	EPA 3050B	1,6020A	TT
Antimony, Total	0.45	J	mg/kg	0.93	0.08	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Arsenic, Total	4.4		mg/kg	0.58	0.08	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Barium, Total	27		mg/kg	3.5	0.23	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Beryllium, Total	0.28	J	mg/kg	0.35	0.10	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Cadmium, Total	0.05	J	mg/kg	0.23	0.03	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Calcium, Total	8800		mg/kg	580	70.	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Chromium, Total	8.7		mg/kg	2.3	0.54	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Cobalt, Total	4.4		mg/kg	0.58	0.06	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Copper, Total	11		mg/kg	2.3	0.17	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Iron, Total	9100		mg/kg	230	24.	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Lead, Total	270		mg/kg	7.0	0.80	100	07/22/16 05:35	07/25/16 12:49	EPA 3050B	1,6020A	TT
Magnesium, Total	2500		mg/kg	120	14.	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Manganese, Total	130		mg/kg	2.3	0.51	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Mercury, Total	0.08		mg/kg	0.07	0.02	1	07/22/16 08:25	07/22/16 11:01	EPA 7471B	1,7471B	BV
Nickel, Total	18		mg/kg	1.2	0.26	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Potassium, Total	580		mg/kg	120	18.	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Selenium, Total	3.3		mg/kg	2.3	0.46	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Silver, Total	0.06	J	mg/kg	0.58	0.04	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Sodium, Total	340		mg/kg	170	14.	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Thallium, Total	0.03	J	mg/kg	0.23	0.03	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Tin, Total	2.2		mg/kg	1.4	0.05	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Vanadium, Total	15		mg/kg	1.2	0.44	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT
Zinc, Total	35		mg/kg	12	3.0	10	07/22/16 05:35	07/25/16 12:46	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-99
Client ID: SB06-01
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 96%

Date Collected: 07/19/16 08:56
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6000		mg/kg	4100	1500	1000	07/22/16 05:35	07/25/16 13:01	EPA 3050B	1,6020A	TT
Antimony, Total	0.45	J	mg/kg	0.82	0.07	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Arsenic, Total	3.0		mg/kg	0.51	0.07	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Barium, Total	24		mg/kg	3.1	0.21	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Beryllium, Total	0.17	J	mg/kg	0.31	0.09	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Cadmium, Total	0.17	J	mg/kg	0.20	0.03	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Calcium, Total	8000		mg/kg	510	62.	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Chromium, Total	6.9		mg/kg	2.0	0.48	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Cobalt, Total	8.0		mg/kg	0.51	0.05	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Copper, Total	64		mg/kg	2.0	0.15	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Iron, Total	20000		mg/kg	2000	210	100	07/22/16 05:35	07/25/16 12:58	EPA 3050B	1,6020A	TT
Lead, Total	1000		mg/kg	6.2	0.71	100	07/22/16 05:35	07/25/16 12:58	EPA 3050B	1,6020A	TT
Magnesium, Total	4300		mg/kg	100	13.	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Manganese, Total	260		mg/kg	20	4.6	100	07/22/16 05:35	07/25/16 12:58	EPA 3050B	1,6020A	TT
Mercury, Total	0.06	J	mg/kg	0.07	0.01	1	07/22/16 08:25	07/22/16 11:03	EPA 7471B	1,7471B	BV
Nickel, Total	15		mg/kg	1.0	0.23	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Potassium, Total	500		mg/kg	100	16.	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Selenium, Total	3.8		mg/kg	2.0	0.41	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Silver, Total	0.04	J	mg/kg	0.51	0.04	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Sodium, Total	660		mg/kg	150	12.	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Thallium, Total	0.04	J	mg/kg	0.20	0.03	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Tin, Total	38		mg/kg	1.2	0.04	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Vanadium, Total	43		mg/kg	1.0	0.39	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT
Zinc, Total	47		mg/kg	10	2.7	10	07/22/16 05:35	07/25/16 12:55	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-100
Client ID: SB06-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 97%

Date Collected: 07/19/16 08:58
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7900		mg/kg	4100	1500	1000	07/22/16 05:35	07/25/16 10:11	EPA 3050B	1,6020A	TT
Antimony, Total	0.17	J	mg/kg	0.51	0.07	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Arsenic, Total	4.0		mg/kg	0.51	0.07	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Barium, Total	16		mg/kg	3.0	0.20	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Beryllium, Total	0.15	J	mg/kg	0.30	0.09	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Cadmium, Total	0.20		mg/kg	0.20	0.03	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Calcium, Total	94000		mg/kg	5100	620	100	07/22/16 05:35	07/25/16 10:08	EPA 3050B	1,6020A	TT
Chromium, Total	4.3		mg/kg	2.0	0.48	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Cobalt, Total	12		mg/kg	0.51	0.05	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Copper, Total	100		mg/kg	2.0	0.15	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Iron, Total	25000		mg/kg	2000	210	100	07/22/16 05:35	07/25/16 10:08	EPA 3050B	1,6020A	TT
Lead, Total	9.6		mg/kg	0.61	0.07	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Magnesium, Total	57000		mg/kg	1000	120	100	07/22/16 05:35	07/25/16 10:08	EPA 3050B	1,6020A	TT
Manganese, Total	240		mg/kg	20	4.5	100	07/22/16 05:35	07/25/16 10:08	EPA 3050B	1,6020A	TT
Mercury, Total	ND		mg/kg	0.07	0.01	1	07/22/16 08:25	07/22/16 10:54	EPA 7471B	1,7471B	BV
Nickel, Total	12		mg/kg	1.0	0.23	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Potassium, Total	570		mg/kg	100	15.	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Selenium, Total	5.1		mg/kg	2.0	0.41	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Silver, Total	0.08	J	mg/kg	0.51	0.04	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Sodium, Total	1000		mg/kg	150	12.	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Thallium, Total	0.08	J	mg/kg	0.20	0.03	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Tin, Total	0.75		mg/kg	0.20	0.04	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Vanadium, Total	74		mg/kg	1.0	0.39	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT
Zinc, Total	49		mg/kg	10	2.6	10	07/22/16 05:35	07/25/16 10:05	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-107
Client ID: SB011-07
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 89%

Date Collected: 07/19/16 12:36
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5600		mg/kg	4300	1600	1000	07/22/16 05:35	07/25/16 10:44	EPA 3050B	1,6020A	TT
Antimony, Total	1.9		mg/kg	0.86	0.07	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Arsenic, Total	12		mg/kg	0.54	0.07	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Barium, Total	46		mg/kg	3.2	0.22	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Beryllium, Total	0.28	J	mg/kg	0.32	0.09	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Cadmium, Total	0.16	J	mg/kg	0.21	0.03	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Calcium, Total	36000		mg/kg	5400	650	100	07/22/16 05:35	07/25/16 10:17	EPA 3050B	1,6020A	TT
Chromium, Total	15		mg/kg	2.1	0.50	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Cobalt, Total	3.6		mg/kg	0.54	0.06	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Copper, Total	18		mg/kg	2.1	0.16	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Iron, Total	7000		mg/kg	210	22.	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Lead, Total	46		mg/kg	0.64	0.07	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Magnesium, Total	2200		mg/kg	110	13.	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Manganese, Total	130		mg/kg	2.1	0.48	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Mercury, Total	0.16		mg/kg	0.08	0.02	1	07/22/16 08:25	07/22/16 10:56	EPA 7471B	1,7471B	BV
Nickel, Total	13		mg/kg	1.1	0.24	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Potassium, Total	860		mg/kg	110	16.	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Selenium, Total	1.8	J	mg/kg	2.1	0.43	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Silver, Total	0.12	J	mg/kg	0.54	0.04	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Sodium, Total	620		mg/kg	160	12.	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Thallium, Total	0.07	J	mg/kg	0.21	0.03	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Tin, Total	1.8		mg/kg	1.3	0.05	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Vanadium, Total	16		mg/kg	1.1	0.41	10	07/22/16 05:35	07/25/16 10:14	EPA 3050B	1,6020A	TT
Zinc, Total	280		mg/kg	110	28.	100	07/22/16 05:35	07/25/16 10:17	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-109
Client ID: SB012-01
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 95%

Date Collected: 07/19/16 12:50
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6000		mg/kg	4000	1500	1000	07/22/16 05:35	07/25/16 10:53	EPA 3050B	1,6020A	TT
Antimony, Total	0.22	J	mg/kg	0.80	0.07	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Arsenic, Total	3.2		mg/kg	0.50	0.07	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Barium, Total	32		mg/kg	3.0	0.20	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Beryllium, Total	0.35		mg/kg	0.30	0.09	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Cadmium, Total	0.11	J	mg/kg	0.20	0.03	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Calcium, Total	6100		mg/kg	500	60.	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Chromium, Total	13		mg/kg	2.0	0.46	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Cobalt, Total	5.8		mg/kg	0.50	0.05	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Copper, Total	18		mg/kg	2.0	0.15	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Iron, Total	16000		mg/kg	200	20.	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Lead, Total	40		mg/kg	0.60	0.07	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Magnesium, Total	4400		mg/kg	100	12.	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Manganese, Total	330		mg/kg	20	4.4	100	07/22/16 05:35	07/25/16 10:50	EPA 3050B	1,6020A	TT
Mercury, Total	0.10		mg/kg	0.07	0.01	1	07/22/16 08:25	07/22/16 10:57	EPA 7471B	1,7471B	BV
Nickel, Total	24		mg/kg	1.0	0.22	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Potassium, Total	700		mg/kg	100	15.	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Selenium, Total	3.0		mg/kg	2.0	0.40	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Silver, Total	0.05	J	mg/kg	0.50	0.04	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Sodium, Total	110	J	mg/kg	150	12.	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Thallium, Total	0.08	J	mg/kg	0.20	0.03	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Tin, Total	1.3		mg/kg	1.2	0.04	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Vanadium, Total	23		mg/kg	1.0	0.38	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT
Zinc, Total	37		mg/kg	10	2.6	10	07/22/16 05:35	07/25/16 10:47	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-110
Client ID: SB012-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 92%

Date Collected: 07/19/16 12:52
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6800		mg/kg	4200	1600	1000	07/22/16 05:35	07/25/16 11:02	EPA 3050B	1,6020A	TT
Antimony, Total	0.49	J	mg/kg	0.84	0.07	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Arsenic, Total	4.8		mg/kg	0.52	0.07	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Barium, Total	42		mg/kg	3.1	0.21	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Beryllium, Total	0.56		mg/kg	0.31	0.09	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Cadmium, Total	0.12	J	mg/kg	0.21	0.03	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Calcium, Total	3800		mg/kg	520	64.	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Chromium, Total	18		mg/kg	2.1	0.49	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Cobalt, Total	9.3		mg/kg	0.52	0.06	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Copper, Total	51		mg/kg	2.1	0.16	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Iron, Total	27000		mg/kg	2100	220	100	07/22/16 05:35	07/25/16 10:59	EPA 3050B	1,6020A	TT
Lead, Total	43		mg/kg	0.63	0.07	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Magnesium, Total	2600		mg/kg	100	13.	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Manganese, Total	460		mg/kg	21	4.6	100	07/22/16 05:35	07/25/16 10:59	EPA 3050B	1,6020A	TT
Mercury, Total	0.07		mg/kg	0.07	0.01	1	07/22/16 08:25	07/22/16 10:59	EPA 7471B	1,7471B	BV
Nickel, Total	20		mg/kg	1.0	0.23	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Potassium, Total	720		mg/kg	100	16.	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Selenium, Total	2.6		mg/kg	2.1	0.42	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Silver, Total	0.05	J	mg/kg	0.52	0.04	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Sodium, Total	200		mg/kg	160	12.	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Thallium, Total	0.10	J	mg/kg	0.21	0.03	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Tin, Total	7.5		mg/kg	1.2	0.05	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Vanadium, Total	32		mg/kg	1.0	0.40	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT
Zinc, Total	150		mg/kg	10	2.7	10	07/22/16 05:35	07/25/16 10:56	EPA 3050B	1,6020A	TT

Project Name: ATLAS WHITE METAL **Lab Number:** L1622423

Project Number: HHE1601 **Report Date:** 07/26/16

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02,09-10,15,17-18,25-26,33-34,43-47,51-53,56 Batch: WG915983-1										
Aluminum, Total	ND		mg/kg	100	15.	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Antimony, Total	ND		mg/kg	0.80	0.07	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Arsenic, Total	ND		mg/kg	0.50	0.07	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Barium, Total	ND		mg/kg	3.0	0.20	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Beryllium, Total	ND		mg/kg	0.30	0.09	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Cadmium, Total	ND		mg/kg	0.20	0.03	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Calcium, Total	ND		mg/kg	500	61.	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Chromium, Total	ND		mg/kg	2.0	0.47	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Cobalt, Total	ND		mg/kg	0.50	0.05	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Copper, Total	ND		mg/kg	2.0	0.15	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Iron, Total	ND		mg/kg	200	21.	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Lead, Total	ND		mg/kg	0.60	0.07	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Magnesium, Total	ND		mg/kg	100	12.	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Manganese, Total	ND		mg/kg	2.0	0.44	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Nickel, Total	ND		mg/kg	1.0	0.22	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Potassium, Total	ND		mg/kg	100	15.	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Selenium, Total	ND		mg/kg	2.0	0.40	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Silver, Total	ND		mg/kg	0.50	0.04	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Sodium, Total	ND		mg/kg	150	12.	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Thallium, Total	ND		mg/kg	0.20	0.03	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Tin, Total	0.06	J	mg/kg	1.2	0.04	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Vanadium, Total	ND		mg/kg	1.0	0.38	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM
Zinc, Total	ND		mg/kg	10	2.6	10	07/22/16 05:01	07/22/16 17:42	1,6020A	AM

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 57,59-60,65-67,71-72,74-76,78 Batch: WG915984-1										
Aluminum, Total	ND		mg/kg	20	15.	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Antimony, Total	0.10	J	mg/kg	0.80	0.07	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Arsenic, Total	ND		mg/kg	0.50	0.07	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT

Project Name: ATLAS WHITE METAL **Lab Number:** L1622423

Project Number: HHE1601 **Report Date:** 07/26/16

Method Blank Analysis
Batch Quality Control

Barium, Total	ND	mg/kg	3.0	0.20	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Beryllium, Total	ND	mg/kg	0.30	0.09	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Cadmium, Total	ND	mg/kg	0.20	0.03	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Calcium, Total	ND	mg/kg	500	61.	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Chromium, Total	ND	mg/kg	2.0	0.47	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Cobalt, Total	ND	mg/kg	0.50	0.05	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Copper, Total	ND	mg/kg	2.0	0.15	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Iron, Total	ND	mg/kg	200	21.	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Lead, Total	ND	mg/kg	0.60	0.07	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Magnesium, Total	ND	mg/kg	100	12.	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Manganese, Total	ND	mg/kg	2.0	0.44	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Nickel, Total	ND	mg/kg	1.0	0.22	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Potassium, Total	ND	mg/kg	100	15.	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Selenium, Total	ND	mg/kg	2.0	0.40	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Silver, Total	ND	mg/kg	0.50	0.04	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Sodium, Total	ND	mg/kg	150	12.	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Thallium, Total	ND	mg/kg	0.20	0.03	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Tin, Total	ND	mg/kg	1.2	0.04	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Vanadium, Total	ND	mg/kg	1.0	0.38	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT
Zinc, Total	ND	mg/kg	10	2.6	10	07/22/16 05:15	07/25/16 09:39	1,6020A	TT

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 83-85,89,91-93,96-97,99-100,107,109-110 Batch: WG915985-1										
Aluminum, Total	ND		mg/kg	100	15.	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Antimony, Total	0.12	J	mg/kg	0.80	0.07	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Arsenic, Total	ND		mg/kg	0.50	0.07	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Barium, Total	ND		mg/kg	3.0	0.20	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Beryllium, Total	ND		mg/kg	0.30	0.09	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Cadmium, Total	ND		mg/kg	0.20	0.03	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Calcium, Total	ND		mg/kg	500	61.	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Chromium, Total	ND		mg/kg	2.0	0.47	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Cobalt, Total	ND		mg/kg	0.50	0.05	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT

Project Name: ATLAS WHITE METAL **Lab Number:** L1622423

Project Number: HHE1601 **Report Date:** 07/26/16

Method Blank Analysis
Batch Quality Control

Copper, Total	ND		mg/kg	2.0	0.15	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Iron, Total	ND		mg/kg	200	21.	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Lead, Total	ND		mg/kg	0.60	0.07	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Magnesium, Total	ND		mg/kg	100	12.	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Manganese, Total	ND		mg/kg	2.0	0.44	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Nickel, Total	ND		mg/kg	1.0	0.22	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Potassium, Total	ND		mg/kg	100	15.	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Selenium, Total	ND		mg/kg	2.0	0.40	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Silver, Total	ND		mg/kg	0.50	0.04	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Sodium, Total	ND		mg/kg	150	12.	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Thallium, Total	ND		mg/kg	0.20	0.03	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Tin, Total	0.06	J	mg/kg	0.20	0.04	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Vanadium, Total	ND		mg/kg	1.0	0.38	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT
Zinc, Total	ND		mg/kg	10	2.6	10	07/22/16 05:35	07/25/16 09:13	1,6020A	TT

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02,09-10,15,17-18,25-26,33-34,43-47,51-53,56 Batch: WG915993-1										
Mercury, Total	ND		mg/kg	0.08	0.02	1	07/22/16 08:25	07/26/16 10:10	1,7471B	BV

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 57,59-60,65-67,71-72,74-76,78,83-85,89,91-93,96 Batch: WG915996-1										
Mercury, Total	ND		mg/kg	0.08	0.02	1	07/22/16 08:25	07/26/16 11:02	1,7471B	BV

Prep Information

Digestion Method: EPA 7471B

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 97,99-100,107,109-110 Batch: WG915997-1										
Mercury, Total	ND		mg/kg	0.08	0.02	1	07/22/16 08:25	07/22/16 10:38	1,7471B	BV

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: ATLAS WHITE METAL

Project Number: HHE1601

Lab Number: L1622423

Report Date: 07/26/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02,09-10,15,17-18,25-26,33-34,43-47,51-53,56 Batch: WG915983-2 SRM Lot Number: D089-540								
Aluminum, Total	80		-		52-147	-		20
Antimony, Total	162		-		1-197	-		20
Arsenic, Total	104		-		80-120	-		20
Barium, Total	100		-		83-117	-		20
Beryllium, Total	107		-		82-117	-		20
Cadmium, Total	111		-		82-117	-		20
Calcium, Total	81		-		81-119	-		20
Chromium, Total	99		-		79-121	-		20
Cobalt, Total	111		-		83-117	-		20
Copper, Total	103		-		80-119	-		20
Iron, Total	103		-		45-155	-		20
Lead, Total	105		-		81-119	-		20
Magnesium, Total	88		-		76-123	-		20
Manganese, Total	102		-		81-119	-		20
Nickel, Total	107		-		82-117	-		20
Potassium, Total	89		-		71-128	-		20
Selenium, Total	99		-		78-121	-		20
Silver, Total	116		-		75-125	-		20
Sodium, Total	112		-		71-128	-		20
Thallium, Total	99		-		79-120	-		20
Tin, Total	111		-		78-123	-		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ATLAS WHITE METAL

Project Number: HHE1601

Lab Number: L1622423

Report Date: 07/26/16

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02,09-10,15,17-18,25-26,33-34,43-47,51-53,56 Batch: WG915983-2 SRM Lot Number: D089-540					
Vanadium, Total	100	-	77-122	-	20
Zinc, Total	104	-	80-119	-	20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ATLAS WHITE METAL

Project Number: HHE1601

Lab Number: L1622423

Report Date: 07/26/16

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 57,59-60,65-67,71-72,74-76,78 Batch: WG915984-2 SRM Lot Number: D089-540					
Aluminum, Total	84	-	52-147	-	20
Antimony, Total	171	-	1-197	-	20
Arsenic, Total	118	-	80-120	-	20
Barium, Total	93	-	83-117	-	20
Beryllium, Total	107	-	82-117	-	20
Cadmium, Total	103	-	82-117	-	20
Calcium, Total	101	-	81-119	-	20
Chromium, Total	84	-	79-121	-	20
Cobalt, Total	111	-	83-117	-	20
Copper, Total	96	-	80-119	-	20
Iron, Total	123	-	45-155	-	20
Lead, Total	112	-	81-119	-	20
Magnesium, Total	97	-	76-123	-	20
Manganese, Total	111	-	81-119	-	20
Nickel, Total	112	-	82-117	-	20
Potassium, Total	71	-	71-128	-	20
Selenium, Total	117	-	78-121	-	20
Silver, Total	109	-	75-125	-	20
Sodium, Total	100	-	71-128	-	20
Thallium, Total	99	-	79-120	-	20
Tin, Total	111	-	78-123	-	20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ATLAS WHITE METAL

Project Number: HHE1601

Lab Number: L1622423

Report Date: 07/26/16

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 57,59-60,65-67,71-72,74-76,78 Batch: WG915984-2 SRM Lot Number: D089-540					
Vanadium, Total	107	-	77-122	-	20
Zinc, Total	100	-	80-119	-	20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ATLAS WHITE METAL

Project Number: HHE1601

Lab Number: L1622423

Report Date: 07/26/16

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 83-85,89,91-93,96-97,99-100,107,109-110 Batch: WG915985-2 SRM Lot Number: D089-540					
Aluminum, Total	79	-	48-151	-	20
Antimony, Total	133	-	1-208	-	20
Arsenic, Total	95	-	79-121	-	20
Barium, Total	103	-	83-117	-	20
Beryllium, Total	98	-	83-117	-	20
Cadmium, Total	95	-	83-117	-	20
Calcium, Total	92	-	81-119	-	20
Chromium, Total	106	-	80-120	-	20
Cobalt, Total	91	-	84-115	-	20
Copper, Total	84	-	81-118	-	20
Iron, Total	103	-	45-155	-	20
Lead, Total	107	-	81-117	-	20
Magnesium, Total	88	-	76-124	-	20
Manganese, Total	86	-	81-117	-	20
Nickel, Total	90	-	83-117	-	20
Potassium, Total	106	-	71-129	-	20
Selenium, Total	90	-	78-121	-	20
Silver, Total	106	-	75-124	-	20
Sodium, Total	107	-	71-128	-	20
Thallium, Total	99	-	80-120	-	20
Tin, Total	105	-	77-123	-	20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ATLAS WHITE METAL

Project Number: HHE1601

Lab Number: L1622423

Report Date: 07/26/16

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 83-85,89,91-93,96-97,99-100,107,109-110 Batch: WG915985-2 SRM Lot Number: D089-540					
Vanadium, Total	100	-	78-122	-	20
Zinc, Total	**80**	-	82-118	-	20
Total Metals - Mansfield Lab Associated sample(s): 01-02,09-10,15,17-18,25-26,33-34,43-47,51-53,56 Batch: WG915993-2 SRM Lot Number: D089-540					
Mercury, Total	94	-	57-143	-	
Total Metals - Mansfield Lab Associated sample(s): 57,59-60,65-67,71-72,74-76,78,83-85,89,91-93,96 Batch: WG915996-2 SRM Lot Number: D089-540					
Mercury, Total	87	-	57-143	-	
Total Metals - Mansfield Lab Associated sample(s): 97,99-100,107,109-110 Batch: WG915997-2 SRM Lot Number: D089-540					
Mercury, Total	94	-	57-143	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02,09-10,15,17-18,25-26,33-34,43-47,51-53,56 QC Batch ID: WG915983-4 QC Sample: L1622423-01 Client ID: SB01-01												
Aluminum, Total	5300	1730	4300J	**248**	Q	-	-		75-125	-		20
Antimony, Total	0.73J	43.4	43	99		-	-		75-125	-		20
Arsenic, Total	3.8	10.4	15	108		-	-		75-125	-		20
Barium, Total	60.	173	220	92		-	-		75-125	-		20
Beryllium, Total	0.32	4.34	4.6	106		-	-		75-125	-		20
Cadmium, Total	1.1	4.42	5.5	99		-	-		75-125	-		20
Calcium, Total	42000	867	84000	**4840**	Q	-	-		75-125	-		20
Chromium, Total	24.	17.3	36	**69**	Q	-	-		75-125	-		20
Cobalt, Total	4.9	43.4	49	102		-	-		75-125	-		20
Copper, Total	31.	21.7	48	78		-	-		75-125	-		20
Iron, Total	12000	867	10000	**0**	Q	-	-		75-125	-		20
Lead, Total	39.	44.2	74	79		-	-		75-125	-		20
Magnesium, Total	6500	867	30000	**2710**	Q	-	-		75-125	-		20
Manganese, Total	200	43.4	220	**46**	Q	-	-		75-125	-		20
Nickel, Total	23.	43.4	60	85		-	-		75-125	-		20
Potassium, Total	870	867	1500	**73**	Q	-	-		75-125	-		20
Selenium, Total	3.5	10.4	22	**178**	Q	-	-		75-125	-		20
Silver, Total	0.13J	26	29	111		-	-		75-125	-		20
Sodium, Total	210	867	1100	103		-	-		75-125	-		20
Thallium, Total	0.34	10.4	10	93		-	-		75-125	-		20
Tin, Total	3.6	86.7	91	101		-	-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02,09-10,15,17-18,25-26,33-34,43-47,51-53,56 QC Batch ID: WG915983-4 QC Sample: L1622423-01 Client ID: SB01-01										
Vanadium, Total	23.	43.4	63	92		-	-	75-125	-	20
Zinc, Total	180	43.4	170	**0**	Q	-	-	75-125	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 57,59-60,65-67,71-72,74-76,78 QC Batch ID: WG915984-3 WG915984-4 QC Sample: L1622423-67 Client ID: SB013-03												
Aluminum, Total	3700	1910	4000	**16**	Q	3900	**11**	Q	75-125	3		20
Antimony, Total	6.7	47.8	59	109		55	103		75-125	7		20
Arsenic, Total	23.	11.5	45	**192**	Q	39	**142**	Q	75-125	14		20
Barium, Total	110	191	350	**126**	Q	320	112		75-125	9		20
Beryllium, Total	0.34J	4.78	5.7	119		5.8	124		75-125	2		20
Cadmium, Total	0.63	4.87	6.7	124		5.9	110		75-125	13		20
Calcium, Total	3800	956	5100	**136**	Q	4600	85		75-125	10		20
Chromium, Total	18.	19.1	44	**136**	Q	39	112		75-125	12		20
Cobalt, Total	4.9	47.8	57	109		51	98		75-125	11		20
Copper, Total	1200	23.9	1300	**418**	Q	1400	**852**	Q	75-125	7		20
Iron, Total	16000	956	32000	**1670**	Q	29000	**1380**	Q	75-125	10		20
Lead, Total	600	48.7	610	**20**	Q	550	**0**	Q	75-125	10		20
Magnesium, Total	1900	956	3400	**157**	Q	3100	**128**	Q	75-125	9		20
Manganese, Total	130	47.8	220	**188**	Q	200	**149**	Q	75-125	10		20
Nickel, Total	24.	47.8	89	**136**	Q	83	**126**	Q	75-125	7		20
Potassium, Total	970	956	1600	**66**	Q	1400	**46**	Q	75-125	13		20
Selenium, Total	1.4J	11.5	24	**209**	Q	12	106		75-125	**67**	Q	20
Silver, Total	0.50J	28.7	33	115		30	106		75-125	10		20
Sodium, Total	75.J	956	1000	105		830J	88		75-125	19		20
Thallium, Total	0.19J	11.5	10	87		9.8	87		75-125	2		20
Tin, Total	120	95.6	200	84		170	**53**	Q	75-125	16		20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 57,59-60,65-67,71-72,74-76,78 QC Batch ID: WG915984-3 WG915984-4 QC Sample: L1622423-67 Client ID: SB013-03										
Vanadium, Total	13.	47.8	62	102		56	92	75-125	10	20
Zinc, Total	490	47.8	590	**209**	Q	540	106	75-125	9	20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 57,59-60,65-67,71-72,74-76,78 QC Batch ID: WG915984-7 WG915984-8 QC Sample: L1622423-78 Client ID: SB014-04												
Aluminum, Total	2700	1760	3300	**34**	Q	3500	**45**	Q	75-125	6		20
Antimony, Total	1.1	44	48	107		45	99		75-125	6		20
Arsenic, Total	12.	10.6	22	95		24	113		75-125	9		20
Barium, Total	75.	176	280	116		300	**127**	Q	75-125	7		20
Beryllium, Total	0.23J	4.4	5.1	116		5.2	117		75-125	2		20
Cadmium, Total	0.18J	4.48	5.6	125		5.4	119		75-125	4		20
Calcium, Total	9700	879	8600	**0**	Q	6500	**0**	Q	75-125	**28**	Q	20
Chromium, Total	10.	17.6	26	91		27	96		75-125	4		20
Cobalt, Total	4.6	44	50	103		50	102		75-125	0		20
Copper, Total	76.	22	95	86		87	**50**	Q	75-125	9		20
Iron, Total	8500	879	7200	**0**	Q	9400	101		75-125	**27**	Q	20
Lead, Total	330	44.8	380	111		620	**641**	Q	75-125	**48**	Q	20
Magnesium, Total	1200	879	2000	91		2200	113		75-125	10		20
Manganese, Total	110	44	130	**45**	Q	200	**203**	Q	75-125	**42**	Q	20
Nickel, Total	16.	44	61	102		70	122		75-125	14		20
Potassium, Total	390	879	1300	103		1400	114		75-125	7		20
Selenium, Total	1.5J	10.6	17	**161**	Q	11	103		75-125	**43**	Q	20
Silver, Total	0.13J	26.4	28	106		30	113		75-125	7		20
Sodium, Total	170	879	920	105		840	95		75-125	9		20
Thallium, Total	0.10J	10.6	9.5	90		8.8	83		75-125	8		20
Tin, Total	14.	87.9	100	98		100	97		75-125	0		20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 57,59-60,65-67,71-72,74-76,78 QC Batch ID: WG915984-7 WG915984-8 QC Sample: L1622423-78 Client ID: SB014-04											
Vanadium, Total	12.	44	53	93		58	104		75-125	9	20
Zinc, Total	130	44	160	**68**	Q	190	**135**	Q	75-125	17	20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 83-85,89,91-93,96-97,99-100,107,109-110 QC Batch ID: WG915985-4 QC Sample: L1622423-83 Client ID: SB04-01										
Aluminum, Total	5600	1720	6500	**52**	Q	-	-	75-125	-	20
Antimony, Total	0.15J	42.9	41	96		-	-	75-125	-	20
Arsenic, Total	2.8	10.3	15	118		-	-	75-125	-	20
Barium, Total	30.	172	210	105		-	-	75-125	-	20
Beryllium, Total	0.36	4.29	5.1	110		-	-	75-125	-	20
Cadmium, Total	0.09J	4.37	5.4	123		-	-	75-125	-	20
Calcium, Total	2000	858	3100	**128**	Q	-	-	75-125	-	20
Chromium, Total	11.	17.2	32	122		-	-	75-125	-	20
Cobalt, Total	5.0	42.9	52	110		-	-	75-125	-	20
Copper, Total	19.	21.4	42	107		-	-	75-125	-	20
Iron, Total	11000	858	12000	116		-	-	75-125	-	20
Lead, Total	29.	43.7	80	116		-	-	75-125	-	20
Magnesium, Total	3000	858	3900	105		-	-	75-125	-	20
Manganese, Total	230	42.9	310	**186**	Q	-	-	75-125	-	20
Nickel, Total	26.	42.9	74	112		-	-	75-125	-	20
Potassium, Total	970	858	1900	108		-	-	75-125	-	20
Selenium, Total	3.4	10.3	17	**132**	Q	-	-	75-125	-	20
Silver, Total	0.04J	25.7	30	116		-	-	75-125	-	20
Sodium, Total	260	858	1400	**133**	Q	-	-	75-125	-	20
Thallium, Total	0.10J	10.3	11	107		-	-	75-125	-	20
Tin, Total	1.2	85.8	96	110		-	-	75-125	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 83-85,89,91-93,96-97,99-100,107,109-110 QC Batch ID: WG915985-4 QC Sample: L1622423-83 Client ID: SB04-01											
Vanadium, Total	20.	42.9	69	114		-	-		75-125	-	20
Zinc, Total	33.	42.9	77	102		-	-		75-125	-	20
Total Metals - Mansfield Lab Associated sample(s): 01-02,09-10,15,17-18,25-26,33-34,43-47,51-53,56 QC Batch ID: WG915993-4 QC Sample: L1622423-01 Client ID: SB01-01											
Mercury, Total	0.06J	0.145	0.21	**145**	Q	-	-		80-120	-	20
Total Metals - Mansfield Lab Associated sample(s): 57,59-60,65-67,71-72,74-76,78,83-85,89,91-93,96 QC Batch ID: WG915996-3 WG915996-4 QC Sample: L1622423-67 Client ID: SB013-03											
Mercury, Total	2.7	0.15	1.1	**0**	Q	1.3	**0**	Q	80-120	17	20
Total Metals - Mansfield Lab Associated sample(s): 57,59-60,65-67,71-72,74-76,78,83-85,89,91-93,96 QC Batch ID: WG915996-5 WG915996-6 QC Sample: L1622423-78 Client ID: SB014-04											
Mercury, Total	0.96	0.145	1.2	**165**	Q	1.1	92		80-120	9	20
Total Metals - Mansfield Lab Associated sample(s): 97,99-100,107,109-110 QC Batch ID: WG915997-4 QC Sample: L1622648-01 Client ID: MS Sample											
Mercury, Total	0.03J	0.178	0.21	118		-	-		80-120	-	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02,09-10,15,17-18,25-26,33-34,43-47,51-53,56 QC Batch ID: WG915983-3 QC Sample: L1622423-01 Client ID: SB01-01						
Calcium, Total	42000	41000	mg/kg	2		20
Manganese, Total	200	220	mg/kg	10		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Parameter	Native Sample	Duplicate Sample	Units	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02,09-10,15,17-18,25-26,33-34,43-47,51-53,56 QC Batch ID: WG915983-3 QC Sample: L1622423-01 Client ID: SB01-01						
Antimony, Total	0.73J	0.57J	mg/kg	NC		20
Arsenic, Total	3.8	4.1	mg/kg	8		20
Barium, Total	60.	48	mg/kg	**22**	Q	20
Beryllium, Total	0.32	0.34	mg/kg	6		20
Cadmium, Total	1.1	0.76	mg/kg	**37**	Q	20
Chromium, Total	24.	20	mg/kg	18		20
Iron, Total	12000	13000	mg/kg	8		20
Lead, Total	39.	28	mg/kg	**33**	Q	20
Magnesium, Total	6500	6800	mg/kg	5		20
Potassium, Total	870	660	mg/kg	**27**	Q	20
Selenium, Total	3.5	4.0	mg/kg	13		20
Silver, Total	0.13J	0.09J	mg/kg	NC		20
Sodium, Total	210	210	mg/kg	0		20
Thallium, Total	0.34	0.07J	mg/kg	NC		20
Tin, Total	3.6	1.8	mg/kg	**67**	Q	20
Vanadium, Total	23.	24	mg/kg	4		20
Zinc, Total	180	130	mg/kg	**32**	Q	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Parameter	Native Sample	Duplicate Sample	Units	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02,09-10,15,17-18,25-26,33-34,43-47,51-53,56 QC Batch ID: WG915983-3 QC Sample: L1622423-01 Client ID: SB01-01						
Cobalt, Total	4.9	5.4	mg/kg	10		20
Copper, Total	31.	26	mg/kg	18		20
Nickel, Total	23.	17	mg/kg	**30**	Q	20
Total Metals - Mansfield Lab Associated sample(s): 01-02,09-10,15,17-18,25-26,33-34,43-47,51-53,56 QC Batch ID: WG915983-3 QC Sample: L1622423-01 Client ID: SB01-01						
Aluminum, Total	5300	5900	mg/kg	0		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Parameter	Native Sample	Duplicate Sample	Units	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 83-85,89,91-93,96-97,99-100,107,109-110 QC Batch ID: WG915985-3 QC Sample: L1622423-83 Client ID: SB04-01						
Antimony, Total	0.15J	0.22J	mg/kg	NC		20
Arsenic, Total	2.8	3.3	mg/kg	16		20
Barium, Total	30.	30	mg/kg	0		20
Beryllium, Total	0.36	0.32	mg/kg	12		20
Cadmium, Total	0.09J	0.10J	mg/kg	NC		20
Calcium, Total	2000	1500	mg/kg	**29**	Q	20
Chromium, Total	11.	12	mg/kg	9		20
Cobalt, Total	5.0	5.3	mg/kg	6		20
Copper, Total	19.	17	mg/kg	11		20
Iron, Total	11000	11000	mg/kg	0		20
Lead, Total	29.	33	mg/kg	13		20
Magnesium, Total	3000	2700	mg/kg	11		20
Nickel, Total	26.	23	mg/kg	12		20
Potassium, Total	970	790	mg/kg	20		20
Selenium, Total	3.4	3.7	mg/kg	8		20
Silver, Total	0.04J	0.06J	mg/kg	NC		20
Sodium, Total	260	310	mg/kg	18		20
Thallium, Total	0.10J	0.06J	mg/kg	NC		20
Tin, Total	1.2	1.3	mg/kg	8		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 83-85,89,91-93,96-97,99-100,107,109-110 QC Batch ID: WG915985-3 QC Sample: L1622423-83 Client ID: SB04-01					
Vanadium, Total	20.	18	mg/kg	11	20
Zinc, Total	33.	34	mg/kg	3	20
Total Metals - Mansfield Lab Associated sample(s): 83-85,89,91-93,96-97,99-100,107,109-110 QC Batch ID: WG915985-3 QC Sample: L1622423-83 Client ID: SB04-01					
Manganese, Total	230	240	mg/kg	4	20
Total Metals - Mansfield Lab Associated sample(s): 83-85,89,91-93,96-97,99-100,107,109-110 QC Batch ID: WG915985-3 QC Sample: L1622423-83 Client ID: SB04-01					
Aluminum, Total	5600	5400	mg/kg	3.6	20
Total Metals - Mansfield Lab Associated sample(s): 01-02,09-10,15,17-18,25-26,33-34,43-47,51-53,56 QC Batch ID: WG915993-3 QC Sample: L1622423-01 Client ID: SB01-01					
Mercury, Total	0.06J	0.05J	mg/kg	NC	20
Total Metals - Mansfield Lab Associated sample(s): 97,99-100,107,109-110 QC Batch ID: WG915997-3 QC Sample: L1622648-01 Client ID: DUP Sample					
Mercury, Total	0.03J	0.03J	mg/kg	NC	20

INORGANICS
&
MISCELLANEOUS

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-01
Client ID: SB01-01
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/18/16 10:36
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	90.8		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-02
Client ID: SB01-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/18/16 10:58
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	92.6		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-09
Client ID: SB02-01
Sample Location: Not Specified
Matrix: Soil
Date Collected: 07/18/16 12:07
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	92.9		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-10
Client ID: SB02-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/18/16 12:59
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	91.8		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-15
Client ID: SB02-07
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/18/16 13:06
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	83.8		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-17
Client ID: SB03-01
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/18/16 13:18
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	90.2		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-18
Client ID: SB03-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/18/16 13:20
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	89.7		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-25
Client ID: SB07-01
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 09:24
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	96.7		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-26
Client ID: SB07-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 09:26
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	87.2		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-33
Client ID: SB08-01
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 10:04
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	95.0		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-34
Client ID: SB08-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 10:06
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	88.3		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-43
Client ID: SB09-01
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 10:51
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	94.3		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-44
Client ID: SB09-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 10:53
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	93.8		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-45
Client ID: SB09-03
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 10:55
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	89.2		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-46
Client ID: SB09-04
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 10:57
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	82.1		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-47
Client ID: SB09-05
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 11:00
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	89.5		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-51
Client ID: SB010-01
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 11:27
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	91.2		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-52
Client ID: SB010-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 11:29
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	75.5		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-53
Client ID: SB010-03
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 11:31
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	83.8		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-56
Client ID: SB010-06
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 11:55
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	77.6		%	0.100	0.100	1	-	07/22/16 05:37	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-57
Client ID: SB010-07
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 11:57
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	80.5		%	0.100	0.100	1	-	07/22/16 05:39	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-59
Client ID: SB011-01
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 12:11
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	93.5		%	0.100	0.100	1	-	07/22/16 05:39	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-60
Client ID: SB011-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 12:13
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	86.6		%	0.100	0.100	1	-	07/22/16 05:39	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-65
Client ID: SB013-01
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 14:49
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	89.6		%	0.100	0.100	1	-	07/22/16 05:39	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-66
Client ID: SB013-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 14:50
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	86.9		%	0.100	0.100	1	-	07/22/16 05:39	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-67
Client ID: SB013-03
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 14:51
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	83.5		%	0.100	0.100	1	-	07/22/16 05:39	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-71
Client ID: SB013-07
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 15:11
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	74.9		%	0.100	0.100	1	-	07/22/16 05:39	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-72
Client ID: SB9003-07
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 15:11
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	70.1		%	0.100	0.100	1	-	07/22/16 05:39	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-74
Client ID: SB014-01
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 15:35
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	95.9		%	0.100	0.100	1	-	07/22/16 05:39	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-75
Client ID: SB014-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 15:37
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	87.7		%	0.100	0.100	1	-	07/22/16 05:39	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-76
Client ID: SB90014-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 15:37
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	86.6		%	0.100	0.100	1	-	07/22/16 05:39	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-78
Client ID: SB014-04
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 15:41
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	86.6		%	0.100	0.100	1	-	07/22/16 05:39	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-83
Client ID: SB04-01
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/18/16 15:15
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	92.3		%	0.100	0.100	1	-	07/26/16 11:02	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-84
Client ID: SB04-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/18/16 15:17
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	92.3		%	0.100	0.100	1	-	07/26/16 11:02	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-85
Client ID: SB04-03
Sample Location: Not Specified
Matrix: Soil
Date Collected: 07/18/16 15:19
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	90.0		%	0.100	0.100	1	-	07/26/16 11:02	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-89
Client ID: SB04-07
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/18/16 16:00
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	79.8		%	0.100	0.100	1	-	07/26/16 11:02	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-91
Client ID: SB05-01
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 08:26
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	88.1		%	0.100	0.100	1	-	07/26/16 11:02	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-92
Client ID: SB05-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 08:28
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	91.4		%	0.100	0.100	1	-	07/26/16 11:02	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-93
Client ID: SB05-03
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 08:30
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	91.9		%	0.100	0.100	1	-	07/26/16 11:02	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-96
Client ID: SB05-06
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 08:45
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	83.1		%	0.100	0.100	1	-	07/26/16 11:02	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-97
Client ID: SB05-07
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 08:48
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	85.5		%	0.100	0.100	1	-	07/26/16 11:02	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-99
Client ID: SB06-01
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 08:56
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	96.1		%	0.100	0.100	1	-	07/26/16 11:02	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-100
Client ID: SB06-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 08:58
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	96.9		%	0.100	0.100	1	-	07/26/16 11:02	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-107
Client ID: SB011-07
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 12:36
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	88.7		%	0.100	0.100	1	-	07/26/16 11:02	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601
Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-109
Client ID: SB012-01
Sample Location: Not Specified
Matrix: Soil
Date Collected: 07/19/16 12:50
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	95.4		%	0.100	0.100	1	-	07/26/16 11:02	121,2540G	SP

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

SAMPLE RESULTS

Lab ID: L1622423-110
Client ID: SB012-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 07/19/16 12:52
Date Received: 07/20/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	92.3		%	0.100	0.100	1	-	07/26/16 11:02	121,2540G	SP

Lab Duplicate Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-02,09-10,15,17-18,25-26,33-34,43-47,51-53,56 QC Batch ID: WG916010-1 QC Sample: L1622423-01 Client ID: SB01-01						
Solids, Total	90.8	90.8	%	0		10
General Chemistry - Mansfield Lab Associated sample(s): 57,59-60,65-67,71-72,74-76,78 QC Batch ID: WG916011-1 QC Sample: L1622423-57 Client ID: SB010-07						
Solids, Total	80.5	79.3	%	2		10
General Chemistry - Mansfield Lab Associated sample(s): 83-85,89,91-93,96-97,99-100,107,109-110 QC Batch ID: WG917064-1 QC Sample: L1622423-100 Client ID: SB06-02						
Solids, Total	96.9	97.1	%	0		10

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1622423-01A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-02A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-03A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-04A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-05A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-06A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-07A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-08A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)

*Values in parentheses indicate holding time in days

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1622423-09A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-100A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-101A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-102A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-103A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	HOLD-METAL(180)
L1622423-104A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	HOLD-METAL(180)
L1622423-105A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	HOLD-METAL(180)
L1622423-106A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	HOLD-METAL(180)
L1622423-107A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-108A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	HOLD-METAL(180)

*Values in parentheses indicate holding time in days

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1622423-109A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-10A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-110A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-111A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	HOLD-METAL(180)
L1622423-112A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	HOLD-METAL(180)
L1622423-11A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-12A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-13A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-14A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)

*Values in parentheses indicate holding time in days

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1622423-15A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-16A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-17A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-18A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-19A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-20A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-21A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-22A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-23A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-24A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)

*Values in parentheses indicate holding time in days

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1622423-25A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-26A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-27A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-28A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-29A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-30A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-31A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-32A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-33A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1622423-34A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-35A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-36A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-37A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-38A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-39A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-40A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-41A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-42A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-43A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-44A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1622423-45A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-46A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-47A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-48A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-49A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-50A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-51A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1622423-52A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-53A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-54A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	HOLD-METAL(180)
L1622423-55A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	HOLD-METAL(180)
L1622423-56A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-57A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-58A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	HOLD-METAL(180)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1622423-59A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-60A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-61A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	HOLD-METAL(180)
L1622423-62A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	HOLD-METAL(180)
L1622423-63A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	HOLD-METAL(180)
L1622423-64A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	HOLD-METAL(180)
L1622423-65A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-66A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1622423-67A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),MS/MSD(),CO-6020T(180)
L1622423-67A1	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),MS/MSD(),CO-6020T(180)
L1622423-67A2	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),MS/MSD(),CO-6020T(180)
L1622423-67A3	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),MS/MSD(),CO-6020T(180)
L1622423-68A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-69A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-70A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1622423-71A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-72A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-73A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-74A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-75A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)

*Values in parentheses indicate holding time in days

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Container Information

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L1622423-76A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-77A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-78A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),MS/MSD(),CO-6020T(180)
L1622423-78A1	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),MS/MSD(),CO-6020T(180)
L1622423-78A2	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),MS/MSD(),CO-6020T(180)

*Values in parentheses indicate holding time in days

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1622423-78A3	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),MS/MSD(),CO-6020T(180)
L1622423-79A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-80A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-81A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-82A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-83A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-84A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-85A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)

*Values in parentheses indicate holding time in days

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1622423-86A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-87A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-88A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-89A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-90A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-91A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-92A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-93A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-94A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)

*Values in parentheses indicate holding time in days

Project Name: ATLAS WHITE METAL
Project Number: HHE1601

Lab Number: L1622423
Report Date: 07/26/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1622423-95A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-96A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-97A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1622423-98A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	HOLD-METAL(180)
L1622423-99A	Metals Only - Glass 60mL/2oz unp	A	N/A	3.0	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),A2-TS(7),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)

*Values in parentheses indicate holding time in days

Project Name:	ATLAS WHITE METAL	**Lab Number:**	L1622423
Project Number:	HHE1601	**Report Date:**	07/26/16

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: DU Report with 'J' Qualifiers

Project Name:	ATLAS WHITE METAL	**Lab Number:**	L1622423
Project Number:	HHE1601	**Report Date:**	07/26/16

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	ATLAS WHITE METAL	**Lab Number:**	L1622423
Project Number:	HHE1601	**Report Date:**	07/26/16

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene
EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene
EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.
EPA 1010A: NPW: Ignitability
EPA 6010C: NPW: Strontium; SCM: Strontium
EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation
EPA 9038: NPW: Sulfate
EPA 9050A: NPW: Specific Conductance
EPA 9056: NPW: Chloride, Nitrate, Sulfate
EPA 9065: NPW: Phenols
EPA 9251: NPW: Chloride
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam
EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane
SM 2540D: TSS
SM2540G: SCM: Percent Solids
EPA 1631E: SCM: Mercury
EPA 7474: SCM: Mercury
EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA 8270-SIM: NPW and SCM: Alkylated PAHs.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.
Biological Tissue Matrix: ***8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A:*** Lead***; 8270D:*** bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F,**
EPA 353.2: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

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Date Rec'd in Lab: 7/21/16

ALPHA Job #: L1622423

Client Information

Client: PW Grosser (Gsell)
Address: 630 Johnson Ave
Phone: 631-589-6353
Fax:
Email: rkampf@pwgrosser.com

Project Information

Project Name: Atlas Waste MCAL
Project Location:
Project #: HHF 1681
(Use Project name as Project #) ☐
Project Manager: Rich Vinyl
ALPHAQuote #:

Turn-Around Time

Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☐ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

TAL Metal + TAL

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL Metal + TAL	Sample Specific Comments
22423 01	SB01 - 01	7/18	10:56	Soil	MG	X	Run
02	SB01 - 02		10:58				Run
03	SB01 - 03		10:59				Hold
04	SB01 - 04		11:00				Hold
05	SB01 - 05		11:52				Hold
06	SB01 - 06		11:54				Hold
07	SB01 - 07		11:56				Hold
08	SB01 - 08		11:58				Hold
09	SB02 - 01		12:01				Run
10	SB02 - 02		12:04				Run

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type										
Preservative										

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/20 930	[signature] DAL	7-20-16 930
[signature]	7-20-16 1800	[signature]	7-20-16 1800
[signature]		[signature]	7/21/16 0030

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 2 of 89

Date Rec'd in Lab: 7/21/16

ALPHA Job #: L1622423

Client Information
Client:
Address:
Phone:
Fax:
Email:

Project Information
Project Name:
Project Location:
Project #
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☐ Same as Client Info
PO #

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

TAL-Metals

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL-Metals	Total Bottle	Sample Specific Comments
22423-11	SB02-03	7/18	12:11	Soil	MG	X		Hold
-12	SB02-04		12:13					Hold
-13	SB02-05		1306					Hold
-14	SB02-06		1304					Hold
-15	SB02-07		1506					Run
-16	SB02-08		1308					Hold
-17	SB03-01		1318					Run
-18	SB03-02		1320					Run
-19	SB03-03		1322					Hold
-20	SB03-04		1324					Hold

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type												
Preservative												

Relinquished By:	Date/Time	Received By:	Date/Time
	7/20 930		7/20-16 930
	7-20-16 1800		7-20-16 1800
			7/21/16 0030

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Form No: 01-25 HC (rev. 30-Sept-2013)

ALPHA ANALYTICAL

NEW YORK CHAIN OF CUSTODY

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Service Centers
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Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 3 of 9

Date Rec'd in Lab: 7/21/16

ALPHA Job #: L1622423

Client Information
Client:
Address:
Phone:
Fax:
Email:

Project Information
Project Name:
Project Location:
Project #
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☐ Same as Client Info
PO #

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS
TAL Metals + Hg

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL Metals + Hg	Sample Specific Comments
22423-21	SB06-05	7/14	9:05	Soil	MB	X	Hold
-22	SB06-06		9:17				Hold
-23	SB06-07		9:19				Hold
-24	SB06-08		9:21				Hold
-25	SB07-01		9:24				Run
-26	SB01-02		9:26				Run
27	SB07-03		9:28				Hold
28	SB07-04		9:30				Hold
29	SB07-05		9:34				Hold
30	SB07-06		9:37				Hold

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type										
Preservative										

Relinquished By:	Date/Time	Received By:	Date/Time
	7/20 930		7-20-16 930
	72016 1800	Tom Tobin	7-20-16 1800
Tom Tobin			7/21/16 0800

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Page 4 of 9

Date Rec'd in Lab: 7/21/16

ALPHA Job #: L1622423

Client Information
Client:
Address:
Phone:
Fax:
Email:

Project Information
Project Name:
Project Location:
Project #
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☐ Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS
TAL Metals ✓

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
22423-31	SB07-07	7/19	9:37	Soil	MG	Hold
32	SB07-08		9:41			Hold
33	SB08-01		10:04			Run
34	SB08-02		10:06			Run
35	SB08-03		10:08			Hold
36	SB08-04		10:10			Hold
37	SB08-05		10:31			Hold
38	SB08-06		10:33			Hold
39	SB06-07		10:35			Hold
40	SB08-08		10:37			Hold

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/20 930	[signature] AAL	7-20-16 930
[signature]	7-20-16 1800	Tom Tobin	7-20-16 1800
Tom Tobin		[signature]	7/21/16 0830

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Form No: 01-25 HC (rev. 30-Sept-2013)

ALPHA ANALYTICAL

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581 — 8 Walkup Dr. — TEL: 508-898-9220 — FAX: 508-898-9193

Mansfield, MA 02048 — 320 Forbes Blvd — TEL: 508-822-9300 — FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 2 of 5 of 9

Date Rec'd in Lab: 9/21/16

ALPHA Job #: L1622423

Client Information
Client:
Address:
Phone:
Fax:
Email:

Project Information
Project Name:
Project Location:
Project #
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☐ Same as Client Info
PO #

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

TAL Metals + TCN

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL Metals + TCN	Sample Specific Comments
22423 41	SB08 - 09	7/19	10:34	Soil	MD	X	Hold
42	SB08 - 10		10:41				Hold
43	SB09 - 01		[illegible]				Run
44	SB09 - 02		10:53				Run
45	SB01 - 03		10:55				Run
46	SB01 - 04		10:57				Run
47	SB01 - 05		11:00				Run
48	SB09 - 06		11:12				Hold
49	SB01 - 07		11:14				Hold
50	SB09 - 08		11:16				Hold

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type										
Preservative										

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/20 930	[signature] AAL	7-20-16 930
[signature]	7-20-16 1800	[signature]	7-20-16 1800
[signature]		[signature]	7/21/16 0030

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NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

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FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 6 of 9

Date Rec'd in Lab: 7/21/16

ALPHA Job #: L1622423

Client Information
Client:
Address:
Phone:
Fax:
Email:

Project Information
Project Name:
Project Location:
Project #
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☐ Same as Client Info
PO #

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

TAL Metals + TCN

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL Metals + TCN	Sample Specific Comments
22423-51	SB010-01	7/19	1257	Soil	MG	X	Run
52	SB010-02		1129				Run
53	SB010-03		1151				Run
54	SB010-04		1153				Hold
55	SB010-05		1153				Hold
56	SB010-06		1155				Run
57	SB010-07		1157				Run
58	SB00-08		1159				Hold
59	SB011-01		1211				Run
60	SB011-02		1213				Run

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type										
Preservative										

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	7/20 230	[illegible]	7-20-16 930
[illegible]	7-20-16 1800	[illegible]	7-20-16 1800
[illegible]		[illegible]	7/21/16 0030

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320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-9288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 6 of 9

Date Rec'd in Lab: 7/21/16

ALPHA Job #: L1622423

Client Information
Client:
Address:
Phone:
Fax:
Email:

Project Information
Project Name:
Project Location:
Project #
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☐ Same as Client Info
PO #

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS
TAL Metals

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL Metals	Total Bottle	Sample Specific Comments
22423 01	SB012-05	7/19	0957	Soil	MB	X		Hold
02	SB012-06		1300					Hold
03	SB014-07		1302					Hold
04	SB012-08		1304					Hold
05	SB013-01		1449					Run
06	SB013-02		1450					Run
07	SB013-03 (MS/MSD)		1457					Run
08	SB013-04		1455					Hold
09	SB013-05		1507					Hold
10	SB013-06		1509					Hold

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type								
Preservative								

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	7/20 430	[illegible]	7-20-16 430
[illegible]	7-20-16 1800	[illegible]	7-20-16 1800
[illegible]		[illegible]	7/21/16 0830

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NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

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FAX: 508-822-3288

Service Centers
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Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 2 of 4

Date Rec'd in Lab: 7/21/16

ALPHA Job #: L1622423

Client Information
Client:
Address:
Phone:
Fax:
Email:

Project Information
Project Name:
Project Location:
Project #
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☐ Same as Client Info
PO #

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS
TAL Metals + Hg

Sample Filtration
☐ **Done**
☐ **Lab to do**
Preservation
☐ **Lab to do**
(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL Metals + Hg	Sample Specific Comments
22423-71	SB013-07	7/19	1511	Soil	MG	X	RUN
72	~~SB~~ SB 00013-07		1511				RUN
73	SB013-08		1533				Hold
74	SB0134-01		1537				RUN
75	SB014-02		1537				RUN
76	SB 00014-02		1537				RUN
77	SB014-03		1539				Hold
78	SB014-04 (MS/MSD)		1541				RUN
79	SB014-05		1611				Hold
80	SB014-06		1615				Hold

Container Type
Preservative

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	7/20 930	[illegible]	7-20-16 930
[illegible]	7-20-16 1800	[illegible]	7-20-16 1800
[illegible]		[illegible]	7/21/16 0070

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 3 of 4

Date Rec'd in Lab: 7/21/16

ALPHA Job #: L1622423

Client Information
Client:
Address:
Phone:
Fax:
Email:

Project Information
Project Name:
Project Location:
Project #
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☐ Same as Client Info
PO #

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS
TCL Metals +1,4

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TCL Metals +1,4	Sample Specific Comments
22423-81	SB014-07	7/19	1617	Soil	MG	X	Hold
82	SB014-08	↓	1619	↓	↓	X	Hold

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/20 930	[signature] ATC	7-20-16 930
[signature]	7-20-16 1800	[signature]	7-20-16 1800
[signature]		[signature]	7/21/16 0830

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

From @ 7/20 AM Pickup

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page of

Date Rec'd in Lab: 7/21/16

ALPHA Job #: L1622423

Client Information
Client: PWGC
Address:
Phone:
Fax:
Email:

Project Information
Project Name:
Project Location:
Project # HHE 1601
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☐ Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

TAL Metals 6010

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
22423 83	SB04-01	7/18	1515	Soil	MO	Run
84	SB04-02		1517			Run
85	SB04-03		1519			Run
86	SB04-04		1521			Hold
87	SB04-05		1526			Hold
88	SB04-06		1528			Hold
89	SB04-07		1600			Run
90	SB04-08		1602			Hold
91	SB05-01	7/19	826			Run
92	SB05-02		829			Run

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	7/20 1830		7/20/16 1840
Dave Hyman 7/20/16	1800	Tom Tobin	7-20-16 1800
Tom Tobin			7/21/16 0830

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

From 7/20 AM Pickup

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page of

Date Rec'd in Lab: 7/21/16

ALPHA Job #: L1622423

Client Information
Client: RWGC
Address:
Phone:
Fax:
Email:

Project Information
Project Name:
Project Location:
Project # HAFE1601
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☐ Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS
TCL VOC + 10 Tentatively Identified Compounds

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
22423-93	SB05-03	7/14	850	Soil	MG	Run
94	SB05-04		852			Hold
95	SB05-05		841			Hold
96	SB05-06		843			Run
97	SB05-07		848			Run
98	SB05-08		847			Hold
99	SB06-01		856			Run
100	SB06-02		858			Run
101	SB06-03		859			Hold
102	SB06-04		901			Hold

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	7/20 1838		7/20/16 1840
	7/20/16 1800		7-20-16 1800
			7/21/16 0030

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Form No: 01-25 HC (rev. 30-Sept-2013)

From 7/20 AM Pickup

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

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Date Rec'd in Lab: 7/21/16

ALPHA Job #: L1622423

Client Information
Client: AWGI
Address:
Phone:
Fax:
Email:

Project Information
Project Name:
Project Location:
Project # HHE1601
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☐ Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

TAL Metals

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL Metals	Sample Specific Comments
22423 103	SB011-03	7/19	1215	Soil	MR	X	Hold
104	SB011-04		1217				Hold
105	SB011-05		1232				Hold
106	SB011-06		1234				Hold
107	SB011-07		1236				Run
108	SB011-08		1238				Hold
109	SB012-01		1250				Run
110	SB012-02		1252				Run
111	SB012-03		1254				Hold
112	SB012-07		1256				Hold

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
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G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	7/20 1830	[illegible]	7/20/16 1840
Dave [illegible]	7/20/16 1800	Tom Tobin	7-20-16 1800
Tom Tobin		[illegible]	7/21/16 0730

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Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L1632941
Client:	P. W. Grosser 630 Johnson Avenue Suite 7 Bohemia, NY 11716
ATTN:	Richard Kampf
Phone:	(631) 589-6353
Project Name:	ATLAS WHITE METAL
Project Number:	HHE1602
Report Date:	11/15/16

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1632941-01	SB025-01	SOIL	Not Specified	10/13/16 10:48	10/13/16
L1632941-02	SB025-02	SOIL	Not Specified	10/13/16 10:49	10/13/16
L1632941-03	SB025-03	SOIL	Not Specified	10/13/16 10:50	10/13/16
L1632941-04	SB025-04	SOIL	Not Specified	10/13/16 10:51	10/13/16
L1632941-05	SB025-05	SOIL	Not Specified	10/13/16 10:20	10/13/16
L1632941-06	SB025-06	SOIL	Not Specified	10/13/16 10:21	10/13/16
L1632941-07	SB025-07	SOIL	Not Specified	10/13/16 10:22	10/13/16
L1632941-08	SB90025-07	SOIL	Not Specified	10/13/16 10:22	10/13/16
L1632941-09	SB025-08	SOIL	Not Specified	10/13/16 10:23	10/13/16
L1632941-10	SB026-01	SOIL	Not Specified	10/13/16 12:30	10/13/16
L1632941-11	SB026-02	SOIL	Not Specified	10/13/16 12:31	10/13/16
L1632941-12	SB026-03	SOIL	Not Specified	10/13/16 12:32	10/13/16
L1632941-13	SB026-04	SOIL	Not Specified	10/13/16 12:33	10/13/16
L1632941-14	SB026-05	SOIL	Not Specified	10/13/16 12:34	10/13/16
L1632941-15	SB026-06	SOIL	Not Specified	10/13/16 12:35	10/13/16
L1632941-16	SB026-07	SOIL	Not Specified	10/13/16 12:36	10/13/16
L1632941-17	SB026-08	SOIL	Not Specified	10/13/16 12:37	10/13/16
L1632941-18	GW001-08	SOIL	Not Specified	10/13/16 17:19	10/13/16
L1632941-19	GW001	WATER	Not Specified	10/13/16 17:54	10/13/16
L1632941-20	GW002	WATER	Not Specified	10/13/16 16:38	10/13/16
L1632941-21	GW9002	WATER	Not Specified	10/13/16 16:38	10/13/16
L1632941-22	GW003	WATER	Not Specified	10/13/16 14:35	10/13/16
L1632941-23	EQUIPMENT BLANK	WATER	Not Specified	10/13/16 00:00	10/13/16

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: ATLAS WHITE METAL **Lab Number:** L1632941
Project Number: HHE1602 **Report Date:** 11/15/16

Case Narrative (continued)

Report Submission
This final report replaces the partial report issued November 1, 2016, and includes the results of all requested analyses.

A previously-issued partial report replaced the partial report issued October 20, 2016. The analysis of TAL Metals plus Tin was performed on L1632941-17.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

At the client's request Total and Dissolved Mercury analyses were not performed on sample L1632941-19 (GW001).

Total Metals
The WG942411-3/-4 MS/MSD recoveries, performed on L1632941-12, are outside the acceptance criteria for aluminum (67%/154%), arsenic (MS, 201%), calcium (164%/490%), chromium (MSD, 58%), magnesium (MSD, 131%), nickel (MSD, 158%), sodium (MSD, 138%), thallium (MS, 72%), and tin (137%). A post digestion spike was performed and yielded unacceptable recoveries for aluminum (0%); all other elements were within acceptance criteria. This has been attributed to sample matrix.
The WG942411-3/-4 MS/MSD recoveries for copper (MSD, 346%), iron (5200%/576%), lead (0%/0%), manganese (578%/288%) and zinc (212%/19%), performed on L1632941-12, do not apply because the sample concentrations are greater than four times the spike amounts added.
The WG942411-3/-4 MSD RPDs for aluminum (30%), arsenic (25%), calcium (63%), iron (63%) and manganese (21%), performed on L1632941-12, are above the acceptance criteria.
The WG942647-13/14 MS/MSD recoveries, performed on L1632941-19, are outside the acceptance criteria for aluminum (244%/140%), antimony (154%/128%), arsenic (MS, 144%), barium (MS, 46%), beryllium (MS, 144%), cadmium (MS, 148%), chromium (MS, 150%), cobalt (MS, 146%), copper (MS, 152%) lead (MS, 138%), manganese (226%/133%), nickel (MS, 155%), selenium (148%/60%), silver (146%), thallium (MS,

Project Name: ATLAS WHITE METAL **Lab Number:** L1632941
Project Number: HHE1602 **Report Date:** 11/15/16

Case Narrative (continued)

136%), tin (MS, 129%), vanadium (MS, 150%) and zinc (MS, 144%). A post digestion spike was performed and was within acceptance criteria.
The WG942647-13/-14 MS/MSD recoveries for calcium (1020%/390%), iron (650%/140%), magnesium (325%/151%), potassium (MS, 284%), and sodium (2670%/720%), performed on L1632941-19, do not apply because the sample concentrations are greater than four times the spike amounts added.
The WG942647-13/-14 MS/MSD RPDs for aluminum (29%), arsenic (39%), barium (27%), beryllium (30%), calcium (23%), chromium (22%), copper (21%), iron (24%), lead (23%), magnesium (25%), manganese (23%), nickel (25%), potassium (24%), selenium (84%), sodium (28%), thallium (26%), vanadium (21%) and zinc (22%), performed on L1632941-19, are above the acceptance criteria.
The WG942405-3/-4 MS/MSD recoveries, performed on L1632941-12, are outside the acceptance criteria for mercury (230%/18%). A post digestion spike was performed and was within acceptance criteria. In addition, the MS/MSD RPD (51%) is above the acceptance criteria.

Dissolved Metals
The WG943166-3/-4 MS/MSD recoveries for calcium (MS, 210%), potassium (MS,135%) and sodium (580%/160%), performed on L1632941-19, do not apply because the sample concentration is greater than four times the spike amount added.
The WG943166-3 MS recovery, performed on L1632941-19, is outside the acceptance criteria for magnesium (139%). A post digestion spike was performed and was within acceptance criteria.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Lura L Troy

Title: Technical Director/Representative Date: 11/15/16

METALS

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-01
Client ID: SB025-01
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 88%

Date Collected: 10/13/16 10:48
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6200		mg/kg	110	16.	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Antimony, Total	460		mg/kg	1.8	0.15	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Arsenic, Total	27		mg/kg	0.56	0.07	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Barium, Total	880		mg/kg	3.4	0.24	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Beryllium, Total	0.20	J	mg/kg	0.34	0.10	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Cadmium, Total	17		mg/kg	0.22	0.03	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Calcium, Total	16000		mg/kg	560	68.	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Chromium, Total	60		mg/kg	2.2	0.52	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Cobalt, Total	16		mg/kg	0.56	0.06	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Copper, Total	5900		mg/kg	220	22.	1000	10/15/16 08:50	10/18/16 15:45	EPA 3050B	1,6020A	BV
Iron, Total	120000		mg/kg	220	23.	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Lead, Total	21000		mg/kg	220	16.	1000	10/15/16 08:50	10/18/16 15:45	EPA 3050B	1,6020A	BV
Magnesium, Total	8900		mg/kg	110	14.	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Manganese, Total	680		mg/kg	2.2	0.50	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Mercury, Total	0.69		mg/kg	0.07	0.02	1	10/15/16 11:20	10/19/16 14:50	EPA 7471B	1,7471B	BV
Nickel, Total	96		mg/kg	1.1	0.30	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Potassium, Total	240		mg/kg	110	18.	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Selenium, Total	1.5	J	mg/kg	2.2	0.84	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Silver, Total	6.3		mg/kg	0.56	0.06	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Sodium, Total	350		mg/kg	170	13.	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Thallium, Total	0.12	J	mg/kg	0.22	0.06	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Tin, Total	1200		mg/kg	1.8	0.11	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Vanadium, Total	54		mg/kg	1.1	0.42	10	10/15/16 08:50	10/18/16 14:47	EPA 3050B	1,6020A	BV
Zinc, Total	11000		mg/kg	1100	290	1000	10/15/16 08:50	10/18/16 15:45	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-02
Client ID: SB025-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 63%

Date Collected: 10/13/16 10:49
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	11000		mg/kg	160	23.	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Antimony, Total	1600		mg/kg	250	21.	1000	10/15/16 08:50	10/18/16 15:49	EPA 3050B	1,6020A	BV
Arsenic, Total	140		mg/kg	0.78	0.10	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Barium, Total	810		mg/kg	4.7	0.33	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Beryllium, Total	0.40	J	mg/kg	0.47	0.14	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Cadmium, Total	110		mg/kg	0.31	0.04	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Calcium, Total	27000		mg/kg	780	95.	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Chromium, Total	87		mg/kg	3.1	0.73	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Cobalt, Total	20		mg/kg	0.78	0.08	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Copper, Total	56000		mg/kg	310	30.	1000	10/15/16 08:50	10/18/16 15:49	EPA 3050B	1,6020A	BV
Iron, Total	71000		mg/kg	310	32.	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Lead, Total	56000		mg/kg	310	23.	1000	10/15/16 08:50	10/18/16 15:49	EPA 3050B	1,6020A	BV
Magnesium, Total	11000		mg/kg	160	19.	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Manganese, Total	840		mg/kg	3.1	0.69	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Mercury, Total	7.8		mg/kg	0.52	0.11	5	10/15/16 11:20	10/19/16 15:26	EPA 7471B	1,7471B	BV
Nickel, Total	180		mg/kg	1.6	0.42	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Potassium, Total	300		mg/kg	160	25.	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Selenium, Total	6.3		mg/kg	3.1	1.2	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Silver, Total	28		mg/kg	0.78	0.08	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Sodium, Total	180	J	mg/kg	230	18.	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Thallium, Total	0.23	J	mg/kg	0.31	0.08	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Tin, Total	17000		mg/kg	250	16.	1000	10/15/16 08:50	10/18/16 15:49	EPA 3050B	1,6020A	BV
Vanadium, Total	59		mg/kg	1.6	0.59	10	10/15/16 08:50	10/18/16 14:51	EPA 3050B	1,6020A	BV
Zinc, Total	81000		mg/kg	1600	400	1000	10/15/16 08:50	10/18/16 15:49	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-03
Client ID: SB025-03
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 69%

Date Collected: 10/13/16 10:50
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3300		mg/kg	140	21.	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Antimony, Total	320		mg/kg	2.3	0.19	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Arsenic, Total	18		mg/kg	0.72	0.09	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Barium, Total	270		mg/kg	4.3	0.30	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Beryllium, Total	0.60		mg/kg	0.43	0.12	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Cadmium, Total	12		mg/kg	0.29	0.04	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Calcium, Total	12000		mg/kg	720	87.	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Chromium, Total	12		mg/kg	2.9	0.67	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Cobalt, Total	9.4		mg/kg	0.72	0.08	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Copper, Total	2000		mg/kg	2.9	0.28	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Iron, Total	33000		mg/kg	290	29.	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Lead, Total	13000		mg/kg	290	21.	1000	10/15/16 08:50	10/18/16 15:53	EPA 3050B	1,6020A	BV
Magnesium, Total	550		mg/kg	140	18.	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Manganese, Total	300		mg/kg	2.9	0.64	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Mercury, Total	1.2		mg/kg	0.09	0.02	1	10/15/16 11:20	10/19/16 14:54	EPA 7471B	1,7471B	BV
Nickel, Total	48		mg/kg	1.4	0.38	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Potassium, Total	300		mg/kg	140	23.	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Selenium, Total	ND		mg/kg	2.9	1.1	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Silver, Total	8.5		mg/kg	0.72	0.07	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Sodium, Total	150	J	mg/kg	210	17.	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Thallium, Total	0.13	J	mg/kg	0.29	0.07	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Tin, Total	4800		mg/kg	230	14.	1000	10/15/16 08:50	10/18/16 15:53	EPA 3050B	1,6020A	BV
Vanadium, Total	20		mg/kg	1.4	0.54	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV
Zinc, Total	2700		mg/kg	14	3.7	10	10/15/16 08:50	10/18/16 14:55	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-04
Client ID: SB025-04
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 75%

Date Collected: 10/13/16 10:51
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3500		mg/kg	130	19.	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Antimony, Total	16		mg/kg	2.1	0.18	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Arsenic, Total	37		mg/kg	0.65	0.09	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Barium, Total	1300		mg/kg	3.9	0.27	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Beryllium, Total	0.91		mg/kg	0.39	0.11	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Cadmium, Total	6.4		mg/kg	0.26	0.03	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Calcium, Total	5800		mg/kg	650	79.	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Chromium, Total	73		mg/kg	2.6	0.61	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Cobalt, Total	18		mg/kg	0.65	0.07	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Copper, Total	350		mg/kg	2.6	0.25	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Iron, Total	120000		mg/kg	260	27.	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Lead, Total	41000		mg/kg	260	19.	1000	10/15/16 08:50	10/18/16 15:58	EPA 3050B	1,6020A	BV
Magnesium, Total	760		mg/kg	130	16.	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Manganese, Total	670		mg/kg	2.6	0.58	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Mercury, Total	27		mg/kg	1.7	0.36	20	10/15/16 11:20	10/19/16 15:31	EPA 7471B	1,7471B	BV
Nickel, Total	140		mg/kg	1.3	0.35	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Potassium, Total	360		mg/kg	130	21.	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Selenium, Total	1.3	J	mg/kg	2.6	0.98	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Silver, Total	0.64	J	mg/kg	0.65	0.06	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Sodium, Total	200		mg/kg	190	15.	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Thallium, Total	0.24	J	mg/kg	0.26	0.07	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Tin, Total	59		mg/kg	2.1	0.13	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Vanadium, Total	32		mg/kg	1.3	0.49	10	10/15/16 08:50	10/18/16 15:19	EPA 3050B	1,6020A	BV
Zinc, Total	8600		mg/kg	1300	340	1000	10/15/16 08:50	10/18/16 15:58	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Lab Number: L1632941
Project Number: HHE1602
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-05
Client ID: SB025-05
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 90%

Date Collected: 10/13/16 10:20
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7100		mg/kg	110	16.	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Antimony, Total	1600		mg/kg	180	15.	1000	10/15/16 08:50	10/18/16 16:45	EPA 3050B	1,6020A	BV
Arsenic, Total	44		mg/kg	0.55	0.07	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Barium, Total	390		mg/kg	3.3	0.23	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Beryllium, Total	0.35		mg/kg	0.33	0.10	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Cadmium, Total	76		mg/kg	0.22	0.03	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Calcium, Total	26000		mg/kg	550	67.	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Chromium, Total	41		mg/kg	2.2	0.52	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Cobalt, Total	15		mg/kg	0.55	0.06	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Copper, Total	17000		mg/kg	220	22.	1000	10/15/16 08:50	10/18/16 16:45	EPA 3050B	1,6020A	BV
Iron, Total	72000		mg/kg	220	23.	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Lead, Total	34000		mg/kg	220	16.	1000	10/15/16 08:50	10/18/16 16:45	EPA 3050B	1,6020A	BV
Magnesium, Total	5900		mg/kg	110	14.	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Manganese, Total	560		mg/kg	2.2	0.49	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Mercury, Total	1.7		mg/kg	0.07	0.02	1	10/15/16 11:20	10/19/16 15:02	EPA 7471B	1,7471B	BV
Nickel, Total	110		mg/kg	1.1	0.30	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Potassium, Total	530		mg/kg	110	18.	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Selenium, Total	1.3	J	mg/kg	2.2	0.84	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Silver, Total	16		mg/kg	0.55	0.05	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Sodium, Total	480		mg/kg	170	13.	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Thallium, Total	0.13	J	mg/kg	0.22	0.06	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Tin, Total	16000		mg/kg	180	11.	1000	10/15/16 08:50	10/18/16 16:45	EPA 3050B	1,6020A	BV
Vanadium, Total	30		mg/kg	1.1	0.42	10	10/15/16 08:50	10/18/16 15:24	EPA 3050B	1,6020A	BV
Zinc, Total	18000		mg/kg	1100	290	1000	10/15/16 08:50	10/18/16 16:45	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-06
Client ID: SB025-06
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 82%

Date Collected: 10/13/16 10:21
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5900		mg/kg	120	17.	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Antimony, Total	11		mg/kg	1.9	0.16	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Arsenic, Total	26		mg/kg	0.58	0.08	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Barium, Total	190		mg/kg	3.5	0.25	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Beryllium, Total	0.41		mg/kg	0.35	0.10	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Cadmium, Total	3.2		mg/kg	0.23	0.03	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Calcium, Total	17000		mg/kg	580	71.	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Chromium, Total	18		mg/kg	2.3	0.55	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Cobalt, Total	9.8		mg/kg	0.58	0.06	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Copper, Total	270		mg/kg	2.3	0.23	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Iron, Total	26000		mg/kg	230	24.	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Lead, Total	430		mg/kg	2.3	0.17	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Magnesium, Total	3300		mg/kg	120	14.	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Manganese, Total	300		mg/kg	2.3	0.52	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Mercury, Total	0.59		mg/kg	0.08	0.02	1	10/15/16 11:20	10/19/16 15:04	EPA 7471B	1,7471B	BV
Nickel, Total	75		mg/kg	1.2	0.31	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Potassium, Total	660		mg/kg	120	18.	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Selenium, Total	ND		mg/kg	2.3	0.88	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Silver, Total	0.59		mg/kg	0.58	0.06	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Sodium, Total	220		mg/kg	180	14.	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Thallium, Total	0.11	J	mg/kg	0.23	0.06	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Tin, Total	140		mg/kg	1.9	0.12	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Vanadium, Total	24		mg/kg	1.2	0.44	10	10/15/16 08:50	10/18/16 15:28	EPA 3050B	1,6020A	BV
Zinc, Total	2800		mg/kg	120	30.	100	10/15/16 08:50	10/18/16 16:49	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-07
Client ID: SB025-07
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 77%

Date Collected: 10/13/16 10:22
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3500		mg/kg	120	18.	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Antimony, Total	8.4		mg/kg	2.0	0.17	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Arsenic, Total	21		mg/kg	0.62	0.08	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Barium, Total	160		mg/kg	3.7	0.26	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Beryllium, Total	0.32	J	mg/kg	0.37	0.11	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Cadmium, Total	2.6		mg/kg	0.25	0.03	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Calcium, Total	13000		mg/kg	620	76.	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Chromium, Total	29		mg/kg	2.5	0.58	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Cobalt, Total	7.0		mg/kg	0.62	0.07	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Copper, Total	1100		mg/kg	2.5	0.24	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Iron, Total	29000		mg/kg	250	26.	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Lead, Total	2800		mg/kg	25	1.8	100	10/15/16 08:50	10/18/16 16:53	EPA 3050B	1,6020A	BV
Magnesium, Total	1300		mg/kg	120	15.	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Manganese, Total	240		mg/kg	2.5	0.55	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Mercury, Total	13		mg/kg	0.84	0.18	10	10/15/16 11:20	10/19/16 15:35	EPA 7471B	1,7471B	BV
Nickel, Total	24		mg/kg	1.2	0.33	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Potassium, Total	460		mg/kg	120	20.	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Selenium, Total	1.8	J	mg/kg	2.5	0.94	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Silver, Total	0.81		mg/kg	0.62	0.06	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Sodium, Total	210		mg/kg	190	15.	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Thallium, Total	0.09	J	mg/kg	0.25	0.06	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Tin, Total	180		mg/kg	2.0	0.13	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Vanadium, Total	18		mg/kg	1.2	0.47	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV
Zinc, Total	2100		mg/kg	12	3.2	10	10/15/16 08:50	10/18/16 15:32	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-08
Client ID: SB90025-07
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 81%

Date Collected: 10/13/16 10:22
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3200		mg/kg	120	18.	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Antimony, Total	3.5		mg/kg	2.0	0.17	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Arsenic, Total	25		mg/kg	0.62	0.08	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Barium, Total	86		mg/kg	3.7	0.26	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Beryllium, Total	0.30	J	mg/kg	0.37	0.11	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Cadmium, Total	4.6		mg/kg	0.25	0.03	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Calcium, Total	45000		mg/kg	620	75.	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Chromium, Total	16		mg/kg	2.5	0.58	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Cobalt, Total	13		mg/kg	0.62	0.07	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Copper, Total	180		mg/kg	2.5	0.24	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Iron, Total	32000		mg/kg	250	26.	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Lead, Total	710		mg/kg	2.5	0.18	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Magnesium, Total	2700		mg/kg	120	15.	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Manganese, Total	290		mg/kg	2.5	0.55	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Mercury, Total	3.9		mg/kg	0.39	0.08	5	10/15/16 11:20	10/19/16 15:28	EPA 7471B	1,7471B	BV
Nickel, Total	32		mg/kg	1.2	0.33	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Potassium, Total	440		mg/kg	120	20.	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Selenium, Total	2.2	J	mg/kg	2.5	0.94	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Silver, Total	0.19	J	mg/kg	0.62	0.06	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Sodium, Total	300		mg/kg	180	14.	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Thallium, Total	0.12	J	mg/kg	0.25	0.06	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Tin, Total	33		mg/kg	2.0	0.13	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Vanadium, Total	18		mg/kg	1.2	0.47	10	10/15/16 08:50	10/18/16 15:36	EPA 3050B	1,6020A	BV
Zinc, Total	3000		mg/kg	120	32.	100	10/15/16 08:50	10/18/16 16:58	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-09
Client ID: SB025-08
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 72%

Date Collected: 10/13/16 10:23
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3200		mg/kg	140	20.	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Antimony, Total	63		mg/kg	2.2	0.18	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Arsenic, Total	39		mg/kg	0.68	0.09	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Barium, Total	130		mg/kg	4.1	0.29	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Beryllium, Total	0.41		mg/kg	0.41	0.12	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Cadmium, Total	2.0		mg/kg	0.27	0.04	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Calcium, Total	18000		mg/kg	680	83.	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Chromium, Total	49		mg/kg	2.7	0.64	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Cobalt, Total	44		mg/kg	0.68	0.07	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Copper, Total	380		mg/kg	2.7	0.26	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Iron, Total	99000		mg/kg	270	28.	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Lead, Total	4700		mg/kg	27	2.0	100	10/15/16 08:50	10/18/16 17:19	EPA 3050B	1,6020A	BV
Magnesium, Total	1500		mg/kg	140	17.	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Manganese, Total	300		mg/kg	2.7	0.60	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Mercury, Total	0.83		mg/kg	0.09	0.02	1	10/15/16 11:20	10/19/16 15:10	EPA 7471B	1,7471B	BV
Nickel, Total	52		mg/kg	1.4	0.36	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Potassium, Total	420		mg/kg	140	22.	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Selenium, Total	1.1	J	mg/kg	2.7	1.0	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Silver, Total	0.36	J	mg/kg	0.68	0.07	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Sodium, Total	480		mg/kg	200	16.	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Thallium, Total	0.15	J	mg/kg	0.27	0.07	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Tin, Total	1000		mg/kg	2.2	0.14	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Vanadium, Total	25		mg/kg	1.4	0.52	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV
Zinc, Total	2000		mg/kg	14	3.5	10	10/15/16 08:50	10/18/16 15:41	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-10
Client ID: SB026-01
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 89%

Date Collected: 10/13/16 12:30
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7800		mg/kg	110	16.	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Antimony, Total	120		mg/kg	1.7	0.14	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Arsenic, Total	10		mg/kg	0.54	0.07	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Barium, Total	240		mg/kg	3.2	0.23	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Beryllium, Total	0.22	J	mg/kg	0.32	0.09	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Cadmium, Total	8.9		mg/kg	0.22	0.03	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Calcium, Total	82000		mg/kg	540	66.	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Chromium, Total	10		mg/kg	2.2	0.50	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Cobalt, Total	10		mg/kg	0.54	0.06	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Copper, Total	710		mg/kg	2.2	0.21	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Iron, Total	24000		mg/kg	220	22.	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Lead, Total	9200		mg/kg	65	16.	1000	10/15/16 08:50	10/19/16 10:49	EPA 3050B	1,6020A	BV
Magnesium, Total	35000		mg/kg	110	13.	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Manganese, Total	190		mg/kg	2.2	0.48	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Mercury, Total	0.39		mg/kg	0.07	0.02	1	10/15/16 11:20	10/19/16 15:12	EPA 7471B	1,7471B	BV
Nickel, Total	19		mg/kg	1.1	0.29	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Potassium, Total	650		mg/kg	110	17.	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Selenium, Total	ND		mg/kg	2.2	0.82	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Silver, Total	4.3		mg/kg	0.54	0.05	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Sodium, Total	530		mg/kg	160	13.	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Thallium, Total	0.09	J	mg/kg	0.22	0.06	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Tin, Total	650		mg/kg	1.7	0.11	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Vanadium, Total	48		mg/kg	1.1	0.41	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV
Zinc, Total	2100		mg/kg	11	2.8	10	10/15/16 08:50	10/18/16 16:19	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-11
Client ID: SB026-02
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 84%

Date Collected: 10/13/16 12:31
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6500		mg/kg	110	17.	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Antimony, Total	190		mg/kg	1.8	0.16	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Arsenic, Total	27		mg/kg	0.57	0.08	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Barium, Total	300		mg/kg	3.4	0.24	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Beryllium, Total	0.44		mg/kg	0.34	0.10	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Cadmium, Total	7.4		mg/kg	0.23	0.03	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Calcium, Total	29000		mg/kg	570	70.	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Chromium, Total	30		mg/kg	2.3	0.54	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Cobalt, Total	11		mg/kg	0.57	0.06	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Copper, Total	1100		mg/kg	2.3	0.22	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Iron, Total	70000		mg/kg	230	24.	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Lead, Total	13000		mg/kg	69	17.	1000	10/15/16 08:50	10/19/16 10:54	EPA 3050B	1,6020A	BV
Magnesium, Total	1400		mg/kg	110	14.	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Manganese, Total	360		mg/kg	2.3	0.51	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Mercury, Total	1.9		mg/kg	0.08	0.02	1	10/15/16 11:20	10/19/16 15:14	EPA 7471B	1,7471B	BV
Nickel, Total	34		mg/kg	1.1	0.31	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Potassium, Total	1200		mg/kg	110	18.	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Selenium, Total	1.0	J	mg/kg	2.3	0.87	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Silver, Total	8.0		mg/kg	0.57	0.06	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Sodium, Total	240		mg/kg	170	13.	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Thallium, Total	0.06	J	mg/kg	0.23	0.06	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Tin, Total	1100		mg/kg	1.8	0.12	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Vanadium, Total	27		mg/kg	1.1	0.44	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV
Zinc, Total	1700		mg/kg	11	3.0	10	10/15/16 08:50	10/18/16 16:24	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-12
Client ID: SB026-03
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 75%

Date Collected: 10/13/16 12:32
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3800		mg/kg	130	19.	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Antimony, Total	8.7		mg/kg	2.1	0.17	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Arsenic, Total	20		mg/kg	0.64	0.09	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Barium, Total	160		mg/kg	3.9	0.27	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Beryllium, Total	0.46		mg/kg	0.39	0.11	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Cadmium, Total	2.0		mg/kg	0.26	0.03	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Calcium, Total	2000		mg/kg	640	78.	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Chromium, Total	52		mg/kg	2.6	0.60	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Cobalt, Total	8.7		mg/kg	0.64	0.07	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Copper, Total	740		mg/kg	2.6	0.25	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Iron, Total	46000		mg/kg	260	26.	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Lead, Total	1200		mg/kg	2.1	0.19	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Magnesium, Total	640		mg/kg	130	16.	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Manganese, Total	480		mg/kg	2.6	0.57	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Mercury, Total	0.49		mg/kg	0.09	0.02	1	10/15/16 11:20	10/19/16 14:43	EPA 7471B	1,7471B	BV
Nickel, Total	38		mg/kg	1.3	0.34	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Potassium, Total	590		mg/kg	130	20.	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Selenium, Total	1.3	J	mg/kg	2.6	0.97	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Silver, Total	0.32	J	mg/kg	0.64	0.06	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Sodium, Total	260		mg/kg	190	15.	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Thallium, Total	0.71		mg/kg	0.26	0.07	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Tin, Total	67		mg/kg	2.1	0.13	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Vanadium, Total	16		mg/kg	1.3	0.49	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV
Zinc, Total	590		mg/kg	13	3.3	10	10/15/16 08:50	10/18/16 14:26	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Lab Number: L1632941
Project Number: HHE1602
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-13
Client ID: SB026-04
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 82%

Date Collected: 10/13/16 12:33
Date Received: 10/13/16
Field Prep: Not Specified

Total Metals - Mansfield Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Aluminum, Total	4500		mg/kg	120	18.	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Antimony, Total	13		mg/kg	1.9	0.16	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Arsenic, Total	29		mg/kg	0.60	0.08	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Barium, Total	130		mg/kg	3.6	0.25	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Beryllium, Total	0.49		mg/kg	0.36	0.10	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Cadmium, Total	3.1		mg/kg	0.24	0.03	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Calcium, Total	2500		mg/kg	600	73.	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Chromium, Total	90		mg/kg	2.4	0.56	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Cobalt, Total	13		mg/kg	0.60	0.06	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Copper, Total	2500		mg/kg	24	2.3	100	10/15/16 08:50	10/19/16 10:58	EPA 3050B	1,6020A	BV
Iron, Total	68000		mg/kg	240	25.	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Lead, Total	1000		mg/kg	0.72	0.18	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Magnesium, Total	980		mg/kg	120	15.	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Manganese, Total	780		mg/kg	2.4	0.53	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Mercury, Total	0.57		mg/kg	0.08	0.02	1	10/15/16 11:20	10/19/16 15:16	EPA 7471B	1,7471B	BV
Nickel, Total	190		mg/kg	1.2	0.32	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Potassium, Total	620		mg/kg	120	19.	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Selenium, Total	0.97	J	mg/kg	2.4	0.91	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Silver, Total	1.8		mg/kg	0.60	0.06	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Sodium, Total	190		mg/kg	180	14.	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Thallium, Total	0.10	J	mg/kg	0.24	0.06	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Tin, Total	470		mg/kg	1.9	0.12	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Vanadium, Total	29		mg/kg	1.2	0.46	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV
Zinc, Total	2100		mg/kg	12	3.1	10	10/15/16 08:50	10/18/16 16:28	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-14
Client ID: SB026-05
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 84%

Date Collected: 10/13/16 12:34
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5600		mg/kg	120	17.	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Antimony, Total	30		mg/kg	1.8	0.16	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Arsenic, Total	17		mg/kg	0.58	0.08	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Barium, Total	120		mg/kg	3.5	0.24	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Beryllium, Total	0.34	J	mg/kg	0.35	0.10	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Cadmium, Total	2.2		mg/kg	0.23	0.03	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Calcium, Total	21000		mg/kg	580	70.	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Chromium, Total	34		mg/kg	2.3	0.54	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Cobalt, Total	11		mg/kg	0.58	0.06	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Copper, Total	690		mg/kg	2.3	0.22	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Iron, Total	61000		mg/kg	230	24.	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Lead, Total	2600		mg/kg	6.9	1.7	100	10/15/16 08:50	10/19/16 11:02	EPA 3050B	1,6020A	BV
Magnesium, Total	8400		mg/kg	120	14.	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Manganese, Total	510		mg/kg	2.3	0.51	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Mercury, Total	0.63		mg/kg	0.07	0.02	1	10/15/16 11:20	10/19/16 15:18	EPA 7471B	1,7471B	BV
Nickel, Total	56		mg/kg	1.2	0.31	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Potassium, Total	690		mg/kg	120	18.	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Selenium, Total	ND		mg/kg	2.3	0.87	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Silver, Total	1.0		mg/kg	0.58	0.06	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Sodium, Total	310		mg/kg	170	14.	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Thallium, Total	0.08	J	mg/kg	0.23	0.06	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Tin, Total	210		mg/kg	1.8	0.12	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Vanadium, Total	39		mg/kg	1.2	0.44	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV
Zinc, Total	930		mg/kg	12	3.0	10	10/15/16 08:50	10/18/16 16:32	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-15
Client ID: SB026-06
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 85%

Date Collected: 10/13/16 12:35
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3600		mg/kg	120	17.	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Antimony, Total	34		mg/kg	1.8	0.16	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Arsenic, Total	21		mg/kg	0.58	0.08	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Barium, Total	260		mg/kg	3.5	0.24	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Beryllium, Total	0.23	J	mg/kg	0.35	0.10	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Cadmium, Total	20		mg/kg	0.23	0.03	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Calcium, Total	4200		mg/kg	580	70.	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Chromium, Total	24		mg/kg	2.3	0.54	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Cobalt, Total	13		mg/kg	0.58	0.06	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Copper, Total	5200		mg/kg	23	2.2	100	10/15/16 08:50	10/19/16 11:06	EPA 3050B	1,6020A	BV
Iron, Total	99000		mg/kg	230	24.	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Lead, Total	5200		mg/kg	7.0	1.7	100	10/15/16 08:50	10/19/16 11:06	EPA 3050B	1,6020A	BV
Magnesium, Total	1400		mg/kg	120	14.	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Manganese, Total	680		mg/kg	2.3	0.52	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Mercury, Total	37		mg/kg	3.7	0.77	50	10/15/16 11:20	10/19/16 15:47	EPA 7471B	1,7471B	BV
Nickel, Total	120		mg/kg	1.2	0.31	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Potassium, Total	530		mg/kg	120	18.	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Selenium, Total	0.94	J	mg/kg	2.3	0.88	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Silver, Total	1.6		mg/kg	0.58	0.06	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Sodium, Total	100	J	mg/kg	170	14.	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Thallium, Total	ND		mg/kg	0.23	0.06	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Tin, Total	380		mg/kg	1.8	0.12	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Vanadium, Total	23		mg/kg	1.2	0.44	10	10/15/16 08:50	10/18/16 16:36	EPA 3050B	1,6020A	BV
Zinc, Total	8700		mg/kg	120	30.	100	10/15/16 08:50	10/19/16 11:06	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-16
Client ID: SB026-07
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 89%

Date Collected: 10/13/16 12:36
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	4400		mg/kg	110	16.	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Antimony, Total	180		mg/kg	1.7	0.15	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Arsenic, Total	24		mg/kg	0.54	0.07	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Barium, Total	410		mg/kg	3.2	0.23	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Beryllium, Total	0.29	J	mg/kg	0.32	0.09	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Cadmium, Total	28		mg/kg	0.22	0.03	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Calcium, Total	6900		mg/kg	540	66.	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Chromium, Total	28		mg/kg	2.2	0.51	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Cobalt, Total	8.3		mg/kg	0.54	0.06	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Copper, Total	9700		mg/kg	220	21.	1000	10/15/16 08:50	10/19/16 11:11	EPA 3050B	1,6020A	BV
Iron, Total	30000		mg/kg	220	22.	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Lead, Total	27000		mg/kg	65	16.	1000	10/15/16 08:50	10/19/16 11:11	EPA 3050B	1,6020A	BV
Magnesium, Total	2100		mg/kg	110	13.	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Manganese, Total	590		mg/kg	2.2	0.48	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Mercury, Total	32		mg/kg	1.5	0.31	20	10/15/16 11:20	10/19/16 15:51	EPA 7471B	1,7471B	BV
Nickel, Total	200		mg/kg	1.1	0.29	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Potassium, Total	430		mg/kg	110	17.	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Selenium, Total	ND		mg/kg	2.2	0.82	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Silver, Total	3.9		mg/kg	0.54	0.05	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Sodium, Total	170		mg/kg	160	13.	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Thallium, Total	0.07	J	mg/kg	0.22	0.06	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Tin, Total	2400		mg/kg	130	11.	1000	10/15/16 08:50	10/19/16 11:11	EPA 3050B	1,6020A	BV
Vanadium, Total	15		mg/kg	1.1	0.41	10	10/15/16 08:50	10/18/16 16:41	EPA 3050B	1,6020A	BV
Zinc, Total	7500		mg/kg	1100	280	1000	10/15/16 08:50	10/19/16 11:11	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-17
Client ID: SB026-08
Sample Location: Not Specified
Matrix: Soil
Percent Solids: 85%

Date Collected: 10/13/16 12:37
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3800		mg/kg	110	17.	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Antimony, Total	170		mg/kg	1.8	0.15	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Arsenic, Total	18		mg/kg	0.56	0.07	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Barium, Total	550		mg/kg	3.4	0.24	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Beryllium, Total	0.25	J	mg/kg	0.34	0.10	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Cadmium, Total	38		mg/kg	0.22	0.03	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Calcium, Total	12000		mg/kg	560	69.	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Chromium, Total	22		mg/kg	2.2	0.53	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Cobalt, Total	6.8		mg/kg	0.56	0.06	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Copper, Total	28000		mg/kg	45	4.4	200	10/26/16 06:39	10/26/16 11:25	EPA 3050B	1,6020A	BV
Iron, Total	40000		mg/kg	220	23.	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Lead, Total	34000		mg/kg	14	3.3	200	10/26/16 06:39	10/26/16 11:25	EPA 3050B	1,6020A	BV
Magnesium, Total	1600		mg/kg	110	14.	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Manganese, Total	2200		mg/kg	2.2	0.50	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Mercury, Total	47		mg/kg	1.5	0.31	20	10/26/16 10:00	10/28/16 15:14	EPA 7471B	1,7471B	BV
Nickel, Total	55		mg/kg	1.1	0.30	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Potassium, Total	360		mg/kg	110	18.	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Selenium, Total	ND		mg/kg	2.2	0.85	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Silver, Total	5.6		mg/kg	0.56	0.06	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Sodium, Total	210		mg/kg	170	13.	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Thallium, Total	0.20	J	mg/kg	0.22	0.06	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Tin, Total	4200		mg/kg	27	2.3	200	10/26/16 06:39	10/26/16 11:25	EPA 3050B	1,6020A	BV
Vanadium, Total	21		mg/kg	1.1	0.43	10	10/26/16 06:39	10/26/16 10:43	EPA 3050B	1,6020A	BV
Zinc, Total	13000		mg/kg	220	59.	200	10/26/16 06:39	10/26/16 11:25	EPA 3050B	1,6020A	BV

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-19
Client ID: GW001
Sample Location: Not Specified
Matrix: Water
Date Collected: 10/13/16 17:54
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3.28		mg/l	0.010	0.003	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Antimony, Total	ND		mg/l	0.0040	0.0004	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Arsenic, Total	0.0030		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Barium, Total	0.1634		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Beryllium, Total	0.0003	J	mg/l	0.0005	0.0001	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Calcium, Total	203		mg/l	2.00	0.788	20	10/17/16 08:25	10/17/16 17:57	EPA 3005A	1,6020A	TT
Chromium, Total	0.0136		mg/l	0.0010	0.0002	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Cobalt, Total	0.0034		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Copper, Total	0.0115		mg/l	0.0010	0.0004	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Iron, Total	17.6		mg/l	0.050	0.019	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Lead, Total	0.0593		mg/l	0.0005	0.0003	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Magnesium, Total	45.8		mg/l	0.070	0.024	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Manganese, Total	1.134		mg/l	0.0010	0.0004	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Nickel, Total	0.0184		mg/l	0.0020	0.0006	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Potassium, Total	53.4		mg/l	0.100	0.031	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Selenium, Total	0.002	J	mg/l	0.005	0.002	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Silver, Total	ND		mg/l	0.0004	0.0002	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Sodium, Total	535		mg/l	2.00	0.586	20	10/17/16 08:25	10/17/16 17:57	EPA 3005A	1,6020A	TT
Thallium, Total	ND		mg/l	0.0005	0.0001	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Tin, Total	0.0036		mg/l	0.0030	0.0011	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Vanadium, Total	0.0171		mg/l	0.0050	0.0016	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Zinc, Total	0.0561		mg/l	0.0100	0.0034	1	10/17/16 08:25	10/17/16 17:54	EPA 3005A	1,6020A	TT
Dissolved Metals - Mansfield Lab											
Aluminum, Dissolved	0.022		mg/l	0.010	0.003	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Antimony, Dissolved	0.0008	J	mg/l	0.0040	0.0004	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Arsenic, Dissolved	0.0009		mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Barium, Dissolved	0.0803		mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Beryllium, Dissolved	ND		mg/l	0.0005	0.0001	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Cadmium, Dissolved	ND		mg/l	0.0002	0.0001	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-19
Client ID: GW001
Sample Location: Not Specified
Matrix: Water
Date Collected: 10/13/16 17:54
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Calcium, Dissolved	194		mg/l	2.00	0.788	20	10/18/16 11:00	10/19/16 16:42	EPA 3005A	1,6020A	DB
Chromium, Dissolved	0.0026		mg/l	0.0010	0.0002	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Cobalt, Dissolved	0.0007		mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Copper, Dissolved	0.0018		mg/l	0.0010	0.0004	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Iron, Dissolved	0.052		mg/l	0.050	0.019	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Lead, Dissolved	ND		mg/l	0.0010	0.0003	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Magnesium, Dissolved	39.6		mg/l	0.070	0.024	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Manganese, Dissolved	0.8316		mg/l	0.0010	0.0004	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Nickel, Dissolved	0.0037		mg/l	0.0020	0.0006	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Potassium, Dissolved	45.1		mg/l	0.100	0.031	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Selenium, Dissolved	ND		mg/l	0.005	0.002	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Silver, Dissolved	ND		mg/l	0.0004	0.0002	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Sodium, Dissolved	488		mg/l	2.00	0.586	20	10/18/16 11:00	10/19/16 16:42	EPA 3005A	1,6020A	DB
Thallium, Dissolved	ND		mg/l	0.0005	0.0001	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Tin, Dissolved	ND		mg/l	0.0030	0.0011	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Vanadium, Dissolved	0.0024	J	mg/l	0.0050	0.0016	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB
Zinc, Dissolved	0.0075	J	mg/l	0.0100	0.0034	1	10/18/16 11:00	10/19/16 16:16	EPA 3005A	1,6020A	DB

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-20
Client ID: GW002
Sample Location: Not Specified
Matrix: Water
Date Collected: 10/13/16 16:38
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	8.11		mg/l	0.010	0.003	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Antimony, Total	0.0019	J	mg/l	0.0040	0.0004	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Arsenic, Total	0.0061		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Barium, Total	0.0603		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Beryllium, Total	0.0006		mg/l	0.0005	0.0001	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Cadmium, Total	0.0002		mg/l	0.0002	0.0001	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Calcium, Total	117		mg/l	2.00	0.788	20	10/17/16 08:25	10/17/16 18:16	EPA 3005A	1,6020A	TT
Chromium, Total	0.0266		mg/l	0.0010	0.0002	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Cobalt, Total	0.0084		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Copper, Total	0.0238		mg/l	0.0010	0.0004	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Iron, Total	16.8		mg/l	0.050	0.019	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Lead, Total	0.0320		mg/l	0.0005	0.0003	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Magnesium, Total	37.6		mg/l	0.070	0.024	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Manganese, Total	0.2531		mg/l	0.0010	0.0004	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Mercury, Total	0.00006	J	mg/l	0.00020	0.00006	1	10/17/16 11:26	10/17/16 21:44	EPA 7470A	1,7470A	EA
Nickel, Total	0.0451		mg/l	0.0020	0.0006	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Potassium, Total	28.9		mg/l	0.100	0.031	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Selenium, Total	0.007		mg/l	0.005	0.002	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Silver, Total	ND		mg/l	0.0004	0.0002	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Sodium, Total	409		mg/l	2.00	0.586	20	10/17/16 08:25	10/17/16 18:16	EPA 3005A	1,6020A	TT
Thallium, Total	ND		mg/l	0.0005	0.0001	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Tin, Total	ND		mg/l	0.0030	0.0011	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Vanadium, Total	0.0220		mg/l	0.0050	0.0016	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Zinc, Total	0.0597		mg/l	0.0100	0.0034	1	10/17/16 08:25	10/17/16 18:14	EPA 3005A	1,6020A	TT
Dissolved Metals - Mansfield Lab											
Aluminum, Dissolved	0.056		mg/l	0.010	0.003	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Antimony, Dissolved	0.0014	J	mg/l	0.0040	0.0004	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Arsenic, Dissolved	0.0011		mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Barium, Dissolved	0.0188		mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Beryllium, Dissolved	ND		mg/l	0.0005	0.0001	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-20
Client ID: GW002
Sample Location: Not Specified
Matrix: Water
Date Collected: 10/13/16 16:38
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Cadmium, Dissolved	ND		mg/l	0.0002	0.0001	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Calcium, Dissolved	104		mg/l	2.00	0.788	20	10/18/16 11:00	10/19/16 16:45	EPA 3005A	1,6020A	DB
Chromium, Dissolved	0.0007	J	mg/l	0.0010	0.0002	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Cobalt, Dissolved	0.0013		mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Copper, Dissolved	0.0031		mg/l	0.0010	0.0004	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Iron, Dissolved	ND		mg/l	0.050	0.019	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Lead, Dissolved	ND		mg/l	0.0010	0.0003	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Magnesium, Dissolved	32.1		mg/l	0.070	0.024	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Manganese, Dissolved	0.1062		mg/l	0.0010	0.0004	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Mercury, Dissolved	ND		mg/l	0.00020	0.00006	1	10/18/16 14:03	10/19/16 21:01	EPA 7470A	1,7470A	EA
Nickel, Dissolved	0.0098		mg/l	0.0020	0.0006	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Potassium, Dissolved	26.1		mg/l	0.100	0.031	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Selenium, Dissolved	ND		mg/l	0.005	0.002	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Silver, Dissolved	ND		mg/l	0.0004	0.0002	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Sodium, Dissolved	379		mg/l	2.00	0.586	20	10/18/16 11:00	10/19/16 16:45	EPA 3005A	1,6020A	DB
Thallium, Dissolved	ND		mg/l	0.0005	0.0001	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Tin, Dissolved	ND		mg/l	0.0030	0.0011	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Vanadium, Dissolved	0.0018	J	mg/l	0.0050	0.0016	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB
Zinc, Dissolved	ND		mg/l	0.0100	0.0034	1	10/18/16 11:00	10/19/16 16:19	EPA 3005A	1,6020A	DB

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-21
Client ID: GW9002
Sample Location: Not Specified
Matrix: Water
Date Collected: 10/13/16 16:38
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6.26		mg/l	0.010	0.003	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Antimony, Total	0.0020	J	mg/l	0.0040	0.0004	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Arsenic, Total	0.0060		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Barium, Total	0.0736		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Beryllium, Total	0.0005	J	mg/l	0.0005	0.0001	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Cadmium, Total	0.0001	J	mg/l	0.0002	0.0001	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Calcium, Total	128		mg/l	2.00	0.788	20	10/17/16 08:25	10/17/16 18:43	EPA 3005A	1,6020A	TT
Chromium, Total	0.0214		mg/l	0.0010	0.0002	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Cobalt, Total	0.0070		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Copper, Total	0.0215		mg/l	0.0010	0.0004	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Iron, Total	13.1		mg/l	0.050	0.019	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Lead, Total	0.0242		mg/l	0.0005	0.0003	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Magnesium, Total	35.2		mg/l	0.070	0.024	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Manganese, Total	0.2157		mg/l	0.0010	0.0004	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Mercury, Total	ND		mg/l	0.00020	0.00006	1	10/17/16 11:26	10/17/16 21:46	EPA 7470A	1,7470A	EA
Nickel, Total	0.0371		mg/l	0.0020	0.0006	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Potassium, Total	28.7		mg/l	0.100	0.031	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Selenium, Total	0.007		mg/l	0.005	0.002	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Silver, Total	ND		mg/l	0.0004	0.0002	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Sodium, Total	419		mg/l	2.00	0.586	20	10/17/16 08:25	10/17/16 18:43	EPA 3005A	1,6020A	TT
Thallium, Total	ND		mg/l	0.0005	0.0001	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Tin, Total	ND		mg/l	0.0030	0.0011	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Vanadium, Total	0.0180		mg/l	0.0050	0.0016	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Zinc, Total	0.0485		mg/l	0.0100	0.0034	1	10/17/16 08:25	10/17/16 18:37	EPA 3005A	1,6020A	TT
Dissolved Metals - Mansfield Lab											
Aluminum, Dissolved	0.006	J	mg/l	0.010	0.003	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Antimony, Dissolved	0.0014	J	mg/l	0.0040	0.0004	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Arsenic, Dissolved	0.0011		mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Barium, Dissolved	0.0177		mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Beryllium, Dissolved	ND		mg/l	0.0005	0.0001	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-21
Client ID: GW9002
Sample Location: Not Specified
Matrix: Water
Date Collected: 10/13/16 16:38
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Cadmium, Dissolved	ND		mg/l	0.0002	0.0001	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Calcium, Dissolved	112		mg/l	2.00	0.788	20	10/18/16 11:00	10/19/16 16:48	EPA 3005A	1,6020A	DB
Chromium, Dissolved	0.0005	J	mg/l	0.0010	0.0002	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Cobalt, Dissolved	0.0014		mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Copper, Dissolved	0.0024		mg/l	0.0010	0.0004	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Iron, Dissolved	ND		mg/l	0.050	0.019	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Lead, Dissolved	ND		mg/l	0.0010	0.0003	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Magnesium, Dissolved	32.2		mg/l	0.070	0.024	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Manganese, Dissolved	0.1001		mg/l	0.0010	0.0004	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Mercury, Dissolved	ND		mg/l	0.00020	0.00006	1	10/18/16 14:03	10/19/16 21:06	EPA 7470A	1,7470A	EA
Nickel, Dissolved	0.0093		mg/l	0.0020	0.0006	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Potassium, Dissolved	26.6		mg/l	0.100	0.031	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Selenium, Dissolved	ND		mg/l	0.005	0.002	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Silver, Dissolved	ND		mg/l	0.0004	0.0002	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Sodium, Dissolved	400		mg/l	2.00	0.586	20	10/18/16 11:00	10/19/16 16:48	EPA 3005A	1,6020A	DB
Thallium, Dissolved	ND		mg/l	0.0005	0.0001	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Tin, Dissolved	ND		mg/l	0.0030	0.0011	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Vanadium, Dissolved	0.0017	J	mg/l	0.0050	0.0016	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB
Zinc, Dissolved	ND		mg/l	0.0100	0.0034	1	10/18/16 11:00	10/19/16 16:22	EPA 3005A	1,6020A	DB

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-22
Client ID: GW003
Sample Location: Not Specified
Matrix: Water
Date Collected: 10/13/16 14:35
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	1.23		mg/l	0.010	0.003	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Antimony, Total	0.0004	J	mg/l	0.0040	0.0004	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Arsenic, Total	0.0014		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Barium, Total	0.0506		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Beryllium, Total	0.0001	J	mg/l	0.0005	0.0001	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Calcium, Total	87.2		mg/l	2.00	0.788	20	10/17/16 08:25	10/17/16 18:48	EPA 3005A	1,6020A	TT
Chromium, Total	0.0059		mg/l	0.0010	0.0002	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Cobalt, Total	0.0012		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Copper, Total	0.0042		mg/l	0.0010	0.0004	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Iron, Total	16.1		mg/l	0.050	0.019	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Lead, Total	0.0070		mg/l	0.0005	0.0003	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Magnesium, Total	25.2		mg/l	0.070	0.024	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Manganese, Total	0.2793		mg/l	0.0010	0.0004	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Mercury, Total	ND		mg/l	0.00020	0.00006	1	10/17/16 11:26	10/17/16 21:47	EPA 7470A	1,7470A	EA
Nickel, Total	0.0055		mg/l	0.0020	0.0006	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Potassium, Total	14.5		mg/l	0.100	0.031	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Selenium, Total	ND		mg/l	0.005	0.002	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Silver, Total	ND		mg/l	0.0004	0.0002	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Sodium, Total	346		mg/l	2.00	0.586	20	10/17/16 08:25	10/17/16 18:48	EPA 3005A	1,6020A	TT
Thallium, Total	ND		mg/l	0.0005	0.0001	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Tin, Total	ND		mg/l	0.0030	0.0011	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Vanadium, Total	0.0081		mg/l	0.0050	0.0016	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Zinc, Total	0.0149		mg/l	0.0100	0.0034	1	10/17/16 08:25	10/17/16 18:45	EPA 3005A	1,6020A	TT
Dissolved Metals - Mansfield Lab											
Aluminum, Dissolved	0.020		mg/l	0.010	0.003	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Antimony, Dissolved	ND		mg/l	0.0040	0.0004	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Arsenic, Dissolved	0.0004	J	mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Barium, Dissolved	0.0124		mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Beryllium, Dissolved	ND		mg/l	0.0005	0.0001	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-22
Client ID: GW003
Sample Location: Not Specified
Matrix: Water
Date Collected: 10/13/16 14:35
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Cadmium, Dissolved	ND		mg/l	0.0002	0.0001	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Calcium, Dissolved	86.0		mg/l	0.100	0.039	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Chromium, Dissolved	0.0013		mg/l	0.0010	0.0002	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Cobalt, Dissolved	0.0002	J	mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Copper, Dissolved	0.0006	J	mg/l	0.0010	0.0004	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Iron, Dissolved	0.040	J	mg/l	0.050	0.019	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Lead, Dissolved	ND		mg/l	0.0010	0.0003	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Magnesium, Dissolved	22.8		mg/l	0.070	0.024	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Manganese, Dissolved	0.2071		mg/l	0.0010	0.0004	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Mercury, Dissolved	ND		mg/l	0.00020	0.00006	1	10/18/16 14:03	10/19/16 21:08	EPA 7470A	1,7470A	EA
Nickel, Dissolved	0.00190	J	mg/l	0.0020	0.0006	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Potassium, Dissolved	13.6		mg/l	0.100	0.031	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Selenium, Dissolved	ND		mg/l	0.005	0.002	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Silver, Dissolved	ND		mg/l	0.0004	0.0002	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Sodium, Dissolved	333		mg/l	2.00	0.586	20	10/18/16 11:00	10/19/16 16:51	EPA 3005A	1,6020A	DB
Thallium, Dissolved	ND		mg/l	0.0005	0.0001	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Tin, Dissolved	ND		mg/l	0.0030	0.0011	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Vanadium, Dissolved	ND		mg/l	0.0050	0.0016	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB
Zinc, Dissolved	ND		mg/l	0.0100	0.0034	1	10/18/16 11:00	10/19/16 16:25	EPA 3005A	1,6020A	DB

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-23
Client ID: EQUIPMENT BLANK
Sample Location: Not Specified
Matrix: Water
Date Collected: 10/13/16 00:00
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.012		mg/l	0.010	0.003	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Antimony, Total	0.0006	J	mg/l	0.0040	0.0004	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Arsenic, Total	ND		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Barium, Total	0.0019		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Calcium, Total	0.128		mg/l	0.100	0.039	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Chromium, Total	0.0004	J	mg/l	0.0010	0.0002	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Cobalt, Total	ND		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Copper, Total	0.0017		mg/l	0.0010	0.0004	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Iron, Total	0.041	J	mg/l	0.050	0.019	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Lead, Total	0.0013		mg/l	0.0005	0.0003	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Magnesium, Total	0.065	J	mg/l	0.070	0.024	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Manganese, Total	0.0009	J	mg/l	0.0010	0.0004	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Mercury, Total	ND		mg/l	0.00020	0.00006	1	10/17/16 11:26	10/17/16 21:53	EPA 7470A	1,7470A	EA
Nickel, Total	ND		mg/l	0.0020	0.0006	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Potassium, Total	0.176		mg/l	0.100	0.031	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Selenium, Total	ND		mg/l	0.005	0.002	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Silver, Total	ND		mg/l	0.0004	0.0002	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Sodium, Total	0.105		mg/l	0.100	0.029	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Thallium, Total	ND		mg/l	0.0005	0.0001	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Tin, Total	ND		mg/l	0.0030	0.0011	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Zinc, Total	0.0095	J	mg/l	0.0100	0.0034	1	10/17/16 08:25	10/17/16 18:40	EPA 3005A	1,6020A	TT
Dissolved Metals - Mansfield Lab											
Aluminum, Dissolved	0.003	J	mg/l	0.010	0.003	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Antimony, Dissolved	0.0008	J	mg/l	0.0040	0.0004	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Arsenic, Dissolved	ND		mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Barium, Dissolved	0.0006		mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Beryllium, Dissolved	ND		mg/l	0.0005	0.0001	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB

Project Name: ATLAS WHITE METAL
Project Number: HHE1602
Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-23
Client ID: EQUIPMENT BLANK
Sample Location: Not Specified
Matrix: Water
Date Collected: 10/13/16 00:00
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Cadmium, Dissolved	ND		mg/l	0.0002	0.0001	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Calcium, Dissolved	0.071	J	mg/l	0.100	0.039	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Chromium, Dissolved	0.0003	J	mg/l	0.0010	0.0002	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Cobalt, Dissolved	ND		mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Copper, Dissolved	0.0008	J	mg/l	0.0010	0.0004	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Iron, Dissolved	ND		mg/l	0.050	0.019	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Lead, Dissolved	0.0004	J	mg/l	0.0010	0.0003	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Magnesium, Dissolved	ND		mg/l	0.070	0.024	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Manganese, Dissolved	0.0009	J	mg/l	0.0010	0.0004	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Mercury, Dissolved	ND		mg/l	0.00020	0.00006	1	10/18/16 14:03	10/19/16 21:10	EPA 7470A	1,7470A	EA
Nickel, Dissolved	ND		mg/l	0.0020	0.0006	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Potassium, Dissolved	0.044	J	mg/l	0.100	0.031	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Selenium, Dissolved	ND		mg/l	0.005	0.002	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Silver, Dissolved	ND		mg/l	0.0004	0.0002	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Sodium, Dissolved	0.058	J	mg/l	0.100	0.029	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Thallium, Dissolved	ND		mg/l	0.0005	0.0001	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Tin, Dissolved	ND		mg/l	0.0030	0.0011	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Vanadium, Dissolved	ND		mg/l	0.0050	0.0016	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB
Zinc, Dissolved	0.0043	J	mg/l	0.0100	0.0034	1	10/18/16 11:00	10/19/16 16:36	EPA 3005A	1,6020A	DB

Project Name: ATLAS WHITE METAL **Lab Number:** L1632941

Project Number: HHE1602 **Report Date:** 11/15/16

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-16 Batch: WG942405-1										
Mercury, Total	ND		mg/kg	0.08	0.02	1	10/15/16 11:20	10/19/16 14:39	1,7471B	BV

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-16 Batch: WG942411-1										
Aluminum, Total	ND		mg/kg	100	15.	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Antimony, Total	0.19	J	mg/kg	1.6	0.14	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Arsenic, Total	ND		mg/kg	0.50	0.07	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Barium, Total	ND		mg/kg	3.0	0.21	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Beryllium, Total	ND		mg/kg	0.30	0.09	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Cadmium, Total	ND		mg/kg	0.20	0.03	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Calcium, Total	ND		mg/kg	500	61.	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Chromium, Total	ND		mg/kg	2.0	0.47	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Cobalt, Total	ND		mg/kg	0.50	0.05	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Copper, Total	ND		mg/kg	2.0	0.19	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Iron, Total	ND		mg/kg	200	21.	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Lead, Total	ND		mg/kg	2.0	0.15	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Magnesium, Total	ND		mg/kg	100	12.	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Manganese, Total	ND		mg/kg	2.0	0.44	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Nickel, Total	ND		mg/kg	1.0	0.27	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Potassium, Total	ND		mg/kg	100	16.	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Selenium, Total	ND		mg/kg	2.0	0.76	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Silver, Total	ND		mg/kg	0.50	0.05	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Sodium, Total	ND		mg/kg	150	12.	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Thallium, Total	ND		mg/kg	0.20	0.05	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Tin, Total	ND		mg/kg	1.6	0.10	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Vanadium, Total	ND		mg/kg	1.0	0.38	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV
Zinc, Total	ND		mg/kg	10	2.6	10	10/15/16 08:50	10/18/16 14:17	1,6020A	BV

Project Name: ATLAS WHITE METAL **Lab Number:** L1632941

Project Number: HHE1602 **Report Date:** 11/15/16

Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 19-23 Batch: WG942647-7										
Aluminum, Total	ND		mg/l	0.010	0.003	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Antimony, Total	ND		mg/l	0.00050	0.00042	1	10/17/16 08:25	10/25/16 15:08	1,6020A	BV
Arsenic, Total	ND		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Barium, Total	ND		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Beryllium, Total	ND		mg/l	0.0005	0.0001	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Cadmium, Total	ND		mg/l	0.0002	0.0001	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Calcium, Total	ND		mg/l	0.100	0.039	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Chromium, Total	ND		mg/l	0.0010	0.0002	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Cobalt, Total	ND		mg/l	0.0005	0.0002	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Copper, Total	ND		mg/l	0.0010	0.0004	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Iron, Total	ND		mg/l	0.050	0.019	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Lead, Total	ND		mg/l	0.0005	0.0003	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Magnesium, Total	ND		mg/l	0.070	0.024	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Manganese, Total	ND		mg/l	0.0010	0.0004	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Nickel, Total	ND		mg/l	0.0020	0.0006	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Potassium, Total	ND		mg/l	0.100	0.031	1	10/17/16 08:25	10/17/16 16:01	1,6020A	TT
Selenium, Total	ND		mg/l	0.005	0.002	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Silver, Total	ND		mg/l	0.0002	0.0002	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Sodium, Total	0.065	J	mg/l	0.100	0.029	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Thallium, Total	ND		mg/l	0.0005	0.0001	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Tin, Total	ND		mg/l	0.0030	0.0011	1	10/17/16 08:25	10/17/16 16:01	1,6020A	TT
Vanadium, Total	ND		mg/l	0.0050	0.0016	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Zinc, Total	ND		mg/l	0.0050	0.0034	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT

Prep Information

Digestion Method: EPA 3005A

Project Name: ATLAS WHITE METAL **Lab Number:** L1632941

Project Number: HHE1602 **Report Date:** 11/15/16

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 20-23 Batch: WG942741-1										
Mercury, Total	ND		mg/l	0.00020	0.00006	1	10/17/16 11:26	10/17/16 21:35	1,7470A	EA

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 19-23 Batch: WG943166-1										
Aluminum, Dissolved	ND		mg/l	0.010	0.003	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Antimony, Dissolved	0.0007	J	mg/l	0.0040	0.0004	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Arsenic, Dissolved	ND		mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Barium, Dissolved	ND		mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Beryllium, Dissolved	ND		mg/l	0.0005	0.0001	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Cadmium, Dissolved	ND		mg/l	0.0002	0.0001	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Calcium, Dissolved	ND		mg/l	0.100	0.039	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Chromium, Dissolved	ND		mg/l	0.0010	0.0002	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Cobalt, Dissolved	ND		mg/l	0.0005	0.0002	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Copper, Dissolved	ND		mg/l	0.0010	0.0004	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Iron, Dissolved	ND		mg/l	0.050	0.019	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Lead, Dissolved	ND		mg/l	0.0010	0.0003	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Magnesium, Dissolved	ND		mg/l	0.070	0.024	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Manganese, Dissolved	ND		mg/l	0.0010	0.0004	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Nickel, Dissolved	ND		mg/l	0.0020	0.0006	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Potassium, Dissolved	ND		mg/l	0.100	0.031	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Selenium, Dissolved	ND		mg/l	0.005	0.002	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Silver, Dissolved	ND		mg/l	0.0004	0.0002	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Sodium, Dissolved	ND		mg/l	0.100	0.029	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Thallium, Dissolved	ND		mg/l	0.0005	0.0001	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Tin, Dissolved	ND		mg/l	0.0030	0.0011	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Vanadium, Dissolved	ND		mg/l	0.0050	0.0016	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB
Zinc, Dissolved	ND		mg/l	0.0100	0.0034	1	10/18/16 11:00	10/19/16 15:57	1,6020A	DB

Project Name: ATLAS WHITE METAL **Lab Number:** L1632941

Project Number: HHE1602 **Report Date:** 11/15/16

Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 20-23 Batch: WG943223-1										
Mercury, Dissolved	ND		mg/l	0.00020	0.00006	1	10/18/16 14:03	10/19/16 20:53	1,7470A	EA

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 17 Batch: WG945799-1										
Aluminum, Total	ND		mg/kg	100	15.	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Antimony, Total	0.17	J	mg/kg	1.6	0.14	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Arsenic, Total	ND		mg/kg	0.50	0.07	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Barium, Total	ND		mg/kg	3.0	0.21	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Beryllium, Total	ND		mg/kg	0.30	0.09	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Cadmium, Total	ND		mg/kg	0.20	0.03	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Calcium, Total	ND		mg/kg	500	61.	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Chromium, Total	ND		mg/kg	2.0	0.47	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Cobalt, Total	ND		mg/kg	0.50	0.05	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Copper, Total	ND		mg/kg	2.0	0.19	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Iron, Total	ND		mg/kg	200	21.	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Lead, Total	ND		mg/kg	0.60	0.15	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Magnesium, Total	ND		mg/kg	100	12.	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Manganese, Total	ND		mg/kg	2.0	0.44	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Nickel, Total	ND		mg/kg	1.0	0.27	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Potassium, Total	ND		mg/kg	100	16.	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Selenium, Total	ND		mg/kg	2.0	0.76	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Silver, Total	ND		mg/kg	0.50	0.05	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Sodium, Total	14	J	mg/kg	150	12.	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Thallium, Total	ND		mg/kg	0.20	0.05	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Tin, Total	ND		mg/kg	1.2	0.10	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV

Project Name: ATLAS WHITE METAL **Lab Number:** L1632941

Project Number: HHE1602 **Report Date:** 11/15/16

Method Blank Analysis
Batch Quality Control

Vanadium, Total	ND	mg/kg	1.0	0.38	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV
Zinc, Total	ND	mg/kg	10	2.6	10	10/26/16 06:39	10/26/16 09:49	1,6020A	BV

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 17 Batch: WG945812-1										
Mercury, Total	ND		mg/kg	0.08	0.02	1	10/26/16 10:00	10/28/16 14:43	1,7471B	BV

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: ATLAS WHITE METAL

Project Number: HHE1602

Lab Number: L1632941

Report Date: 11/15/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-16 Batch: WG942405-2 SRM Lot Number: D091-540								
Mercury, Total	89		-		72-128	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: ATLAS WHITE METAL

Project Number: HHE1602

Lab Number: L1632941

Report Date: 11/15/16

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-16 Batch: WG942411-2 SRM Lot Number: D091-540					
Aluminum, Total	80	-	52-148	-	20
Antimony, Total	154	-	1-200	-	20
Arsenic, Total	103	-	80-121	-	20
Barium, Total	105	-	84-117	-	20
Beryllium, Total	103	-	83-117	-	20
Cadmium, Total	104	-	83-117	-	20
Calcium, Total	109	-	81-118	-	20
Chromium, Total	98	-	80-119	-	20
Cobalt, Total	104	-	84-115	-	20
Copper, Total	104	-	82-118	-	20
Iron, Total	100	-	47-154	-	20
Lead, Total	103	-	82-118	-	20
Magnesium, Total	98	-	77-123	-	20
Manganese, Total	110	-	82-118	-	20
Nickel, Total	108	-	83-117	-	20
Potassium, Total	96	-	72-128	-	20
Selenium, Total	101	-	79-121	-	20
Silver, Total	102	-	76-124	-	20
Sodium, Total	112	-	73-126	-	20
Thallium, Total	99	-	80-121	-	20
Tin, Total	104	-	77-121	-	20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ATLAS WHITE METAL

Project Number: HHE1602

Lab Number: L1632941

Report Date: 11/15/16

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-16 Batch: WG942411-2 SRM Lot Number: D091-540					
Vanadium, Total	96	-	78-122	-	20
Zinc, Total	103	-	82-118	-	20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ATLAS WHITE METAL

Project Number: HHE1602

Lab Number: L1632941

Report Date: 11/15/16

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-23 Batch: WG942647-8					
Aluminum, Total	106	-	80-120	-	
Antimony, Total	100	-	80-120	-	
Arsenic, Total	93	-	80-120	-	
Barium, Total	102	-	80-120	-	
Beryllium, Total	105	-	80-120	-	
Cadmium, Total	113	-	80-120	-	
Calcium, Total	102	-	80-120	-	
Chromium, Total	95	-	80-120	-	
Cobalt, Total	95	-	80-120	-	
Copper, Total	100	-	80-120	-	
Iron, Total	88	-	80-120	-	
Lead, Total	93	-	80-120	-	
Magnesium, Total	103	-	80-120	-	
Manganese, Total	103	-	80-120	-	
Nickel, Total	97	-	80-120	-	
Potassium, Total	97	-	80-120	-	
Selenium, Total	82	-	80-120	-	
Silver, Total	107	-	80-120	-	
Sodium, Total	102	-	80-120	-	
Thallium, Total	85	-	80-120	-	
Tin, Total	95	-	80-120	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: ATLAS WHITE METAL

Project Number: HHE1602

Lab Number: L1632941

Report Date: 11/15/16

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-23 Batch: WG942647-8					
Vanadium, Total	99	-	80-120	-	
Zinc, Total	104	-	80-120	-	
Total Metals - Mansfield Lab Associated sample(s): 20-23 Batch: WG942741-2					
Mercury, Total	98	-	80-120	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: ATLAS WHITE METAL

Project Number: HHE1602

Lab Number: L1632941

Report Date: 11/15/16

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 19-23 Batch: WG943166-2					
Aluminum, Dissolved	104	-	80-120	-	
Antimony, Dissolved	99	-	80-120	-	
Arsenic, Dissolved	104	-	80-120	-	
Barium, Dissolved	100	-	80-120	-	
Beryllium, Dissolved	97	-	80-120	-	
Cadmium, Dissolved	108	-	80-120	-	
Calcium, Dissolved	106	-	80-120	-	
Chromium, Dissolved	104	-	80-120	-	
Cobalt, Dissolved	94	-	80-120	-	
Copper, Dissolved	101	-	80-120	-	
Iron, Dissolved	100	-	80-120	-	
Lead, Dissolved	98	-	80-120	-	
Magnesium, Dissolved	106	-	80-120	-	
Manganese, Dissolved	96	-	80-120	-	
Nickel, Dissolved	104	-	80-120	-	
Potassium, Dissolved	105	-	80-120	-	
Selenium, Dissolved	98	-	80-120	-	
Silver, Dissolved	103	-	80-120	-	
Sodium, Dissolved	97	-	80-120	-	
Thallium, Dissolved	96	-	80-120	-	
Tin, Dissolved	98	-	80-120	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: ATLAS WHITE METAL

Project Number: HHE1602

Lab Number: L1632941

Report Date: 11/15/16

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 19-23 Batch: WG943166-2					
Vanadium, Dissolved	107	-	80-120	-	
Zinc, Dissolved	94	-	80-120	-	
Dissolved Metals - Mansfield Lab Associated sample(s): 20-23 Batch: WG943223-2					
Mercury, Dissolved	97	-	80-120	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: ATLAS WHITE METAL

Project Number: HHE1602

Lab Number: L1632941

Report Date: 11/15/16

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17 Batch: WG945799-2 SRM Lot Number: D091-540					
Aluminum, Total	74	-	52-148	-	20
Antimony, Total	179	-	1-200	-	20
Arsenic, Total	103	-	80-121	-	20
Barium, Total	100	-	84-117	-	20
Beryllium, Total	102	-	83-117	-	20
Cadmium, Total	100	-	83-117	-	20
Calcium, Total	107	-	81-118	-	20
Chromium, Total	98	-	80-119	-	20
Cobalt, Total	104	-	84-115	-	20
Copper, Total	104	-	82-118	-	20
Iron, Total	113	-	47-154	-	20
Lead, Total	103	-	82-118	-	20
Magnesium, Total	95	-	77-123	-	20
Manganese, Total	100	-	82-118	-	20
Nickel, Total	101	-	83-117	-	20
Potassium, Total	88	-	72-128	-	20
Selenium, Total	101	-	79-121	-	20
Silver, Total	102	-	76-124	-	20
Sodium, Total	106	-	73-126	-	20
Thallium, Total	92	-	80-121	-	20
Tin, Total	111	-	77-121	-	20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ATLAS WHITE METAL

Project Number: HHE1602

Lab Number: L1632941

Report Date: 11/15/16

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17 Batch: WG945799-2 SRM Lot Number: D091-540					
Vanadium, Total	104	-	78-122	-	20
Zinc, Total	103	-	82-118	-	20
Total Metals - Mansfield Lab Associated sample(s): 17 Batch: WG945812-2 SRM Lot Number: D091-540					
Mercury, Total	106	-	72-128	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-16 QC Batch ID: WG942405-3 WG942405-4 QC Sample: L1632941-12 Client ID: SB026-03												
Mercury, Total	0.49	0.17	0.88	**230**	Q	0.52	**18**	Q	80-120	**51**	Q	20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-16 QC Batch ID: WG942411-3 WG942411-4 QC Sample: L1632941-12 Client ID: SB026-03												
Aluminum, Total	3800	2080	5200	**67**	Q	7000	**154**	Q	75-125	**30**	Q	20
Antimony, Total	8.7	51.9	62	103		62	102		75-125	0		20
Arsenic, Total	20.	12.4	45	**201**	Q	35	120		75-125	**25**	Q	20
Barium, Total	160	208	370	101		370	101		75-125	0		20
Beryllium, Total	0.46	5.19	6.1	109		6.1	108		75-125	0		20
Cadmium, Total	2.0	5.29	8.6	125		7.9	111		75-125	8		20
Calcium, Total	2000	1040	3700	**164**	Q	7100	**490**	Q	75-125	**63**	Q	20
Chromium, Total	52.	20.8	77	120		64	**58**	Q	75-125	18		20
Cobalt, Total	8.7	51.9	67	112		63	104		75-125	6		20
Copper, Total	740	25.9	760	77		830	**346**	Q	75-125	9		20
Iron, Total	46000	1040	100000	**5200**	Q	52000	**576**	Q	75-125	**63**	Q	20
Lead, Total	1200	52.9	1200	**0**	Q	1200	**0**	Q	75-125	0		20
Magnesium, Total	640	1040	1800	112		2000	**131**	Q	75-125	11		20
Manganese, Total	480	51.9	780	**578**	Q	630	**288**	Q	75-125	**21**	Q	20
Nickel, Total	38.	51.9	98	116		120	**158**	Q	75-125	20		20
Potassium, Total	590	1040	1800	117		1700	107		75-125	6		20
Selenium, Total	1.3J	12.4	12	96		14	112		75-125	15		20
Silver, Total	0.32J	31.1	34	109		34	109		75-125	0		20
Sodium, Total	260	1040	1400	110		1700	**138**	Q	75-125	19		20
Thallium, Total	0.71	12.4	9.7	**72**	Q	11	82		75-125	13		20
Tin, Total	67.	104	180	109		210	**137**	Q	75-125	15		20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-16 QC Batch ID: WG942411-3 WG942411-4 QC Sample: L1632941-12 Client ID: SB026-03											
Vanadium, Total	16.	51.9	79	121		73	110		75-125	8	20
Zinc, Total	590	51.9	700	**212**	Q	600	**19**	Q	75-125	15	20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-23 QC Batch ID: WG942647-13 WG942647-14 QC Sample: L1632941-19 Client ID: GW001												
Aluminum, Total	3.28	2	8.15	**244**	Q	6.08	**140**	Q	75-125	**29**	Q	20
Antimony, Total	ND	0.5	0.7710	**154**	Q	0.6382	**128**	Q	75-125	19		20
Arsenic, Total	0.0030	0.12	0.1764	**144**	Q	0.1193	97		75-125	**39**	Q	20
Barium, Total	0.1634	2	3.091	**146**	Q	2.360	110		75-125	**27**	Q	20
Beryllium, Total	0.0003J	0.05	0.0720	**144**	Q	0.0534	107		75-125	**30**	Q	20
Cadmium, Total	ND	0.051	0.0756	**148**	Q	0.0622	122		75-125	19		20
Calcium, Total	203.	10	305	**1020**	Q	242	**390**	Q	75-125	**23**	Q	20
Chromium, Total	0.0136	0.2	0.3132	**150**	Q	0.2516	119		75-125	**22**	Q	20
Cobalt, Total	0.0034	0.5	0.7324	**146**	Q	0.5964	118		75-125	20		20
Copper, Total	0.0115	0.25	0.3920	**152**	Q	0.3171	122		75-125	**21**	Q	20
Iron, Total	17.6	1	24.1	**650**	Q	19.0	**140**	Q	75-125	**24**	Q	20
Lead, Total	0.0593	0.51	0.7639	**138**	Q	0.6062	107		75-125	**23**	Q	20
Magnesium, Total	45.8	10	78.3	**325**	Q	60.9	**151**	Q	75-125	**25**	Q	20
Manganese, Total	1.134	0.5	2.262	**226**	Q	1.798	**133**	Q	75-125	**23**	Q	20
Nickel, Total	0.0184	0.5	0.7916	**155**	Q	0.6172	120		75-125	**25**	Q	20
Potassium, Total	53.4	10	81.8	**284**	Q	64.4	110		75-125	**24**	Q	20
Selenium, Total	0.002J	0.12	0.177	**148**	Q	0.073J	**60**	Q	75-125	**84**	Q	20
Silver, Total	ND	0.05	0.0732	**146**	Q	0.0607	121		75-125	19		20
Sodium, Total	535.	10	802	**2670**	Q	607	**720**	Q	75-125	**28**	Q	20
Thallium, Total	ND	0.12	0.1631	**136**	Q	0.1254	104		75-125	**26**	Q	20
Tin, Total	0.0036	1	1.296	**129**	Q	1.090	109		75-125	17		20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-23 QC Batch ID: WG942647-13 WG942647-14 QC Sample: L1632941-19 Client ID: GW001											
Vanadium, Total	0.0171	0.5	0.7684	**150**	Q	0.6202	121	75-125	**21**	Q	20
Zinc, Total	0.0561	0.5	0.7781	**144**	Q	0.6231	113	75-125	**22**	Q	20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-23 QC Batch ID: WG942647-9 WG942647-10 QC Sample: L1632907-02 Client ID: MS Sample												
Aluminum, Total	0.941	2	3.04	105		3.13	109		75-125	3		20
Antimony, Total	0.0011J	0.5	0.5681	114		0.5576	112		75-125	2		20
Arsenic, Total	0.0015	0.12	0.1366	112		0.1334	110		75-125	2		20
Barium, Total	0.2120	2	2.362	108		2.165	98		75-125	9		20
Beryllium, Total	0.0001J	0.05	0.0521	104		0.0533	107		75-125	2		20
Cadmium, Total	ND	0.051	0.0530	104		0.0541	106		75-125	2		20
Calcium, Total	102.	10	118	**160**	Q	120	**180**	Q	75-125	2		20
Chromium, Total	0.0082	0.2	0.1890	90		0.2046	98		75-125	8		20
Cobalt, Total	0.0019	0.5	0.4889	97		0.4850	97		75-125	1		20
Copper, Total	0.0056	0.25	0.2818	110		0.2441	95		75-125	14		20
Iron, Total	7.09	1	7.32	**23**	Q	7.93	84		75-125	8		20
Lead, Total	0.0040	0.51	0.5533	108		0.5527	108		75-125	0		20
Magnesium, Total	45.6	10	54.9	93		57.4	118		75-125	4		20
Manganese, Total	1.100	0.5	1.575	95		1.579	96		75-125	0		20
Nickel, Total	0.0069	0.5	0.5076	100		0.5024	99		75-125	1		20
Potassium, Total	22.1	10	29.2	**71**	Q	31.3	92		75-125	7		20
Selenium, Total	ND	0.12	0.153	**128**	Q	0.116	97		75-125	**28**	Q	20
Silver, Total	ND	0.05	0.0547	109		0.0522	104		75-125	5		20
Sodium, Total	141.	10	151	100		176	**350**	Q	75-125	15		20
Thallium, Total	ND	0.12	0.1172	98		0.1192	99		75-125	2		20
Vanadium, Total	0.0048J	0.5	0.5196	104		0.5221	104		75-125	0		20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-23 QC Batch ID: WG942647-9 WG942647-10 QC Sample: L1632907-02 Client ID: MS Sample									
Zinc, Total	0.0175	0.5	0.5850	114	0.5317	103	75-125	10	20
Total Metals - Mansfield Lab Associated sample(s): 20-23 QC Batch ID: WG942741-4 QC Sample: L1632368-02 Client ID: MS Sample									
Mercury, Total	ND	0.005	0.00511	102	-	-	75-125	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 19-23 QC Batch ID: WG943166-3 WG943166-4 QC Sample: L1632941-19 Client ID: GW001											
Aluminum, Dissolved	0.022	2	2.14	106		1.94	96		75-125	10	20
Antimony, Dissolved	0.0008J	0.5	0.5941	119		0.5574	111		75-125	6	20
Arsenic, Dissolved	0.0009	0.12	0.1279	106		0.1289	107		75-125	1	20
Barium, Dissolved	0.0803	2	2.091	100		2.008	96		75-125	4	20
Beryllium, Dissolved	ND	0.05	0.0504	101		0.0484	97		75-125	4	20
Cadmium, Dissolved	ND	0.051	0.0558	109		0.0536	105		75-125	4	20
Calcium, Dissolved	194.	10	215	**210**	Q	206	120		75-125	4	20
Chromium, Dissolved	0.0026	0.2	0.2086	103		0.1818	90		75-125	14	20
Cobalt, Dissolved	0.0007	0.5	0.4763	95		0.4597	92		75-125	4	20
Copper, Dissolved	0.0018	0.25	0.2672	106		0.2600	103		75-125	3	20
Iron, Dissolved	0.052	1	1.12	107		0.993J	94		75-125	12	20
Lead, Dissolved	ND	0.51	0.5219	102		0.4973	98		75-125	5	20
Magnesium, Dissolved	39.6	10	53.5	**139**	Q	47.1	75		75-125	13	20
Manganese, Dissolved	0.8316	0.5	1.340	102		1.302	94		75-125	3	20
Nickel, Dissolved	0.0037	0.5	0.5495	109		0.5245	104		75-125	5	20
Potassium, Dissolved	45.1	10	58.6	**135**	Q	55.2	101		75-125	6	20
Selenium, Dissolved	ND	0.12	0.119	99		0.134	112		75-125	12	20
Silver, Dissolved	ND	0.05	0.0527	105		0.0496	99		75-125	6	20
Sodium, Dissolved	488.	10	546	**580**	Q	504	**160**	Q	75-125	8	20
Thallium, Dissolved	ND	0.12	0.1185	99		0.1151	96		75-125	3	20
Tin, Dissolved	ND	1	0.9965	100		0.9513	95		75-125	5	20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 19-23 QC Batch ID: WG943166-3 WG943166-4 QC Sample: L1632941-19 Client ID: GW001									
Vanadium, Dissolved	0.0024J	0.5	0.5400	108	0.5237	105	75-125	3	20
Zinc, Dissolved	0.0075J	0.5	0.4986	100	0.4716	94	75-125	6	20
Dissolved Metals - Mansfield Lab Associated sample(s): 20-23 QC Batch ID: WG943223-4 QC Sample: L1632941-20 Client ID: GW002									
Mercury, Dissolved	ND	0.005	0.00442	88	-	-	75-125	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17 QC Batch ID: WG945799-3 QC Sample: L1633469-01 Client ID: MS Sample										
Aluminum, Total	65.J	1540	230	**15**	Q	-	-	75-125	-	20
Antimony, Total	0.21J	38.5	42	109		-	-	75-125	-	20
Arsenic, Total	0.09J	9.24	10	108		-	-	75-125	-	20
Barium, Total	0.71J	154	160	104		-	-	75-125	-	20
Beryllium, Total	ND	3.85	4.0	104		-	-	75-125	-	20
Cadmium, Total	ND	3.93	4.5	115		-	-	75-125	-	20
Calcium, Total	1200	770	2000	104		-	-	75-125	-	20
Chromium, Total	ND	15.4	17	110		-	-	75-125	-	20
Cobalt, Total	ND	38.5	42	109		-	-	75-125	-	20
Copper, Total	0.48J	19.2	22	114		-	-	75-125	-	20
Iron, Total	21.J	770	110	**14**	Q	-	-	75-125	-	20
Lead, Total	0.50J	39.3	42	107		-	-	75-125	-	20
Magnesium, Total	70.J	770	900	117		-	-	75-125	-	20
Manganese, Total	2.6	38.5	45	110		-	-	75-125	-	20
Nickel, Total	0.37J	38.5	43	112		-	-	75-125	-	20
Potassium, Total	ND	770	800	104		-	-	75-125	-	20
Selenium, Total	ND	9.24	9.9	107		-	-	75-125	-	20
Silver, Total	ND	23.1	24	104		-	-	75-125	-	20
Sodium, Total	610	770	1400	103		-	-	75-125	-	20
Thallium, Total	0.40	9.24	9.0	93		-	-	75-125	-	20
Tin, Total	0.94	77	84	108		-	-	75-125	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17 QC Batch ID: WG945799-3 QC Sample: L1633469-01 Client ID: MS Sample										
Vanadium, Total	ND	38.5	43	112		-	-	75-125	-	20
Zinc, Total	ND	38.5	44	114		-	-	75-125	-	20
Total Metals - Mansfield Lab Associated sample(s): 17 QC Batch ID: WG945812-3 QC Sample: L1633747-09 Client ID: MS Sample										
Mercury, Total	0.06J	0.146	0.23	**157**	Q	-	-	80-120	-	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 20-23 QC Batch ID: WG942741-3 QC Sample: L1632368-02 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Dissolved Metals - Mansfield Lab Associated sample(s): 20-23 QC Batch ID: WG943223-3 QC Sample: L1632941-20 Client ID: GW002						
Mercury, Dissolved	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 17 QC Batch ID: WG945799-4 QC Sample: L1633469-01 Client ID: DUP Sample						
Antimony, Total	0.21J	0.17J	mg/kg	NC		20
Arsenic, Total	0.09J	0.10J	mg/kg	NC		20
Barium, Total	0.71J	0.61J	mg/kg	NC		20
Cadmium, Total	ND	ND	mg/kg	NC		20
Lead, Total	0.50J	0.34J	mg/kg	NC		20
Nickel, Total	0.37J	ND	mg/kg	NC		20
Selenium, Total	ND	ND	mg/kg	NC		20
Total Metals - Mansfield Lab Associated sample(s): 17 QC Batch ID: WG945812-4 QC Sample: L1633747-09 Client ID: DUP Sample						
Mercury, Total	0.06J	0.06J	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-01
Client ID: SB025-01
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 10:48
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.9		%	0.100	NA	1	-	10/18/16 11:50	121,2540G	RP

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-02
Client ID: SB025-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 10:49
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	62.9		%	0.100	NA	1	-	10/18/16 11:50	121,2540G	RP

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-03
Client ID: SB025-03
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 10:50
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	69.4		%	0.100	NA	1	-	10/18/16 11:50	121,2540G	RP

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-04
Client ID: SB025-04
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 10:51
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	75.4		%	0.100	NA	1	-	10/18/16 11:50	121,2540G	RP

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-05
Client ID: SB025-05
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 10:20
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.6		%	0.100	NA	1	-	10/18/16 11:50	121,2540G	RP

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-06
Client ID: SB025-06
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 10:21
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.1		%	0.100	NA	1	-	10/18/16 11:50	121,2540G	RP

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-07
Client ID: SB025-07
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 10:22
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.0		%	0.100	NA	1	-	10/18/16 11:50	121,2540G	RP

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-08
Client ID: SB90025-07
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 10:22
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.5		%	0.100	NA	1	-	10/18/16 11:50	121,2540G	RP

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-09
Client ID: SB025-08
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 10:23
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	71.5		%	0.100	NA	1	-	10/18/16 11:50	121,2540G	RP

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-10
Client ID: SB026-01
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 12:30
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.9		%	0.100	NA	1	-	10/18/16 11:50	121,2540G	RP

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-11
Client ID: SB026-02
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 12:31
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.9		%	0.100	NA	1	-	10/18/16 11:50	121,2540G	RP

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-12
Client ID: SB026-03
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 12:32
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	74.6		%	0.100	NA	1	-	10/18/16 11:50	121,2540G	RP

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-13
Client ID: SB026-04
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 12:33
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.0		%	0.100	NA	1	-	10/18/16 11:50	121,2540G	RP

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-14
Client ID: SB026-05
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 12:34
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	10/18/16 11:50	121,2540G	RP

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-15
Client ID: SB026-06
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 12:35
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.4		%	0.100	NA	1	-	10/18/16 11:50	121,2540G	RP

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-16
Client ID: SB026-07
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 12:36
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.9		%	0.100	NA	1	-	10/18/16 11:50	121,2540G	RP

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

SAMPLE RESULTS

Lab ID: L1632941-17
Client ID: SB026-08
Sample Location: Not Specified
Matrix: Soil

Date Collected: 10/13/16 12:37
Date Received: 10/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.7		%	0.100	NA	1	-	10/28/16 14:09	121,2540G	RI

Lab Duplicate Analysis
Batch Quality Control

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-16 QC Batch ID: WG943402-1 QC Sample: L1632941-12 Client ID: SB026-03						
Solids, Total	74.6	73.2	%	2		20
General Chemistry - Westborough Lab Associated sample(s): 17 QC Batch ID: WG946805-1 QC Sample: L1634163-05 Client ID: DUP Sample						
Solids, Total	84.1	80.0	%	5		20

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1632941-01A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1632941-02A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1632941-03A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)

*Values in parentheses indicate holding time in days

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1632941-04A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1632941-05A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1632941-06A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1632941-07A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)

*Values in parentheses indicate holding time in days

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1632941-08A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1632941-09A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1632941-10A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1632941-11A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)

*Values in parentheses indicate holding time in days

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1632941-12A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),MS/MSD(),CO-6020T(180)
L1632941-12A1	Metals Only - Glass 60mL/2oz unp	B	<2	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),MS/MSD(),CO-6020T(180)
L1632941-12A2	Metals Only - Glass 60mL/2oz unp	B	<2	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),MS/MSD(),CO-6020T(180)
L1632941-13A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)

*Values in parentheses indicate holding time in days

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1632941-14A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1632941-15A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1632941-16A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1632941-17A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),TS(7),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1632941-18A	Metals Only - Glass 60mL/2oz unp	B	N/A	2.7	Y	Absent	HOLD-METAL(180)

*Values in parentheses indicate holding time in days

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1632941-19A	Plastic 250ml HNO3 preserved	A	<2	2.1	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),MG-6020T(180),CO-6020T(180)
L1632941-19B	Plastic 250ml unpreserved	A	N/A	2.1	Y	Absent	-
L1632941-19X	Plastic 120ml HNO3 preserved spl	A	<2	2.1	Y	Absent	CU-6020S(180),K-6020S(180),SE-6020S(180),V-6020S(180),MN-6020S(180),BE-6020S(180),CO-6020S(180),MG-6020S(180),ZN-6020S(180),CA-6020S(180),CR-6020S(180),FE-6020S(180),SN-6020S(180),BA-6020S(180),NA-6020S(180),NI-6020S(180),PB-6020S(180),TL-6020S(180),AG-6020S(180),AS-6020S(180),SB-6020S(180),AL-6020S(180),CD-6020S(180)
L1632941-20A	Plastic 250ml HNO3 preserved	A	<2	2.1	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1632941-20B	Plastic 250ml unpreserved	A	N/A	2.1	Y	Absent	-
L1632941-20X	Plastic 120ml HNO3 preserved spl	A	<2	2.1	Y	Absent	CU-6020S(180),K-6020S(180),SE-6020S(180),V-6020S(180),MN-6020S(180),BE-6020S(180),CO-6020S(180),MG-6020S(180),ZN-6020S(180),CA-6020S(180),CR-6020S(180),FE-6020S(180),SN-6020S(180),BA-6020S(180),NA-6020S(180),NI-6020S(180),PB-6020S(180),TL-6020S(180),AG-6020S(180),AS-6020S(180),SB-6020S(180),AL-6020S(180),CD-6020S(180),HG-S(28)

*Values in parentheses indicate holding time in days

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1632941-21A	Plastic 250ml HNO3 preserved	A	<2	2.1	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1632941-21B	Plastic 250ml unpreserved	A	N/A	2.1	Y	Absent	-
L1632941-21X	Plastic 120ml HNO3 preserved spl	A	<2	2.1	Y	Absent	CU-6020S(180),K-6020S(180),SE-6020S(180),V-6020S(180),MN-6020S(180),BE-6020S(180),CO-6020S(180),MG-6020S(180),ZN-6020S(180),CA-6020S(180),CR-6020S(180),FE-6020S(180),SN-6020S(180),BA-6020S(180),NA-6020S(180),NI-6020S(180),PB-6020S(180),TL-6020S(180),AG-6020S(180),AS-6020S(180),SB-6020S(180),AL-6020S(180),CD-6020S(180),HG-S(28)
L1632941-22A	Plastic 250ml HNO3 preserved	A	<2	2.1	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1632941-22B	Plastic 250ml unpreserved	A	N/A	2.1	Y	Absent	-
L1632941-22X	Plastic 120ml HNO3 preserved spl	A	<2	2.1	Y	Absent	CU-6020S(180),K-6020S(180),SE-6020S(180),V-6020S(180),MN-6020S(180),BE-6020S(180),CO-6020S(180),MG-6020S(180),ZN-6020S(180),CA-6020S(180),CR-6020S(180),FE-6020S(180),SN-6020S(180),BA-6020S(180),NA-6020S(180),NI-6020S(180),PB-6020S(180),TL-6020S(180),AG-6020S(180),AS-6020S(180),SB-6020S(180),AL-6020S(180),CD-6020S(180),HG-S(28)

*Values in parentheses indicate holding time in days

Project Name: ATLAS WHITE METAL
Project Number: HHE1602

Lab Number: L1632941
Report Date: 11/15/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1632941-23A	Plastic 250ml HNO3 preserved	A	<2	2.1	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),SN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1632941-23B	Plastic 250ml unpreserved	A	N/A	2.1	Y	Absent	-
L1632941-23X	Plastic 120ml HNO3 preserved spl	A	<2	2.1	Y	Absent	CU-6020S(180),K-6020S(180),SE-6020S(180),V-6020S(180),MN-6020S(180),BE-6020S(180),CO-6020S(180),MG-6020S(180),ZN-6020S(180),CA-6020S(180),CR-6020S(180),FE-6020S(180),SN-6020S(180),BA-6020S(180),NA-6020S(180),NI-6020S(180),PB-6020S(180),TL-6020S(180),AG-6020S(180),AS-6020S(180),SB-6020S(180),AL-6020S(180),CD-6020S(180),HG-S(28)

*Values in parentheses indicate holding time in days

Project Name:	ATLAS WHITE METAL	**Lab Number:**	L1632941
Project Number:	HHE1602	**Report Date:**	11/15/16

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: DU Report with 'J' Qualifiers

Project Name:	ATLAS WHITE METAL	**Lab Number:**	L1632941
Project Number:	HHE1602	**Report Date:**	11/15/16

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	ATLAS WHITE METAL	**Lab Number:**	L1632941
Project Number:	HHE1602	**Report Date:**	11/15/16

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: ***EPA 3050B***

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 3

Date Rec'd in Lab: 10/14/16

ALPHA Job #: L1632941

Client Information
Client: PWGC
Address: 1 Penn Plaza
New York, NY
Phone: 212-786-7420
Fax:
Email: RKampf@pwgrosser.com

Project Information
Project Name: Bright White Metals
Project Location:
Project #: HHE1602
(Use Project name as Project #) ☐
Project Manager: Rich Kampf
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☐ Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL Metals + Tin	Sample Specific Comments	Total Bottle
1632941 01	SB025-01	10/13/16	1048	Soil	MG	X	Run	
02	SB025-02		1049				Run	
03	SB025-03		1050				Run	
04	SB025-04		1051				Run	
05	SB025-05		1020				Run	
06	SB025-06		1021				Run	
07	SB025-07		1022				Run	
08	~~SB025~~ SB10025-07		1022				Run	
09	SB025-08		1023				Run	
10	SB026-01	↓	1230	↓	↓	↓	Run	

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type															
Preservative															

Relinquished By:	Date/Time	Received By:	Date/Time
	10/13/16 12:35		10/13/16 12:35
	10/13/16 2020		10-13-16 2020
	10-14-16 0240		10/14/16 0240

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 2 of 3

Date Rec'd in Lab: 10/14/16

ALPHA Job #: L1632941

Client Information
Client: PWGC
Address:
Phone: 212-786-7420
Fax:
Email: rkimpf@pwgsc.com

Project Information
Project Name: AHQs Curtis Mall
Project Location:
Project #: HHF1662
(Use Project name as Project #) ☐
Project Manager: Rich Kimpf
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☐ Same as Client Info
PO #

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Tal metals + Hg

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Tal metals + Hg	Total Bottle	Sample Specific Comments
32941 -11	SB026-02	10/13/16	1231	Soil	MG	X		Rush
-12	SB026-03 (MS/MSD)		1232					Rush
-13	SB026-04		1233					Rush
-14	SB026-05		1234					Rush
-15	SB026-06		1235					Rush
-16	SB026-07		1236					Rush
-17	SB026-08		1237					Hold
-18	GW001-08		1719					Hold

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type													
Preservative													

Relinquished By:	Date/Time	Received By:	Date/Time
	10/13/16 18:35		10/13/16 18:35
	10-13-16 2025		10-13-16 2000
	10-14-16 0240		

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 3 of 3

Date Rec'd in Lab: 10/14/16

ALPHA Job #: L1632941

Client Information
Client: PWGC
Address:
Phone: 212-786-7120
Fax:
Email: CWright@pwgrosser.com

Project Information
Project Name: Atlas White Mall
Project Location:
Project #: 17HF 1662
(Use Project name as Project #) ☐
Project Manager: Rich Wright
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☐ Same as Client Info
PO #

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total TAL Metals	Dissolved TAL Metals	Total Bottle	Sample Specific Comments
32944-19	GW 001	10/13/16	1759	Groundwater	MG	X	X		
-20	GW 002		1638						
-21	GW 9002		1638						
-22	GW 003		1435						
-23	Equipment blank								

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	10/13/16 18:30	BAL/Pearson AAL	10/13/16 18:30
BAL/Pearson	10/13/16 2020	John Tobin	10-13-16 2020
John Tobin	10-14-16 0241		10/14/16 0252

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

APPENDIX D
MONITORING WELL SAMPLING LOGS

Groundwater Monitoring Well Sampling Log

SITE INFORMATION

Site/Project Number:	**38-01 Queens Blvd, Queens, NY / CUP1601**		
Sampling Point:	GW001	**Sampled By:**	MG
Date Sampled:	10/13/2016	**Time Sampled:**	17:54
Depth to Water (feet):	7	**Total Well Depth (feet):**	12
Well Diameter (inches):	1"	**Headspace (ppm):**	NM

SAMPLING INFORMATION

Purge Method:	Peristaltic Pump	**Sample Method:**	Peristaltic Pump
Purge Rate (gpm):	see below	**Purge Time (min):**	see below
Sample Appearance:	Silty/Translucent/Tinted Brown	**Odors Observed:**	None
Analysis:	Total TAL Metals and Dissolved TAL Metals	**Laboratory:**	AAL
Date Shipped:	10/13/2016	**Shipping Method:**	Courier

SAMPLING PARAMETERS

Reading	Flow Rate (mL/min)	Time	Temp. (ºC)	pH	Turbidity NTU	ORP mV	Cond. (mS/cm)	DO mg/L
1	528	17:30:00 PM	19.20	5.9	OR	-56	7.34	0.59
2	528	17:33:00 PM	18.96	5.9	OR	-89	6.08	1.15
3	528	17:36:00 PM	18.88	6.0	OR	-95	5.89	3.98
4	528	17:39:00 PM	18.85	6.0	539	-95	5.88	5.41
5	528	17:42:00 PM	18.85	6.1	325	-101	5.90	5.56
6	528	17:45:00 PM	18.82	6.1	160	-101	5.86	5.62
7	528	17:48:00 PM	18.83	6.1	110	-101	5.94	5.64
8	528	17:51:00 PM	18.83	6.1	112	-101	5.94	5.61

(Take readings every three minutes.)

Notes:

Flow Rate - between 200 - 250 mL/min

ORP - ±10 mV

pH - ±0.1

DO - ±10%

Conductivity - ±3%

Turbidity - ±10%

OR - Turbidity exceeded the display limit of 999 NTU

Groundwater Monitoring Well Sampling Log

SITE INFORMATION

Site/Project Number:	**38-01 Queens Blvd, Queens, NY / CUP1601**		
Sampling Point:	GW002	**Sampled By:**	MG
Date Sampled:	10/13/2016	**Time Sampled:**	16:38
Depth to Water (feet):	7	**Total Well Depth (feet):**	12
Well Diameter (inches):	1"	**Headspace (ppm):**	NM

SAMPLING INFORMATION

Purge Method:	Peristaltic Pump	**Sample Method:**	Peristaltic Pump
Purge Rate (gpm):	see below	**Purge Time (min):**	see below
Sample Appearance:	Silty/Translucent/Tinted Brown	**Odors Observed:**	None
Analysis:	Total TAL Metals and Dissolved TAL Metals	**Laboratory:**	AAL
Date Shipped:	10/13/2016	**Shipping Method:**	Courier

SAMPLING PARAMETERS

Reading	Flow Rate (mL/min)	Time	Temp. (ºC)	pH	Turbidity NTU	ORP mV	Cond. (mS/cm)	DO mg/L
1	533	16:15:00 PM	20.34	5.9	43.9	-103	3.71	5.02
2	533	16:20:00 PM	21.07	5.9	OR	-7	9.43	0.25
3	533	16:25:00 PM	21.19	5.9	444.0	5	9.41	0.22
4	533	16:30:00 PM	21.22	5.9	914.0	2	9.92	0.25
5	533	16:35:00 PM	21.32	5.9	OR	2	9.82	0.20

(Take readings every three minutes.)

Notes:

Flow Rate - between 200 - 250 mL/min

ORP - ±10 mV

pH - ±0.1

DO - ±10%

Conductivity - ±3%

Turbidity - ±10%

OR - Turbidity exceeded the display limit of 999 NTU

Groundwater Monitoring Well Sampling Log

SITE INFORMATION

Site/Project Number:	**38-01 Queens Blvd, Queens, NY / CUP1601**		
Sampling Point:	GW003	**Sampled By:**	MG
Date Sampled:	10/13/2016	**Time Sampled:**	14:35
Depth to Water (feet):	7	**Total Well Depth (feet):**	12
Well Diameter (inches):	1"	**Headspace (ppm):**	NM

SAMPLING INFORMATION

Purge Method:	Peristaltic Pump	**Sample Method:**	Peristaltic Pump
Purge Rate (gpm):	see below	**Purge Time (min):**	see below
Sample Appearance:	Silty/Translucent/Tinted Brown	**Odors Observed:**	None
Analysis:	Total TAL Metals and Dissolved TAL Metals	**Laboratory:**	AAL
Date Shipped:	10/13/2016	**Shipping Method:**	Courier

SAMPLING PARAMETERS

Reading	Flow Rate (mL/min)	Time	Temp. (ºC)	pH	Turbidity NTU	ORP mV	Cond. (mS/cm)	DO mg/L
1	333	14:08:00 PM	20.85	5.7	OR	-48	4.09	6.21
2	333	14:13:00 PM	20.50	5.8	OR	-87	3.89	6.19
3	333	14:18:00 PM	20.90	5.9	388.0	229	3.82	5.94
4	333	14:23:00 PM	20.38	5.9	859.0	-105	3.79	5.41
5	333	14:28:00 PM	20.35	5.9	38.5	-104	3.72	5.06
6	333	14:33:00 PM	20.34	5.9	43.9	-103	3.71	5.02

(Take readings every three minutes.)

Notes:

Flow Rate - between 200 - 250 mL/min

ORP - ±10 mV

pH - ±0.1

DO - ±10%

Conductivity - ±3%

Turbidity - ±10%

OR - Turbidity exceeded the display limit of 999 NTU

APPENDIX E
DATA VALIDATION REPORT

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

P.W. Grosser Consulting
One Penn Plaza, 36th Floor
New York, NY 10119
ATTN: Mr. Richard Kampf

December 9, 2016

SUBJECT: Atlas White Metals, Data Validation

Dear Mr. Kampf,

Enclosed are the final validation reports for the fraction listed below. These SDGs were received on October 6, 2016 for LDC# 37226 and December 1, 2016 for LDC# 37599. Attachment 1 is a summary of the samples that were reviewed for analysis.

LDC Project #37226:

SDG #	Fraction
L1622423, L1622604	Metals

LDC Project 37599:

SDG #	Fraction
L1632941	Metals

The data validation was performed under Stage 4 guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Atlas White Metal Co. Site, Brooklyn, King County, New York, March 2016
- USEPA, National Functional Guidelines for Inorganic Superfund Data Review, August 2014
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Christina Rink

Christina Rink
Project Manager/Chemist

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Attachment 1

Category B

LDC #37226 (P.W. Grosser Consulting - Bohemia, NY / Atlas White Metals)

LDC	SDG#	DATE REC'D	(2) DATE DUE	Metals (6020A /7471B)																															
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	L1622423	10/06/16	10/20/16	0	65																														
B	L1622604	10/06/16	10/20/16	0	72																														
Total	T/CR			0	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	137

Shaded cells indicate CAT B validation (all other cells are Level III validation). These sample counts do not include MS, MSD, or DUP's.

L:\PW Grosser\Atlas White Metals\37226ST.wpd

1,046 pages-SF 1 WEEK TAT Attachment 1

Category B **LDC #37599 (P.W. Grosser Consulting - Bohemia, NY / Atlas White Metals)**

LDC	SDG#	DATE REC'D	(2) DATE DUE	Metals (6020A)		D.Metals (6020A)																															
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	L1632941	12/01/16	12/08/16	5	16	5	0																														
Total	T/CR			5	16	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26

Shaded cells indicate CAT B validation (all other cells are Level III validation). These sample counts do not include MS, MSD, or DUP's.

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SUMMARY OF PARCC CRITERIA

This memorandum summarizes the QA/QC evaluation of the data according to precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) relative to the project quality objectives (PQOs). The validation reports present the PARCCS results for all the sample delivery groups (SDGs). Each PARCCS criterion is discussed in the following sections.

Precision and Accuracy

Precision and accuracy were evaluated using data quality indicators such as calibration, matrix spike and matrix spike duplicate (MS/MSD) samples and laboratory control samples (LCS). The precision and accuracy of the project data is considered acceptable after integration of the data validation qualifiers.

Calibration

Due to mass calibration outside the 0.1 atomic mass unit (AMU) criteria, 115 results were qualified as estimated (J/UJ). The details regarding the qualification of the results are provided in the data validation reports.

Due to continuing calibration verification (CCV) percent recovery (%R) outside the 90-110 percent recovery, 42 results were qualified as estimated (J/UJ). The details regarding the qualification of the results are provided in the data validation reports.

Matrix Spike/Matrix Spike Duplicate

Due to exceedances in the MS/MSD %R, 927 results were qualified as estimated (J/UJ). The details regarding the qualification of the results are provided in the data validation reports.

Due to exceedances in the MS/MSD relative percent difference (RPD), 420 results were qualified as estimated (J/UJ). The details regarding the qualification of the results are provided in the data validation reports.

Laboratory Duplicate

Due to exceedances in the laboratory duplicate RPD or difference, 292 results were qualified as estimated (J/UJ). The details regarding the qualification of the results are provided in the data validation reports.

Serial Dilution

Due to exceedances in the serial dilution percent difference (%D), 26 results were qualified as estimated (J/UJ). The details regarding the qualification of the results are provided in the data validation reports.

Internal Standards

Due to exceedances in the internal standard %R, 5 results were qualified as estimated (J/UJ). The details regarding the qualification of the results are provided in the data validation reports.

Representativeness

All samples for each method and matrix were evaluated for holding time compliance. All samples were associated with a method blank in each individual SDG. The representativeness of the project data is considered acceptable after integration of the data validation qualifiers.

Method Blank

Due to method blank contamination, 100 results were qualified as non-detect (U).

Field Blank

Due to field blank contamination, 14 results were qualified as non-detect (U).

Comparability

Sampling frequency requirements were met in obtaining field duplicates. The laboratory used standard analytical methods for their analyses. The analytical results were reported in correct standard units. Holding times and sample integrity were within QC criteria. The overall comparability is considered acceptable.

Completeness

Of the 4,669 total analytes reported, none of the results were rejected. The completeness for all SDGs is as follows:

Parameter	Total Analytes	Rejected Analytes	%Completeness
Metals	4669	0	100

The completeness percentage based on rejected data met the 90 percent data quality objective (DQO) goal. A less quantifiable loss of data occurred in the application of blank qualifications.

Sensitivity

Sensitivity was achieved by the laboratory to support the DQOs. Calibration concentrations and reporting limits met the project requirements and low level contamination in the method blanks and field blanks did not affect sensitivity.

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Atlas White Metals

LDC Report Date: December 8, 2016

Parameters: Metals

Validation Level: Stage 4

Laboratory: Alpha Analytical, Inc.

Sample Delivery Group (SDG): L1622423

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SB01-01	L1622423-01	Soil	07/18/16
SB01-02	L1622423-02	Soil	07/18/16
SB02-01	L1622423-09	Soil	07/18/16
SB02-02	L1622423-10	Soil	07/18/16
SB02-03	L1622423-11	Soil	07/18/16
SB02-04	L1622423-12	Soil	07/18/16
SB02-07	L1622423-15	Soil	07/18/16
SB03-01	L1622423-17	Soil	07/18/16
SB03-02	L1622423-18	Soil	07/18/16
SB06-06	L1622423-22	Soil	07/19/16
SB06-07	L1622423-23	Soil	07/19/16
SB07-01	L1622423-25	Soil	07/19/16
SB07-02	L1622423-26	Soil	07/19/16
SB08-01	L1622423-33	Soil	07/19/16
SB08-02	L1622423-34	Soil	07/19/16
SB08-06	L1622423-38	Soil	07/19/16
SB08-07	L1622423-39	Soil	07/19/16
SB08-08	L1622423-40	Soil	07/19/16
SB09-01	L1622423-43	Soil	07/19/16
SB09-02	L1622423-44	Soil	07/19/16
SB09-03	L1622423-45	Soil	07/19/16
SB09-04	L1622423-46	Soil	07/19/16
SB09-05	L1622423-47	Soil	07/19/16
SB09-06	L1622423-48	Soil	07/19/16
SB010-01	L1622423-51	Soil	07/19/16
SB010-02	L1622423-52	Soil	07/19/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SB010-03	L1622423-53	Soil	07/19/16
SB010-04	L1622423-54	Soil	07/19/16
SB010-05	L1622423-55	Soil	07/19/16
SB010-06	L1622423-56	Soil	07/19/16
SB010-07	L1622423-57	Soil	07/19/16
SB010-08	L1622423-58	Soil	07/19/16
SB011-01	L1622423-59	Soil	07/19/16
SB011-02	L1622423-60	Soil	07/19/16
SB013-01	L1622423-65	Soil	07/19/16
SB013-02	L1622423-66	Soil	07/19/16
SB013-03	L1622423-67	Soil	07/19/16
SB013-04	L1622423-68	Soil	07/19/16
SB013-05	L1622423-69	Soil	07/19/16
SB013-07	L1622423-71	Soil	07/19/16
SB90013-07	L1622423-72	Soil	07/19/16
SB014-01	L1622423-74	Soil	07/19/16
SB014-02	L1622423-75	Soil	07/19/16
SB90014-02	L1622423-76	Soil	07/19/16
SB014-03	L1622423-77	Soil	07/19/16
SB014-04	L1622423-78	Soil	07/19/16
SB014-05	L1622423-79	Soil	07/19/16
SB014-06	L1622423-80	Soil	07/19/16
SB04-01	L1622423-83	Soil	07/18/16
SB04-02	L1622423-84	Soil	07/18/16
SB04-03	L1622423-85	Soil	07/18/16
SB04-04	L1622423-86	Soil	07/18/16
SB04-05	L1622423-87	Soil	07/18/16
SB04-07	L1622423-89	Soil	07/18/16
SB05-01	L1622423-91	Soil	07/19/16
SB05-02	L1622423-92	Soil	07/19/16
SB05-03	L1622423-93	Soil	07/19/16
SB05-04	L1622423-94	Soil	07/19/16
SB05-06	L1622423-96	Soil	07/19/16
SB05-07	L1622423-97	Soil	07/19/16
SB06-01	L1622423-99	Soil	07/19/16
SB06-02	L1622423-100	Soil	07/19/16
SB011-07	L1622423-107	Soil	07/19/16
SB012-01	L1622423-109	Soil	07/19/16
SB012-02	L1622423-110	Soil	07/19/16
SB01-01MS	L1622423-01MS	Soil	07/18/16
SB01-01DUP	L1622423-01DUP	Soil	07/18/16
SB02-03MS	L1622423-11MS	Soil	07/18/16
SB02-03DUP	L1622423-11DUP	Soil	07/18/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SB013-03MS	L1622423-67MS	Soil	07/19/16
SB013-03MSD	L1622423-67MSD	Soil	07/19/16
SB014-04MS	L1622423-78MS	Soil	07/19/16
SB014-04MSD	L1622423-78MSD	Soil	07/19/16
SB04-01MS	L1622423-83MS	Soil	07/18/16
SB04-01DUP	L1622423-83DUP	Soil	07/18/16

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Quality Assurance Project Plan, Atlas White Metal Co. Site, Brooklyn, Kings County, New York (March 2016) and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, and Zinc by Environmental Protection Agency (EPA) SW 846 Method 6020A

All sample results were subjected to Stage 4 evaluation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Instrument Calibration

Initial and continuing calibrations were performed as required by the methods.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits with the following exceptions:

Date	Lab. Reference/ID	Analyte	%R (Limits)	Associated Samples	Flag	A or P
07/22/16	CCV (18:53)	Lead	113 (90-110)	SB01-02 SB02-01 SB02-02 SB03-01 SB03-02 SB07-01 SB07-02 SB08-01	J (all detects)	P
07/22/16	CCV (18:53)	Silver	112 (90-110)	SB01-02 SB02-01 SB02-02 SB02-07 SB03-01 SB03-02 SB07-01 SB07-02 SB08-01	J (all detects)	P
07/22/16	CCV (20:07)	Antimony	112 (90-110)	SB08-02 SB09-01 SB09-02 SB09-03 SB09-04 SB09-05 SB010-01 SB010-02 SB010-03 SB010-06	J (all detects)	P
07/22/16	CCV (20:07)	Lead	114 (90-110)	SB09-01 SB09-02 SB09-03 SB010-01 SB010-02	J (all detects)	P

Date	Lab. Reference/ID	Analyte	%R (Limits)	Associated Samples	Flag	A or P
07/22/16	CCV (20:07)	Tin	112 (90-110)	SB08-02 SB09-01 SB09-02 SB09-03 SB09-04 SB09-05 SB010-01 SB010-02 SB010-03 SB010-06	J (all detects)	P

IV. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Tin	0.06 mg/Kg	SB01-01 SB01-02 SB02-01 SB02-02 SB02-07 SB03-01 SB03-02 SB07-01 SB07-02 SB08-01 SB08-02 SB09-01 SB09-02 SB09-03 SB09-04 SB09-05 SB010-01 SB010-02 SB010-03 SB010-06

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Antimony Tin	0.12 mg/Kg 0.06 mg/Kg	SB04-01 SB04-02 SB04-03 SB04-07 SB05-01 SB05-02 SB05-03 SB05-06 SB05-07 SB06-01 SB06-02 SB011-07 SB012-01 SB012-02
PB (prep blank)	Antimony	0.10 mg/Kg	SB010-07 SB011-01 SB011-02 SB013-01 SB013-02 SB013-03 SB013-07 SB90013-07 SB014-01 SB014-02 SB90014-02 SB014-04
PB (prep blank)	Antimony Potassium Sodium Tin	0.08 mg/Kg 24 mg/Kg 24 mg/Kg 0.07 mg/Kg	SB02-03 SB02-04 SB06-06 SB06-07 SB08-06 SB08-07 SB08-08 SB010-04 SB010-08 SB013-04 SB014-03 SB014-05 SB014-06 SB04-04 SB05-04
PB (prep blank)	Antimony Tin	0.06 mg/Kg 0.05 mg/Kg	SB09-06 SB010-05 SB013-05 SB04-05
ICB/CCB	Antimony Selenium Thallium Tin	0.398 ug/L 3.56 ug/L 0.131 ug/L 0.325 ug/L	SB01-01 SB01-02 SB02-01 SB02-02 SB02-07

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Lead	0.194 ug/L	SB01-02 SB02-01 SB02-02 SB03-01 SB03-02 SB07-01 SB07-02 SB08-01
ICB/CCB	Antimony Selenium Tin	0.398 ug/L 3.56 ug/L 0.571 ug/L	SB03-01 SB03-02 SB07-01 SB07-02 SB08-01
ICB/CCB	Antimony Selenium	0.398 ug/L 3.56 ug/L	SB08-02 SB09-01 SB09-02 SB09-03 SB09-04 SB09-05 SB010-01 SB010-02 SB010-03 SB010-06
ICB/CCB	Lead	0.840 ug/L	SB09-01 SB09-02 SB09-03 SB010-01 SB010-02
ICB/CCB	Tin	0.852 ug/L	SB08-02 SB09-01 SB09-02 SB09-03
ICB/CCB	Tin	0.988 ug/L	SB09-04 SB09-05 SB010-01 SB010-02 SB010-03 SB010-06
ICB/CCB	Antimony Arsenic Tin	0.437 ug/L 0.181 ug/L 0.221 ug/L	SB04-01
ICB/CCB	Arsenic	0.181 ug/L	SB06-02 SB011-07
ICB/CCB	Antimony Tin	0.437 ug/L 0.214 ug/L	SB04-02 SB06-02 SB011-07 SB012-01 SB012-02

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Antimony Tin	0.437 ug/L 0.233 ug/L	SB04-03 SB04-07 SB05-01
ICB/CCB	Antimony Selenium Tin	0.437 ug/L 2.06 ug/L 0.233 ug/L	SB05-02 SB05-03 SB05-06
ICB/CCB	Antimony Selenium Tin	0.437 ug/L 2.06 ug/L 0.214 ug/L	SB05-07 SB06-01
ICB/CCB	Selenium	1.48 ug/L	SB010-07 SB011-01 SB011-02 SB013-01 SB013-02 SB013-03 SB013-07 SB90013-07 SB014-01 SB014-02 SB90014-02 SB014-04
ICB/CCB	Cadmium	0.0720 ug/L	SB90013-07 SB014-01 SB014-02 SB90014-02
ICB/CCB	Antimony Silver Thallium Tin	2.05 ug/L 0.115 ug/L 0.0835 ug/L 0.235 ug/L	SB02-03
ICB/CCB	Antimony Silver Tin	2.05 ug/L 0.139 ug/L 0.510 ug/L	SB02-04 SB06-06
ICB/CCB	Antimony Tin	2.05 ug/L 0.712 ug/L	SB06-07 SB08-06 SB08-07 SB08-08
ICB/CCB	Silver	0.139 ug/L	SB06-07 SB08-06 SB08-08
ICB/CCB	Antimony Silver Tin	2.05 ug/L 0.104 ug/L 0.868 ug/L	SB010-04 SB010-08 SB013-04 SB014-03 SB014-05 SB014-06

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Antimony Copper Silver Tin	2.05 ug/L 0.846 ug/L 0.0943 ug/L 0.652 ug/L	SB04-04 SB05-04
ICB/CCB	Silver	0.104 ug/L	SB08-07
ICB/CCB	Antimony Selenium	1.14 ug/L 1.27 ug/L	SB09-06 SB010-05 SB013-05 SB04-05
ICB/CCB	Tin	0.691 ug/L	SB09-06 SB013-05 SB04-05
ICB/CCB	Tin	0.703 ug/L	SB010-05

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SB04-01	Antimony	0.15 mg/Kg	0.86U mg/Kg
SB04-02	Antimony	0.23 mg/Kg	0.85U mg/Kg
SB05-01	Antimony	0.36 mg/Kg	0.89U mg/Kg
SB05-02	Antimony	0.37 mg/Kg	0.84U mg/Kg
SB05-03	Antimony	0.22 mg/Kg	0.85U mg/Kg
SB05-07	Antimony	0.45 mg/Kg	0.93U mg/Kg
SB06-01	Antimony	0.45 mg/Kg	0.82U mg/Kg
SB06-02	Antimony	0.17 mg/Kg	0.51U mg/Kg
SB012-01	Antimony	0.22 mg/Kg	0.80U mg/Kg
SB012-02	Antimony	0.49 mg/Kg	0.84U mg/Kg

Sample	Analyte	Reported Concentration	Modified Final Concentration
SB011-01	Antimony Selenium	0.55 mg/Kg 1.8 mg/Kg	0.81U mg/Kg 2.0U mg/Kg
SB011-02	Antimony Selenium	0.30 mg/Kg 1.5 mg/Kg	0.88U mg/Kg 2.2U mg/Kg
SB013-07	Antimony	0.92 mg/Kg	1.0U mg/Kg
SB90013-07	Antimony	0.97 mg/Kg	1.1U mg/Kg
SB02-03	Antimony Sodium	0.29 mg/Kg 82 mg/Kg	0.90U mg/Kg 170U mg/Kg
SB014-06	Antimony Sodium Silver	0.36 mg/Kg 150 mg/Kg 0.11 mg/Kg	0.96U mg/Kg 180U mg/Kg 0.60U mg/Kg
SB013-05	Antimony Selenium	0.66 mg/Kg 2.5 mg/Kg	0.74U mg/Kg 3.0U mg/Kg
SB01-01	Antimony	0.73 mg/Kg	0.84U mg/Kg
SB01-02	Antimony Thallium	0.20 mg/Kg 0.08 mg/Kg	0.82U mg/Kg 0.21U mg/Kg
SB02-01	Antimony Thallium	0.53 mg/Kg 0.12 mg/Kg	0.85U mg/Kg 0.21U mg/Kg
SB02-02	Antimony Thallium	0.10 mg/Kg 0.06 mg/Kg	0.86U mg/Kg 0.22U mg/Kg
SB02-07	Thallium Tin	2.2 mg/Kg 0.06 mg/Kg	2.3U mg/Kg 0.23U mg/Kg
SB03-01	Antimony	0.36 mg/Kg	0.87U mg/Kg
SB03-02	Antimony	0.44 mg/Kg	0.86U mg/Kg
SB07-01	Antimony	0.23 mg/Kg	0.79U mg/Kg
SB09-01	Antimony	0.45 mg/Kg	0.80U mg/Kg
SB09-02	Antimony	0.57 mg/Kg	0.83U mg/Kg
SB09-03	Antimony	0.60 mg/Kg	0.87U mg/Kg
SB010-01	Antimony	0.41 mg/Kg	0.86U mg/Kg

Sample	Analyte	Reported Concentration	Modified Final Concentration
SB013-01	Selenium	2.0 mg/Kg	2.2U mg/Kg
SB013-02	Selenium	1.9 mg/Kg	2.2U mg/Kg
SB013-03	Selenium	1.4 mg/Kg	2.4U mg/Kg
SB90013-07	Selenium	1.9 mg/Kg	2.8U mg/Kg
SB014-02	Selenium	2.2 mg/Kg	2.3U mg/Kg
SB014-04	Selenium	1.5 mg/Kg	2.3U mg/Kg
SB02-04	Silver	0.09 mg/Kg	0.56U mg/Kg
SB06-07	Silver	0.48 mg/Kg	0.59U mg/Kg
SB010-08	Silver	0.08 mg/Kg	0.59U mg/Kg
SB013-04	Silver	0.15 mg/Kg	0.57U mg/Kg
SB014-03	Silver	0.36 mg/Kg	0.59U mg/Kg
SB014-05	Silver	0.40 mg/Kg	0.56U mg/Kg

VI. Field Blanks

No field blanks were identified in this SDG.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SB01-01MS (SB01-01 SB01-02 SB02-01 SB02-02 SB02-07 SB03-01 SB03-02 SB07-01 SB07-02 SB08-01 SB08-02 SB09-01 SB09-02 SB09-03 SB09-04 SB09-05 SB010-01 SB010-02 SB010-03 SB010-06)	Aluminum Selenium	248 (75-125) 178 (75-125)	NA	J (all detects) J (all detects)	A
SB01-01MS (SB01-01 SB01-02 SB02-01 SB02-02 SB02-07 SB03-01 SB03-02 SB07-01 SB07-02 SB08-01 SB08-02 SB09-01 SB09-02 SB09-03 SB09-04 SB09-05 SB010-01 SB010-02 SB010-03 SB010-06)	Chromium Potassium	69 (75-125) 73 (75-125)	NA	J (all detects) J (all detects)	A
SB04-01MS (SB04-01 SB04-02 SB04-03 SB04-07 SB05-01 SB05-02 SB05-03 SB05-06 SB05-07 SB06-01 SB06-02 SB011-07 SB012-01 SB012-02)	Aluminum	52 (75-125)	NA	J (all detects)	A

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SB04-01MS (SB04-01 SB04-02 SB04-03 SB04-07 SB05-01 SB05-02 SB05-03 SB05-06 SB05-07 SB06-01 SB06-02 SB011-07 SB012-01 SB012-02)	Calcium Selenium Sodium	128 (75-125) 132 (75-125) 133 (75-125)	NA	J (all detects) J (all detects) J (all detects)	A
SB013-03MS/MSD (SB010-07 SB011-01 SB011-02 SB013-01 SB013-02 SB013-03 SB013-07 SB90013-07 SB014-01 SB014-02 SB90014-02 SB014-04)	Aluminum Lead	16 (75-125) 20 (75-125)	11 (75-125) 0 (75-125)	J (all detects) J (all detects)	A
SB013-03MS/MSD (SB010-07 SB011-01 SB011-02 SB013-01 SB013-02 SB013-03 SB013-07 SB90013-07 SB014-01 SB014-02 SB90014-02 SB014-04)	Barium Calcium Manganese Selenium	126 (75-125) 136 (75-125) 188 (75-125) 209 (75-125)	- - 149 (75-125) -	J (all detects) J (all detects) J (all detects) J (all detects)	A
SB013-03MS/MSD (SB013-03)	Arsenic Chromium Magnesium Nickel	192 (75-125) 136 (75-125) 157 (75-125) 136 (75-125)	142 (75-125) - 128 (75-125) 126 (75-125)	J (all detects) J (all detects) J (all detects) J (all detects)	A
SB013-03MS/MSD (SB013-03)	Potassium Tin	66 (75-125) -	46 (75-125) 53 (75-125)	J (all detects) J (all detects)	A

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SB014-04MS/MSD (SB010-07 SB011-01 SB011-02 SB013-01 SB013-02 SB013-03 SB013-07 SB90013-07 SB014-01 SB014-02 SB90014-02 SB014-04)	Aluminum Manganese	34 (75-125) 45 (75-125)	45 (75-125) 203 (75-125)	J (all detects) J (all detects)	A
SB014-04MS/MSD (SB014-04)	Zinc Copper	68 (75-125) -	135 (75-125) 50 (75-125)	J (all detects) J (all detects)	A
SB014-04MS/MSD (SB010-07 SB011-01 SB011-02 SB013-01 SB013-02 SB013-03 SB013-07 SB90013-07 SB014-01 SB014-02 SB90014-02 SB014-04)	Barium Selenium	- 161 (75-125)	127 (75-125) -	J (all detects) J (all detects)	A
SB02-03MS (SB02-03 SB02-04 SB06-06 SB06-07 SB08-06 SB08-07 SB08-08 SB010-04 SB010-08 SB013-04 SB014-03 SB014-05 SB014-06 SB04-04 SB05-04)	Calcium Selenium Sodium	188 (75-125) 129 (75-125) 144 (75-125)	NA	J (all detects) J (all detects) J (all detects)	A

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SB02-03MS (SB02-03 SB02-04 SB06-06 SB06-07 SB08-06 SB08-07 SB08-08 SB010-04 SB010-08 SB013-04 SB014-03 SB014-05 SB014-06 SB04-04 SB05-04)	Aluminum	0 (75-125)	NA	J (all detects)	A
SB015-05MS/MSD (SB09-06 SB010-05 SB013-05 SB04-05)	Calcium Lead Aluminum Arsenic	74 (75-125) 62 (75-125) 0 (75-125) -	0 (75-125) 21 (75-125) 0 (75-125) 62 (75-125)	J (all detects) J (all detects) J (all detects) J (all detects)	A
SB015-05MS/MSD (SB09-06 SB010-05 SB013-05 SB04-05)	Manganese Sodium	128 (75-125) 126 (75-125)	- -	J (all detects) J (all detects)	A
SB015-05MS/MSD (SB09-06 SB010-05 SB013-05 SB04-05)	Selenium	60 (75-125)	-	J (all detects) UJ (all non-detects)	A

For SB01-01MS, no data were qualified for Calcium, Iron, Magnesium, Manganese, and Zinc percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For SB013-03MS/MSD, no data were qualified for Copper, Iron, Lead, and Zinc percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For SB04-01MS and SB02-03MS, no data were qualified for Iron and Manganese percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For SB014-04MS/MSD, no data were qualified for Calcium, Iron, and Lead percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	RPD (Limits)	Flag	A or P
SB013-03MS/MSD (SB010-07 SB011-01 SB011-02 SB013-01 SB013-02 SB013-03 SB013-07 SB90013-07 SB014-01 SB014-02 SB90014-02 SB014-04)	Selenium	67 (≤25)	J (all detects)	A
SB014-04MS/MSD (SB010-07 SB011-01 SB011-02 SB013-01 SB013-02 SB013-03 SB013-07 SB90013-07 SB014-01 SB014-02 SB90014-02 SB014-04)	Calcium Lead Manganese Selenium	28 (≤25) 48 (≤25) 42 (≤25) 43 (≤25)	J (all detects) J (all detects) J (all detects) J (all detects)	A
SB014-04MS/MSD (SB014-04)	Iron	27 (≤25)	J (all detects)	A
SB015-05MS/MSD (SB09-06 SB010-05 SB013-05 SB04-05)	Calcium Iron	38 (≤25) 33 (≤25)	J (all detects) J (all detects)	A

VIII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits with the following exceptions:

DUP ID (Associated Samples)	Analyte	RPD (Limits)	Difference (Limits)	Flag	A or P
SB01-01DUP (SB01-01 SB01-02 SB02-01 SB02-02 SB02-07 SB03-01 SB03-02 SB07-01 SB07-02 SB08-01 SB08-02 SB09-01 SB09-02 SB09-03 SB09-04 SB09-05 SB010-01 SB010-02 SB010-03 SB010-06)	Lead Potassium Zinc Nickel	33 (≤25) 27 (≤25) 32 (≤25) 30 (≤25)	- - - -	J (all detects) J (all detects) J (all detects) J (all detects)	A
SB02-03DUP (SB02-03 SB02-04 SB06-06 SB06-07 SB08-06 SB08-07 SB08-08 SB010-04 SB010-08 SB013-04 SB014-03 SB014-05 SB014-06 SB04-04 SB05-04)	Arsenic Lead Magnesium Nickel Tin Zinc	30 (≤25) 30 (≤25) 67 (≤25) 43 (≤25) - -	- - - - 1.3 mg/Kg (≤0/90) 24 mg/Kg (≤22)	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A

IX. Serial Dilution

Serial dilution analysis was performed on an associated project sample. Percent differences (%D) were within QC limits.

X. Standard Reference Materials

Standard reference materials (SRM) were analyzed as required by the method. The results were within QC limits with the following exceptions:

SRM ID	Analyte	%R (Limits)	Associated Samples	Flag	A or P
SRM	Zinc	80 (82-118)	SB04-01 SB04-02 SB04-03 SB04-07 SB05-01 SB05-02 SB05-03 SB05-06 SB05-07 SB06-01 SB06-02 SB011-07 SB012-01 SB012-02	J (all detects)	A

XI. Field Duplicates

Samples SB013-07 and SB90013-07 and samples SB014-02 and SB90014-02 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/Kg)		RPD (Limits)
	SB013-07	SB90013-07	
Aluminum	3300	4000	19 (≤30)
Antimony	0.92	0.97	5 (≤30)
Arsenic	7.9	8.2	4 (≤30)
Barium	74	89	18 (≤30)
Beryllium	0.24	0.29	19 (≤30)
Cadmium	0.30	0.39	26 (≤30)
Calcium	2800	3600	25 (≤30)
Chromium	19	23	19 (≤30)
Cobalt	3.9	4.5	14 (≤30)
Copper	20	23	14 (≤30)
Iron	8200	10000	20 (≤30)
Lead	140	170	19 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	SB013-07	SB90013-07	
Magnesium	1400	1400	0 (≤30)
Manganese	99	120	19 (≤30)
Nickel	16	18	12 (≤30)
Potassium	680	630	8 (≤30)
Selenium	2.8	1.9	38 (≤30)
Silver	0.10	0.34	109 (≤30)
Sodium	140	220	44 (≤30)
Thallium	0.04	0.05	22 (≤30)
Tin	4.3	4.7	9 (≤30)
Vanadium	12	14	15 (≤30)
Zinc	350	410	16 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	SB014-02	SB90014-02	
Aluminum	3400	3800	11 (≤30)
Antimony	20	13	42 (≤30)
Arsenic	17	20	16 (≤30)
Barium	240	260	8 (≤30)
Beryllium	0.39	0.33	17 (≤30)
Cadmium	5.8	5.3	9 (≤30)
Calcium	2300	4200	58 (≤30)
Chromium	21	43	69 (≤30)
Cobalt	14	4.7	99 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	SB014-02	SB90014-02	
Copper	420	390	7 (≤30)
Iron	25000	14000	56 (≤30)
Lead	1800	1300	32 (≤30)
Magnesium	690	980	35 (≤30)
Manganese	170	180	6 (≤30)
Nickel	77	60	25 (≤30)
Potassium	300	440	38 (≤30)
Selenium	2.2	2.3	4 (≤30)
Silver	0.90	0.69	26 (≤30)
Sodium	89	160	57 (≤30)
Thallium	0.10	0.11	10 (≤30)
Tin	240	120	67 (≤30)
Vanadium	24	24	0 (≤30)
Zinc	1900	2000	5 (≤30)

XII. Internal Standards (ICP-MS)

All internal standard percent recoveries (%R) were within QC limits.

XIII. Sample Result Verification

All sample result verifications were acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to continuing calibration %R, MS/MSD %R and RPD, DUP RPD and difference, and SRM %R, data were qualified as estimated in sixty-five samples.

Due to laboratory blank contamination, data were qualified as not detected in forty-three samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Atlas White Metals
Metals - Data Qualification Summary - SDG L1622423

Sample	Analyte	Flag	A or P	Reason
SB01-02 SB02-01 SB02-02 SB03-01 SB03-02 SB07-01 SB07-02 SB08-01	Lead	J (all detects)	P	Calibration (CCV %R)
SB01-02 SB02-01 SB02-02 SB02-07 SB03-01 SB03-02 SB07-01 SB07-02 SB08-01	Silver	J (all detects)	P	Calibration (CCV %R)
SB08-02 SB09-01 SB09-02 SB09-03 SB09-04 SB09-05 SB010-01 SB010-02 SB010-03 SB010-06	Antimony Tin	J (all detects) J (all detects)	P	Calibration (CCV %R)
SB09-01 SB09-02 SB09-03 SB010-01 SB010-02	Lead	J (all detects)	P	Calibration (CCV %R)
SB01-01 SB01-02 SB02-01 SB02-02 SB02-07 SB03-01 SB03-02 SB07-01 SB07-02 SB08-01 SB08-02 SB09-01 SB09-02 SB09-03 SB09-04 SB09-05 SB010-01 SB010-02 SB010-03 SB010-06	Aluminum Selenium Chromium Potassium	J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)

Sample	Analyte	Flag	A or P	Reason
SB04-01 SB04-02 SB04-03 SB04-07 SB05-01 SB05-02 SB05-03 SB05-06 SB05-07 SB06-01 SB06-02 SB011-07 SB012-01 SB012-02	Aluminum Calcium Selenium Sodium	J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SB010-07 SB011-01 SB011-02 SB013-01 SB013-02 SB013-03 SB013-07 SB90013-07 SB014-01 SB014-02 SB90014-02 SB014-04	Aluminum Lead Barium Calcium Manganese Selenium	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SB013-03	Arsenic Chromium Magnesium Nickel Potassium Tin	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SB014-04	Zinc Copper	J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SB02-03 SB02-04 SB06-06 SB06-07 SB08-06 SB08-07 SB08-08 SB010-04 SB010-08 SB013-04 SB014-03 SB014-05 SB014-06 SB04-04 SB05-04	Calcium Selenium Sodium Aluminum	J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SB09-06 SB010-05 SB013-05 SB04-05	Calcium Lead Aluminum Manganese Sodium Arsenic	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)

Sample	Analyte	Flag	A or P	Reason
SB09-06 SB010-05 SB013-05 SB04-05	Selenium	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)
SB010-07 SB011-01 SB011-02 SB013-01 SB013-02 SB013-03 SB013-07 SB90013-07 SB014-01 SB014-02 SB90014-02 SB014-04	Selenium Calcium Lead Manganese Selenium	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD)
SB014-04	Iron	J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD)
SB09-06 SB010-05 SB013-05 SB04-05	Calcium Iron	J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD)
SB01-01 SB01-02 SB02-01 SB02-02 SB02-07 SB03-01 SB03-02 SB07-01 SB07-02 SB08-01 SB08-02 SB09-01 SB09-02 SB09-03 SB09-04 SB09-05 SB010-01 SB010-02 SB010-03 SB010-06	Lead Potassium Zinc Nickel	J (all detects) J (all detects) J (all detects) J (all detects)	A	Duplicate sample analysis (RPD)
SB02-03 SB02-04 SB06-06 SB06-07 SB08-06 SB08-07 SB08-08 SB010-04 SB010-08 SB013-04 SB014-03 SB014-05 SB014-06 SB04-04 SB05-04	Arsenic Lead Magnesium Nickel	J (all detects) J (all detects) J (all detects) J (all detects)	A	Duplicate sample analysis (RPD)

Sample	Analyte	Flag	A or P	Reason
SB02-03 SB02-04 SB06-06 SB06-07 SB08-06 SB08-07 SB08-08 SB010-04 SB010-08 SB013-04 SB014-03 SB014-05 SB014-06 SB04-04 SB05-04	Tin Zinc	J (all detects) J (all detects)	A	Duplicate sample analysis (difference)
SB04-01 SB04-02 SB04-03 SB04-07 SB05-01 SB05-02 SB05-03 SB05-06 SB05-07 SB06-01 SB06-02 SB011-07 SB012-01 SB012-02	Zinc	J (all detects)	A	Standard reference materials (%R)

Atlas White Metals
Metals - Laboratory Blank Data Qualification Summary - SDG L1622423

Sample	Analyte	Modified Final Concentration	A or P
SB04-01	Antimony	0.86U mg/Kg	A
SB04-02	Antimony	0.85U mg/Kg	A
SB05-01	Antimony	0.89U mg/Kg	A
SB05-02	Antimony	0.84U mg/Kg	A
SB05-03	Antimony	0.85U mg/Kg	A
SB05-07	Antimony	0.93U mg/Kg	A
SB06-01	Antimony	0.82U mg/Kg	A
SB06-02	Antimony	0.51U mg/Kg	A

Sample	Analyte	Modified Final Concentration	A or P
SB012-01	Antimony	0.80U mg/Kg	A
SB012-02	Antimony	0.84U mg/Kg	A
SB011-01	Antimony Selenium	0.81U mg/Kg 2.0U mg/Kg	A
SB011-02	Antimony Selenium	0.88U mg/Kg 2.2U mg/Kg	A
SB013-07	Antimony	1.0U mg/Kg	A
SB90013-07	Antimony	1.1U mg/Kg	A
SB02-03	Antimony Sodium	0.90U mg/Kg 170U mg/Kg	A
SB014-06	Antimony Sodium Silver	0.96U mg/Kg 180U mg/Kg 0.60U mg/Kg	A
SB013-05	Antimony Selenium	0.74U mg/Kg 3.0U mg/Kg	A
SB01-01	Antimony	0.84U mg/Kg	A
SB01-02	Antimony Thallium	0.82U mg/Kg 0.21U mg/Kg	A
SB02-01	Antimony Thallium	0.85U mg/Kg 0.21U mg/Kg	A
SB02-02	Antimony Thallium	0.86U mg/Kg 0.22U mg/Kg	A
SB02-07	Thallium Tin	2.3U mg/Kg 0.23U mg/Kg	A
SB03-01	Antimony	0.87U mg/Kg	A
SB03-02	Antimony	0.86U mg/Kg	A
SB07-01	Antimony	0.79U mg/Kg	A
SB09-01	Antimony	0.80U mg/Kg	A
SB09-02	Antimony	0.83U mg/Kg	A

Sample	Analyte	Modified Final Concentration	A or P
SB09-03	Antimony	0.87U mg/Kg	A
SB010-01	Antimony	0.86U mg/Kg	A
SB013-01	Selenium	2.2U mg/Kg	A
SB013-02	Selenium	2.2U mg/Kg	A
SB013-03	Selenium	2.4U mg/Kg	A
SB90013-07	Selenium	2.8U mg/Kg	A
SB014-02	Selenium	2.3U mg/Kg	A
SB014-04	Selenium	2.3U mg/Kg	A
SB02-04	Silver	0.56U mg/Kg	A
SB06-07	Silver	0.59U mg/Kg	A
SB010-08	Silver	0.59U mg/Kg	A
SB013-04	Silver	0.57U mg/Kg	A
SB014-03	Silver	0.59U mg/Kg	A
SB014-05	Silver	0.56U mg/Kg	A

Atlas White Metals
Metals - Field Blank Data Qualification Summary - SDG L1622423

No Sample Data Qualified in this SDG

LDC #: 37226A4a
SDG #: L1622423
Laboratory: Alpha Analytical

VALIDATION COMPLETENESS WORKSHEET
~~Category B~~ Level IV

Date: 10-18-16
Page: 1 of 3
Reviewer: MG
2nd Reviewer:

METHOD: Metals (EPA SW 846 Method 6020A/~~7471B~~) CHs removed per client

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	SW	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	SW	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Laboratory Blanks	SW	
VI.	Field Blanks	N	
VII.	Matrix Spike/Matrix Spike Duplicates	SW	MS/MSD (SDG: L1622604)
VIII.	Duplicate sample analysis	SW	DUP
IX.	Serial Dilution	A	SD: 1, 37
X.	Laboratory control samples	SW	~~LCS~~ SRM
XI.	Field Duplicates	SW	D=40+41, D=43+44
XII.	Internal Standard (ICP-MS)	A	
XIII.	Sample Result Verification	A	
XIV	Overall Assessment of Data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1 4	SB01-01	L1622423-01	Soil	07/18/16
2 4	SB01-02	L1622423-02	Soil	07/18/16
3 4	SB02-01	L1622423-09	Soil	07/18/16
4 4	SB02-02	L1622423-10	Soil	07/18/16
5 2	SB02-03	L1622423-11	Soil	07/18/16
6 2	SB02-04	L1622423-12	Soil	07/18/16
7 4	SB02-07	L1622423-15	Soil	07/18/16
8 4	SB03-01	L1622423-17	Soil	07/18/16
9 4	SB03-02	L1622423-18	Soil	07/18/16
10 2	SB06-06	L1622423-22	Soil	07/19/16
11 2	SB06-07	L1622423-23	Soil	07/19/16
12 4	SB07-01	L1622423-25	Soil	07/19/16
13 4	SB07-02	L1622423-26	Soil	07/19/16
14 4	SB08-01	L1622423-33	Soil	07/19/16
15 4	SB08-02	L1622423-34	Soil	07/19/16

LDC #: 37226A4a
SDG #: L1622423
Laboratory: Alpha Analytical

VALIDATION COMPLETENESS WORKSHEET
Category B

Date: 10-18-16

Reviewer: MG
2nd Reviewer:

METHOD: Metals (EPA SW 846 Method 6020A/7471B)

	Client ID	Lab ID	Matrix	Date
16 2	SB08-06	L1622423-38	Soil	07/19/16
17 2	SB08-07	L1622423-39	Soil	07/19/16
18 2	SB08-08	L1622423-40	Soil	07/19/16
19 4	SB09-01	L1622423-43	Soil	07/19/16
20 4	SB09-02	L1622423-44	Soil	07/19/16
21 4	SB09-03	L1622423-45	Soil	07/19/16
22 4	SB09-04	L1622423-46	Soil	07/19/16
23 4	SB09-05	L1622423-47	Soil	07/19/16
24 3	SB09-06	L1622423-48	Soil	07/19/16
25 4	SB010-01	L1622423-51	Soil	07/19/16
26 4	SB010-02	L1622423-52	Soil	07/19/16
27 4	SB010-03	L1622423-53	Soil	07/19/16
28 2	SB010-04	L1622423-54	Soil	07/19/16
29 3	SB010-05	L1622423-55	Soil	07/19/16
30 4	SB010-06	L1622423-56	Soil	07/19/16
31 5	SB010-07	L1622423-57	Soil	07/19/16
32 2	SB010-08	L1622423-58	Soil	07/19/16
33 5	SB011-01	L1622423-59	Soil	07/19/16
34 5	SB011-02	L1622423-60	Soil	07/19/16
35 5	SB013-01	L1622423-65	Soil	07/19/16
36 5	SB013-02	L1622423-66	Soil	07/19/16
37 5	SB013-03	L1622423-67	Soil	07/19/16
38 2	SB013-04	L1622423-68	Soil	07/19/16
39 3	SB013-05	L1622423-69	Soil	07/19/16
40 5	SB013-07	L1622423-71	Soil	07/19/16
41 5	SB9003-07	L1622423-72	Soil	07/19/16
42 5	SB014-01	L1622423-74	Soil	07/19/16
43 5	SB014-02	L1622423-75	Soil	07/19/16
44 5	SB90014-02	L1622423-76	Soil	07/19/16
45 2	SB014-03	L1622423-77	Soil	07/19/16
46 5	SB014-04	L1622423-78	Soil	07/19/16
47 2	SB014-05	L1622423-79	Soil	07/19/16
48 2	SB014-06	L1622423-80	Soil	07/19/16
49 1	SB04-01	L1622423-83	Soil	07/18/16
50 1	SB04-02	L1622423-84	Soil	07/18/16

LDC #: 37226A4a
SDG #: L1622423
Laboratory: Alpha Analytical

VALIDATION COMPLETENESS WORKSHEET
Category B

Date: 10-18-16

Reviewer: MG
2nd Reviewer:

METHOD: Metals (EPA SW 846 Method 6020A/7471B)

	Client ID	Lab ID	Matrix	Date
51 1	SB04-03	L1622423-85	Soil	07/18/16
52 2	SB04-04	L1622423-86	Soil	07/18/16
53 3	SB04-05	L1622423-87	Soil	07/18/16
54 1	SB04-07	L1622423-89	Soil	07/18/16
55 1	SB05-01	L1622423-91	Soil	07/19/16
56 1	SB05-02	L1622423-92	Soil	07/19/16
57 1	SB05-03	L1622423-93	Soil	07/19/16
58 2	SB05-04	L1622423-94	Soil	07/19/16
59 1	SB05-06	L1622423-96	Soil	07/19/16
60 1	SB05-07	L1622423-97	Soil	07/19/16
61 1	SB06-01	L1622423-99	Soil	07/19/16
62 1	SB06-02	L1622423-100	Soil	07/19/16
63 1	SB011-07	L1622423-107	Soil	07/19/16
64 1	SB012-01	L1622423-109	Soil	07/19/16
65 1	SB012-02	L1622423-110	Soil	07/19/16
66 4	SB01-01MS	L1622423-01MS	Soil	07/18/16
67 4	SB01-01DUP	L1622423-01DUP	Soil	07/18/16
68 2	SB02-03MS	L1622423-11MS	Soil	07/18/16
69 2	SB02-03DUP	L1622423-11DUP	Soil	07/18/16
70 5	SB013-03MS	L1622423-67MS	Soil	07/19/16
71 5	SB013-03MSD	L1622423-67MSD	Soil	07/19/16
72 5	SB014-04MS	L1622423-78MS	Soil	07/19/16
73 5	SB014-04MSD	L1622423-78MSD	Soil	07/19/16
74 1	SB04-01MS	L1622423-83MS	Soil	07/18/16
75 1	SB04-01DUP	L1622423-83DUP	Soil	07/18/16
76 1	PBS1			
77 2	PBS2			
78 3	PBS3			
79 4	PBS4			
80 5	PBS5			

Notes:

LDC #: 37226A4a

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer:

Method: Metals (EPA SW 846 Method 6010/7000/6020)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.		✓		
Cooler temperature criteria was met.	✓			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?	✓			
Were %RSD of isotopes in the tuning solution ≤5%?	✓			
III. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?		✓		
Were all initial calibration correlation coefficients > 0.995?	✓			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	✓			
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	✓			
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.		✓		
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were ≤ 5X the RL, including when only one of the duplicate sample values were < 5X the RL.		✓		
VII. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?		✓		

Validation Area	Yes	No	NA	Findings/Comments
VIII. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?	✓			
If the %Rs were outside the criteria, was a reanalysis performed?			✓	
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL(ICP/MS)?	✓			
Were all percent differences (%Ds) < 10%?	✓			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.	✓			
XIII. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 37226A4a

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: MG
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1→65	S	(Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn) Mo, B, Si, CN; (Sn)
QC 66→73	↓	(Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn) Mo, B, Si, CN; (Sn)
↓ 74,75	↓	(Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn) Hg (Ni, K, Se, Ag, Na, Tl, V, Zn) Mo, B, Si, CN; (Sn)
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
Analysis Method		
ICP		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
ICP-MS	S	(Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn) Hg (Ni, K, Se, Ag, Na, Tl, V, Zn) Mo, B, Si, CN; (Sn)
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;

Comments: (Mercury by CVAA if performed)

LDC #: 37226A4a

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Page: 1 of 1
Reviewer: MG
2nd reviewer: [signature]

Were samples preserved? (Y) N N/A
All circled dates have exceeded the technical holding time.
(Y) N N/A Were all cooler temperatures within validation criteria?

METHOD: EPA SW 846 Method 6010/6020/7000		(CVAA) Hg	(ICP) Al, As, Sb, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Ni, K, Se, Ag, Na, Tl, V, Zn	(ICP-MS) Al, As, Sb, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Ni, K, Se, Ag, Na, Tl, V, Zn	(GFAA) —	(GFAA) —		
Sample ID:	Sampling Date	Analysis Date	Analysis Date	Analysis Date	Analysis Date	Analysis Date	Qualifier	
24	7-19-16	8-19-16	(31 days)				J/UJ/P	(det.)
29	↓	↓	(↓)				↓	(↓)
39	↓	↓	(↓)				↓	(↓)
53	7-18-16	↓	(32 days)				↓	(↓)

Technical Holding Time Criteria

Mercury: 28 days preserved pH <2
All other metals 6 months preserved pH <2
Organic lead Extracted within 14 days for soils and 7 days for waters, analyzed within 40 days of extraction. (no preservation)

LDC #: 37226A4a

VALIDATION FINDINGS WORKSHEET
Calibration

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were all instruments calibrated daily, each set-up time, and were the proper number of standards used?

Y (N) N/A Were all initial and continuing calibration verification percent recoveries (%R) within the control limits of 90-110% for all analytes except mercury (80-120%) and cyanide (85-115%)?

LEVEL IV ONLY:

Y N (N/A) Was a midrange cyanide standard distilled?

(Y) N N/A Are all correlation coefficients ≥0.995?

(Y) N N/A Were recalculated results acceptable? See Level IV Initial and Continuing Calibration Recalculation Worksheet for recalculations.

#	Date	Calibration ID	Analyte	%R	Associated Samples	Qualification of Data
1	7-22-16	CCV (18:53)	Pb	113 (90-110)	2→4, 8, 9, 12→14	J dets / P (all dets)
		↓	Ag	112 (↓)	2→4, 7→9, 12→14	(↓)
2	7-22-16	CCV (20:07)	Sb	112 (↓)	15, 19→23, 25→27, 30	(↓)
		↓	Pb	114 (↓)	19→21, 25, 26	(↓)
		↓	Sn	112 (↓)	15, 19→23, 25→27, 30	(↓)

Comments: _____

CAL.4SW

LDC #: 37226A4a
SDG #: See Cover
METHOD: Trace metals (EPA SW 864 Method 6020A/7471B)

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: 40x

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 1-4,7-9,12-15,19-23,25-27,30 (>RL)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sn	0.06													

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 49-51,54-57,59-65

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	49	50	55	56	57	60	61	62	64	65
Sb	0.12				0.15/0.86U	0.23/0.85U	0.36/0.89U	0.37/0.84	0.22/0.85U	0.45/0.93U	0.45/0.82U	0.17/0.51U	0.22/0.80U	0.49/0.84U
Sn	0.06													

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 31,33-37,40-44,46

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	33	34	40	41						
Sb	0.10				0.55/0.81U	0.30/0.88U	0.92/1.0U	0.97/1.1U						

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 5,6,10,11,16-18,28,32,38,45,47,48,52,58

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	5	48								
Sb	0.08				0.29/0.90U	0.36/0.96U								
K	24													
Na	24				82/170U	150/180U								
Sn	0.07													

LDC #: 37226A4a
SDG #: See Cover
METHOD: Trace metals (EPA SW 864 Method 6020A/7471B)
Sample Concentration units, unless otherwise noted: mg/kg

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: 40x
Associated Samples: 24,29,39,53

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	39									
Sb	0.06				0.66/0.74U									
Sn	0.05													

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 1-4,7

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	1	2	3	4	7					
Sb			0.398		0.73/0.84U	0.20/0.82U	0.53/0.85U	0.10/0.86U						
Se			3.56						2.2/2.3U					
Tl			0.131			0.08/0.21U	0.12/0.21U	0.06/0.22U	0.06/0.23U					
Sn			0.325											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 2-4,8,9,12-14 (>RL)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Pb			0.194											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 8.9.12.13.14

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	8	9	12							
Sb			0.398		0.36/0.87U	0.44/0.86U	0.23/0.79U							
Se			3.56											
Sn			0.571	0.023										

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: 40x
Associated Samples: 15,19-23,25-27,30

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	19	20	21	25						
Sb			0.398		0.45/0.80U	0.57/0.83U	0.60/0.87U	0.41/0.86U						
Se			3.56											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 19,20,21,25,26 (>RL)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Pb			0.840											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 15,19,20,21 (>RL)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sn			0.852	0.034										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 22,23,25,26,27,30 (>1x)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sn			0.988	0.040										

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: 40x
Associated Samples: 49

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	49									
Sb			0.437		see PB									
As			0.181											
Sn			0.221											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 62,63 (>RL)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
As			0.181											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 50,62,63,64,65

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	50	62	64	65						
Sb			0.437		see PB	see PB	see PB	see PB						
Sn			0.214											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 51,54,55

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	55									
Sb			0.437		see PB									
Sn			0.233											

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: 40x
Associated Samples: 56,57,59

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	56	57								
Sb			0.437		see PB	see PB								
Se			2.06											
Sn			0.233											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 60,61

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	60	61								
Sb			0.437		see PB	see PB								
Se			2.06											
Sn			0.214											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 31,33-37,40-44,46

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	33	34	35	36	37	41	43	46		
Se			1.48		1.8/2.0U	1.5/2.2U	2.0/2.2U	1.9/2.2U	1.4/2.4U	1.9/2.8U	2.2/2.3U	1.5/2.3U		

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 41-44 (>RL)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Cd			0.0720											

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: 40x
Associated Samples: 5

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	5									
Sb			2.05	0.082	see PB									
Ag			0.115											
Tl			0.0835											
Sn			0.235											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 6,10

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	6									
Sb			2.05	0.082										
Ag			0.139		0.09/0.56U									
Sn			0.510	0.020										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 11,16,17,18 (>1x)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sb			2.05	0.082										
Sn			0.712	0.028										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 11,16,18

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	11									
Ag			0.139		0.48/0.59U									

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: 40x
Associated Samples: 28,32,38,45,47,48

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	32	38	45	47	48					
Sb			2.05	0.082					see PB					
Ag			0.104		0.08/0.59U	0.15/0.57U	0.36/0.59U	0.40/0.56U	0.11/0.60U					
Sn			0.868	0.035										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 52,58 (>RL or >1x)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sb			2.05	0.082										
Cu			0.846											
Ag			0.0943											
Sn			0.652	0.026										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 17 (>RL)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual.									
Ag			0.104											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 24,29,39,53

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	39									
Sb			1.14		see PB									
Se			1.27		2.5/3.0U									

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: 40x
Associated Samples: 24,39,53 (10x dil, >1x)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sn			0.691	0.276										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 29 (100x dil, >1x))

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual.									
Sn			0.703	2.81										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 37226A4a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of (75-125?) If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y (N) N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications		
1	66	Soil	Al	248			(1→4, 7→9,	J dets/A	(all dets)	
			Cr	69			12→15, 19→23,	J/UJ/A	( )	
			K	73			25→27, 30)	↓	( )	
			Se	178			↓	J dets/A	( )	
			Hg	145			(1→4, 7→9, 12→15,	↓	( )	
							19→23, 25→27, 30)			
2	74		Al	52			(49→51, 54→57,	J/UJ/A	( )	
			Ca	128			59→65)	J dets/A	( )	
			Se	132			↓	↓	( )	
			Na	133					( )	
3	70/71		Al	16	11		(31, 33→37,	J/R/A	( )	PDS failed
							40→44, 46)			
			As	192	142		* 37	J dets/A	( )	
			Ba	126			(31, 33→37,	↓	( )	
			Ca	136			40→44, 46)		( )	
			Cr	136			* 37		( )	
			Pb	20	0		(31, 33→37,	J/R/A	( )	No PDS
							40→44, 46)			

Comments: * 2nd QC for this batch is in limit, so qualify parent only

#66: Ca, Fe, Mg, Mn, Zn - 4x

#70/71: Cu, Fe, Pb, Zn - 4x ; Hg - 4x

#74: Fe, Mn - 4x

LDC #: 37226A4a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: MG
2nd Reviewer: Q

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of (75-125)? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y (N) N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
3	70/71	Soil	Mg	157	128		*37	J dets/A (all dets)
			Mn	188	149		(31, 33→37, 40→44, 46)	( )
			Ni	136	126		*37	( )
			K	66	46		↓	J/UJ/A ( )
			Se	209			(31, 33→37, 40→44, 46)	J dets/A ( )
			Sn		53		*37	J/UJ/A ( )
			Se			67 (≤25)	(31, 33→37, 40→44, 46)	( )
4	72/73	A1	Al	34	45			( )
			Mn	45	203		↓	( )
			Zn	68	135		*46	( )
			Ba		127		(31, 33→37, 40→44, 46)	J dets/A ( )
			Se	161			↓	( )
			Cu		50		*46	J/UJ/A ( )

Comments: *2nd QC for this batch is in limit, so qualify parent only
#72/73: Ca, Fe, Pb-4x ; Hg-4x

LDC #: 37226A4a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of (75-125?) If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y (N) N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications		
4	72/73	soil	Ca			28 (≤25)	(31, 33→37, 40→44, 46)	J/UJ/A (all dets)		
			Fe			27 ( )	*46	( )		
			Pb			48 ( )	(31, 33→37, 40→44, 46)	( )		
			Mn			42 ( )		( )		
			Se			43 ( )		( )		
5	68		Ca	188			(5, 6, 10, 11, 16→18, 28, 32, 38, 45, 47, 48, 52, 58)	J dets/A ( )		
			Se ~~Mn~~	129				( )		
			Na	144				( )		
			Al	0				J/R/A ( )	PDS	fails
			Hg	144				J/dets/A ( )		
6	SB015-05 MS/MSD		Ca	74	0		24, 29, 39, 53	J/R/A ( )	NO	PDS
			Pb	62	21			( )	NO	PDS
			Mn	128				J dets/A ( )		
			Se	60				J/UJ/A (dets & ND)		
			Na	126				J dets/A (all dets)		
			As		62			J/UJ/A ( )		
			Al	0	0			J/R/A ( )	NO	PDS

Comments: * 2nd QC for this batch is in limit, so qualify parent only

#68: Fe-Mn-4x

LDC #: 37226A4a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of (75-125?) If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y (N) N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
6	SB015-05	Soil	Ca			38 (≤25)	24,29,39,53	J/UJ/A (all dets)
	MS/MSD	↓	Fe			33 (↓)	↓	↓ (↓)
	↓	↓	Hg	13	45		↓	J/R/A (↓)
~~7~~	~~70/71~~	~~Soil~~	~~Hg~~					

Comments:

LDC #: 37226A4a

VALIDATION FINDINGS WORKSHEET
Duplicate Analysis

Reviewer: MG
2nd Reviewer: Q

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a duplicate sample analyzed for each matrix in this SDG?

Y (N) N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤ 35% for soil samples? If no, see qualifications below. A control limit of ±R.L. (±2X R.L. for soil) was used for sample values that were <5X the R.L., including the case when only one of the duplicate sample values was <5X R.L.. If field blanks were used for laboratory duplicates, note in the Overall Assessment.

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Date	Duplicate ID	Matrix	Analyte	RPD (Limits)	Difference (Limits)	Associated Samples	Qualifications
1		67	Soil	Pb	33 (≤ 25)		1→4, 7→9, 12→15, 19→23, 25→27, 30	J/UJ/A (all dets)
				K	27 ( )			( )
				Zn	32 ( )			( )
				Ni	30 ( )			( )
2		69		As	30 ( )		5, 6, 10, 11, 16→18, 28, 32, 38, 45, 47,	( )
				Pb	30 ( )			( )
				Mg	67 ( )		48, 52, 58	( )
				Ni	43 ( )			( )
				Sn		1.3 mg/kg (≤ 0.90)		( )
				Zn		24 mg/kg (≤ 22)		( )

Comments: #67: Cd, Sn OK by difference
#75: Ca OK by difference

LDC #: 37226A4a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Reviewer: MG
2nd Reviewer: 02

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a laboratory control sample (LCS) analyzed for each matrix in this SDG?

Y (N) N/A Were all aqueous LCS percent recoveries (%R) within the control limits of 80-120% and all soil LCS %R within laboratory established control limits.

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Date	LCS ID	Matrix	Analyte	%R (limits)	Associated Samples	Qualifications
1		SRM	soil	Zn	80 (82-118)	(49→51, 54→57, 59→65)	J/UJ/P (all dets)

Comments:

LDC#: 37226A4a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: MG
2nd Reviewer: [signature]

METHOD: Metals (EPA Method 6020A/7471B)

(Y)N NA Were field duplicate pairs identified in this SDG?
(Y)N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/Kg)		RPD (≤30)	
	40	41		
Aluminum	3300	4000	19	
Antimony	0.92	0.97	5	
Arsenic	7.9	8.2	4	
Barium	74	89	18	
Beryllium	0.24	0.29	19	
Cadmium	0.30	0.39	26	
Calcium	2800	3600	25	
Chromium	19	23	19	
Cobalt	3.9	4.5	14	
Copper	20	23	14	
Iron	8200	10000	20	
Lead	140	170	19	
Magnesium	1400	1400	0	
Manganese	99	120	19	
Mercury	0.21	0.11	62	
Nickel	16	18	12	
Potassium	680	630	8	
Selenium	2.8	1.9	38	
Silver	0.10	0.34	109	

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: Metals (EPA Method 6020A/7471B)

(Y)N NA Were field duplicate pairs identified in this SDG?
(Y)N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/Kg)		RPD (≤30)	
	40	41		
Sodium	140	220	44	
Thallium	0.04	0.05	22	
Tin	4.3	4.7	9	
Vanadium	12	14	15	
Zinc	350	410	16	

V:\FIELD DUPLICATES\FD_inorganic\37226A4a.WPD

Analyte	Concentration (mg/Kg)		RPD (≤30)	
	43	44		
Aluminum	3400	3800	11	
Antimony	20	13	42	
Arsenic	17	20	16	
Barium	240	260	8	
Beryllium	0.39	0.33	17	
Cadmium	5.8	5.3	9	
Calcium	2300	4200	58	
Chromium	21	43	69	
Cobalt	14	4.7	99	
Copper	420	390	7	
Iron	25000	14000	56	

LDC#: 37226A4a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: MG
2nd Reviewer:

METHOD: Metals (EPA Method 6020A/7471B)

(Y) N NA Were field duplicate pairs identified in this SDG?
(Y) N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/Kg)		RPD (≤30)	
	43	44		
Lead	1800	1300	32	
Magnesium	690	980	35	
Manganese	170	180	6	
Mercury	1.1	2.0	58	
Nickel	77	60	25	
Potassium	300	440	38	
Selenium	2.2	2.3	4	
Silver	0.90	0.69	26	
Sodium	89	160	57	
Thallium	0.10	0.11	10	
Tin	240	120	67	
Vanadium	24	24	0	
Zinc	1900	2000	5	

LDC #: 37226A4a

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: MG
2nd Reviewer: 9

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found x 100 / True

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated %R	Reported %R	Acceptable (Y/N)
	ICP (Initial calibration)						
1328 ICV	ICP/MS (Initial calibration)	Tl	100.012	100.0	100	100	Y
1006 ICV	CVAA (Initial calibration)	Hg	3.096	3.0	103	103	
	ICP (Continuing calibration)						
1736 CCV	ICP/MS (Continuing calibration)	As	99.956	100.0	100	100	
1028 CCV	CVAA (Continuing calibration)	Hg	9.638	10.0	96	96	
	GFAA (Initial calibration)						
	GFAA (Continuing calibation)						

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 37226A4a

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: MG
2nd Reviewer: CL

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$\%D = \frac{|I-SDR|}{I} \times 100$ Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
1356 ICSAB	ICP interference check	Cr	43.54 (µg/L)	40.0 (µg/L)	109	109	Y
1751 LCS	Laboratory control sample	Cu	86.20 (mg/kg)	83.3 (mg/kg)	103	103	
1825 66	Matrix spike	As	(SSR-SR) 11.12 (mg/kg)	10.4 (mg/kg)	107	108	
1803 / 1822 67	Duplicate	K	864.4 (mg/kg)	660.6 (mg/kg)	27	27	
1803 / 1800 1	ICP serial dilution	Fe	12376 (mg/kg)	11703 (mg/kg)	9	8	

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 37226A4a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: MG
2nd reviewer: G

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Have results been reported and calculated correctly?
(Y) N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
(Y) N N/A Are all detection limits below the CRDL?

Detected analyte results for #1, As were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)}$

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

$$\frac{(9.002\ mg/L)(0.050\ L)(10)}{(1.306\ g)(0.91)} = 3.787\ \frac{mg}{g}\ or\ \frac{mg}{kg}$$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
1	1	As	3.8	3.8	Y
2	2	Hg	0.11	0.11	↓
3	3	Na	89	89	
4	4	Be	0.30	0.30	
5	5	Cu	14	14	
6	6	Pb	69	69	
7	7	K	250	250	
8	8	Cd	0.17	0.17	
9	9	Sn	1.8	1.8	
10	10	Ni	93	93	
11	11	Se	2.5	2.5	
12	12	Sb	0.23	0.23	
13	13	Hg	1.1	1.1	
14	14	Fe	19000	19000	
15	15	Ag	0.45	0.45	
16	16	V	56	56	
17	17	Tl	0.19	0.19	
18	18	Cr	17	17	
19	19	Ba	53	53	
20	20	Tl	0.12	0.12	↓

Note:

LDC #: 37226A4a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: MG
2nd reviewer: [signature]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
(Y) N N/A Have results been reported and calculated correctly?
(Y) N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
(Y) N N/A Are all detection limits below the CRDL?

Detected analyte results for # 21, Hg were recalculated and verified using the following equation:

Concentration = (RD)(FV)(Dil) / (In. Vol.)

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

$$\frac{(1.957\ \mu g/L)(0.050\ L)}{(0.373\ g)(0.89)} = 0.2948\ \frac{\mu g}{g}\ \text{or}\ \frac{mg}{Kg}$$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
21	21	Hg	0.29	0.29	Y
22	22	V	25	25	
23	23	Be	0.32	0.32	
24	24	Fe	3600	3600	
25	25	Cr	13	13	
26	26	Se	3.2	3.2	
27	27	As	39	39	
28	28	Co	7.8	7.8	
29	29	Mg	7900	7900	
30	30	Sb	16	16	
31	31	Mn	64	64	
32	32	Ba	93	93	
33	33	Pb	36	36	
34	34	Sn	1.8	1.8	
35	35	Cd	3.6	3.6	
36	36	Cu	110	110	
37	37	Ag	2.7	2.7	
38	38	Zn	200	200	
39	39	Ca	2100	2100	
40	40	Ni	16	16	↓

Note:

LDC #: 37226A4a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: MG
2nd reviewer: G

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
(Y) N N/A Have results been reported and calculated correctly?
(Y) N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
(Y) N N/A Are all detection limits below the CRDL?

Detected analyte results for #41, Co were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)}$

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

$$\frac{(7.997\ mg/L)(0.050L)(10)}{(1.263\ g)(0.70)} = 4.523\ \frac{mg}{g}\ or\ \frac{mg}{kg}$$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
41	41	Co	4.5	4.5	Y
42	42	Sb	39	39	
43	43	Hg	1.1	1.1	
44	44	Fe	14000	14000	
45	45	Sn	200	200	
46	46	Ag	0.13	0.13	
47	47	Ni	27	27	
48	48	Tl	0.03	0.03	
49	49	Mg	3000	3000	
50	50	Zn	38	38	
51	51	Hg	1.8	1.8	
52	52	Cu	140	140	
53	53	Be	0.74	0.74	
54	54	As	9.0	9.0	
55	55	Cd	0.08	0.08	
56	56	Na	330	330	
57	57	Cr	14	14	
58	58	Na	900	900	
59	59	V	11	11	
60	60	K	580	580	

Note:

LDC #: 37726A4a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: MG
2nd reviewer: a

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Have results been reported and calculated correctly?
(Y) N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
(Y) N N/A Are all detection limits below the CRDL?

Detected analyte results for #61, Ni were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)}$

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

$$\frac{(35.809\ \mu g/L)(0.050\ L)(10)}{(1.268\ g)(0.96)} = 14.709\ \frac{\mu g}{g}\ \text{or}\ \frac{mg}{kg}$$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
61	61	Ni	15	15	Y
62	62	Co	12	12	↓
63	63	Hg	0.16	0.16	↓
64	64	Be	0.35	0.35	↓
65	65	Sn	7.5	7.5	↓

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Atlas White Metals

LDC Report Date: December 8, 2016

Parameters: Metals

Validation Level: Stage 4

Laboratory: Alpha Analytical, Inc.

Sample Delivery Group (SDG): L1622604

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SB015-01	L1622604-01	Soil	07/20/16
SB015-02	L1622604-02	Soil	07/20/16
SB015-03	L1622604-03	Soil	07/20/16
SB015-04	L1622604-04	Soil	07/20/16
SB015-05	L1622604-05	Soil	07/20/16
SB015-06	L1622604-06	Soil	07/20/16
SB016-01	L1622604-10	Soil	07/20/16
SB016-02	L1622604-11	Soil	07/20/16
SB90016-02	L1622604-12	Soil	07/20/16
SB016-03	L1622604-13	Soil	07/20/16
SB016-04	L1622604-14	Soil	07/20/16
SB016-05	L1622604-15	Soil	07/20/16
SB017-01	L1622604-19	Soil	07/20/16
SB017-02	L1622604-20	Soil	07/20/16
SB017-03	L1622604-21	Soil	07/20/16
SB017-04	L1622604-23	Soil	07/20/16
SB017-05	L1622604-24	Soil	07/20/16
SB017-06	L1622604-25	Soil	07/20/16
SB017-07	L1622604-26	Soil	07/20/16
SB018-01	L1622604-28	Soil	07/20/16
SB90018-01	L1622604-29	Soil	07/20/16
SB018-02	L1622604-30	Soil	07/20/16
SB018-04	L1622604-31	Soil	07/20/16
SB018-05	L1622604-33	Soil	07/20/16
SB018-06	L1622604-34	Soil	07/20/16
SB018-07	L1622604-35	Soil	07/20/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SB019-01	L1622604-37	Soil	07/20/16
SB019-02	L1622604-38	Soil	07/20/16
SB019-03	L1622604-39	Soil	07/20/16
SB019-04	L1622604-40	Soil	07/20/16
SB90019-04	L1622604-41	Soil	07/20/16
SB019-05	L1622604-42	Soil	07/20/16
SB019-06	L1622604-43	Soil	07/20/16
SB019-07	L1622604-44	Soil	07/20/16
SB020-01	L1622604-46	Soil	07/20/16
SB90020-01	L1622604-47	Soil	07/20/16
SB020-02	L1622604-48	Soil	07/20/16
SB020-03	L1622604-49	Soil	07/20/16
SB020-04	L1622604-50	Soil	07/20/16
SB020-05	L1622604-51	Soil	07/20/16
SB020-06	L1622604-52	Soil	07/20/16
SB020-07	L1622604-53	Soil	07/20/16
SB021-01	L1622604-55	Soil	07/20/16
SB021-02	L1622604-56	Soil	07/20/16
SB90021-02	L1622604-57	Soil	07/20/16
SB021-03	L1622604-58	Soil	07/20/16
SB021-04	L1622604-59	Soil	07/20/16
SB021-05	L1622604-60	Soil	07/20/16
SB021-06	L1622604-61	Soil	07/20/16
SB021-07	L1622604-62	Soil	07/20/16
SB022-01	L1622604-64	Soil	07/20/16
SB022-02	L1622604-65	Soil	07/20/16
SB022-03	L1622604-66	Soil	07/20/16
SB022-04	L1622604-67	Soil	07/20/16
SB022-05	L1622604-68	Soil	07/20/16
SB022-06	L1622604-69	Soil	07/20/16
SB022-07	L1622604-70	Soil	07/20/16
SB022-08	L1622604-71	Soil	07/20/16
SB023-01	L1622604-72	Soil	07/20/16
SB023-02	L1622604-73	Soil	07/20/16
SB023-03	L1622604-74	Soil	07/20/16
SB023-04	L1622604-75	Soil	07/20/16
SB023-05	L1622604-76	Soil	07/20/16
SB023-06	L1622604-77	Soil	07/20/16
SB024-02	L1622604-80	Soil	07/20/16
SB024-03	L1622604-81	Soil	07/20/16
SB024-04	L1622604-82	Soil	07/20/16
SB024-05	L1622604-83	Soil	07/20/16
SB024-06	L1622604-84	Soil	07/20/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SB024-07	L1622604-85	Soil	07/20/16
SB018-03	L1622604-87	Soil	07/20/16
SB024-01	L1622604-88	Soil	07/20/16
SB015-05MS	L1622604-05MS	Soil	07/20/16
SB015-05MSD	L1622604-05MSD	Soil	07/20/16
SB017-02MS	L1622604-20MS	Soil	07/20/16
SB017-02MSD	L1622604-20MSD	Soil	07/20/16
SB017-05MS	L1622604-24MS	Soil	07/20/16
SB017-05DUP	L1622604-24DUP	Soil	07/20/16
SB018-02MS	L1622604-30MS	Soil	07/20/16
SB018-02MSD	L1622604-30MSD	Soil	07/20/16
SB019-01MS	L1622604-37MS	Soil	07/20/16
SB019-01MSD	L1622604-37MSD	Soil	07/20/16
SB019-03MS	L1622604-39MS	Soil	07/20/16
SB019-03DUP	L1622604-39DUP	Soil	07/20/16
SB020-02MS	L1622604-48MS	Soil	07/20/16
SB020-02MSD	L1622604-48MSD	Soil	07/20/16
SB024-06MS	L1622604-84MS	Soil	07/20/16
SB024-06DUP	L1622604-84DUP	Soil	07/20/16

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Quality Assurance Project Plan, Atlas White Metal Co. Site, Brooklyn, Kings County, New York (March 2016) and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, and Zinc by Environmental Protection Agency (EPA) SW 846 Method 6020A

All sample results were subjected to Stage 4 evaluation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Instrument Calibration

Initial and continuing calibrations were performed as required by the methods.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

IV. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Antimony Copper Sodium Tin	0.13 mg/Kg 1.5 mg/Kg 16 mg/Kg 0.07 mg/Kg	SB020-02 SB020-06 SB020-07 SB021-01 SB021-02 SB90021-02 SB021-03 SB021-07 SB022-01 SB022-02 SB022-03 SB022-04 SB022-06 SB022-08 SB023-01 SB023-02 SB024-02 SB024-03 SB024-04 SB024-07
PB (prep blank)	Tin	0.05 mg/Kg	SB024-06 SB024-01

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Antimony Potassium Sodium Tin	0.08 mg/Kg 24 mg/Kg 24 mg/Kg 0.07 mg/Kg	SB015-03 SB016-03 SB016-05 SB017-03 SB018-06
ICB/CCB	Antimony Silver Tin	2.05 ug/L 0.104 ug/L 0.652 ug/L	SB015-03 SB016-03 SB016-05 SB017-03 SB018-06
PB (prep blank)	Antimony Tin	0.12 mg/Kg 0.05 mg/Kg	SB019-03 SB020-03 SB020-04 SB020-05 SB021-04 SB022-05 SB022-07 SB023-03 SB018-03
PB (prep blank)	Antimony Tin	0.06 mg/Kg 0.05 mg/Kg	SB015-04 SB015-05 SB017-04 SB017-06 SB019-04 SB90019-04 SB021-05 SB021-06 SB023-04 SB023-05 SB024-05
PB (prep blank)	Antimony Tin	0.05 mg/Kg 0.02 mg/Kg	SB017-05 SB018-07 SB023-06
PB (prep blank)	Antimony Selenium Tin	0.31 mg/Kg 0.42 mg/Kg 0.06 mg/Kg	SB015-06 SB018-04
ICB/CCB	Antimony Tin	1.94 ug/L 0.245 ug/L	SB015-06 SB018-04
ICB/CCB	Antimony Lead Selenium Thallium Tin	0.437 ug/L 0.635 ug/L 1.58 ug/L 0.103 ug/L 0.785 ug/L	SB017-02
ICB/CCB	Antimony Tin	0.437 ug/L 0.583 ug/L	SB018-02 SB019-01
ICB/CCB	Antimony Tin	0.437 ug/L 0.316 ug/L	SB015-01 SB015-02 SB016-01

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Antimony Cadmium Silver Thallium Tin	0.437 ug/L 0.0797 ug/L 0.0947 ug/L 0.0850 ug/L 0.447 ug/L	SB016-02 SB90016-02 SB016-04
ICB/CCB	Antimony Cadmium Silver Thallium Tin	0.437 ug/L 0.0797 ug/L 0.0947 ug/L 0.0850 ug/L 1.04 ug/L	SB017-01 SB017-07 SB018-01 SB90018-01
ICB/CCB	Lead	0.305 ug/L	SB017-01 SB017-07 SB018-01
ICB/CCB	Antimony Tin	0.437 ug/L 0.526 ug/L	SB018-05 SB019-02 SB019-05 SB019-06 SB019-07 SB020-01 SB90020-01
ICB/CCB	Selenium	1.13 ug/L	SB018-05 SB019-02 SB019-05 SB019-06 SB019-07 SB90020-01
ICB/CCB	Antimony Selenium Tin	0.668 ug/L 1.78 ug/L 0.476 ug/L	SB020-02 SB020-06
ICB/CCB	Antimony Tin	0.668 ug/L 0.679 ug/L	SB020-07 SB021-01 SB021-02 SB90021-02 SB021-03 SB021-07 SB022-01
ICB/CCB	Antimony Tin	0.668 ug/L 1.43 ug/L	SB022-02 SB022-03 SB022-04 SB022-06 SB022-08 SB023-01 SB023-02
ICB/CCB	Antimony Tin	0.668 ug/L 0.678 ug/L	SB024-02 SB024-03 SB024-04
ICB/CCB	Antimony Tin	0.668 ug/L 0.732 ug/L	SB024-07

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Antimony Potassium Silver Thallium Tin	1.29 ug/L 40.8 ug/L 0.136 ug/L 3.35 ug/L 0.618 ug/L	SB024-06
ICB/CCB	Antimony Potassium Thallium Tin	1.29 ug/L 40.8 ug/L 3.35 ug/L 0.534 ug/L	SB024-01
ICB/CCB	Copper	0.846 ug/L	SB016-03 SB016-05 SB017-03 SB018-06
ICB/CCB	Antimony Arsenic Thallium Tin	1.72 ug/L 0.244 ug/L 0.070 ug/L 0.309 ug/L	SB019-03
ICB/CCB	Antimony Selenium Tin	1.92 ug/L 2.27 ug/L 0.342 ug/L	SB020-03 SB020-04 SB020-05 SB021-04
ICB/CCB	Antimony Arsenic Tin	1.72 ug/L 0.305 ug/L 0.562 ug/L	SB022-05 SB022-07 SB023-03 SB018-03
ICB/CCB	Antimony Selenium Tin	0.732 ug/L 1.27 ug/L 0.691 ug/L	SB015-05
ICB/CCB	Antimony Selenium	0.882 ug/L 1.27 ug/L	SB015-04 SB017-04 SB017-06
ICB/CCB	Antimony Selenium	1.09 ug/L 1.27 ug/L	SB019-04 SB90019-04 SB021-05 SB021-06 SB023-04 SB023-05 SB024-05
ICB/CCB	Tin	0.703 ug/L	SB015-04 SB017-04 SB017-06 SB019-04 SB90019-04 SB021-05 SB021-06 SB023-04 SB023-05 SB024-05

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Antimony Tin	0.601 ug/L 0.828 ug/L	SB017-05
ICB/CCB	Antimony Tin	0.726 ug/L 0.457 ug/L	SB018-07 SB023-06

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SB020-02	Sodium	120 mg/Kg	200U mg/Kg
SB020-06	Sodium Selenium	96 mg/Kg 0.99 mg/Kg	170U mg/Kg 2.2U mg/Kg
SB020-07	Antimony	0.79 mg/Kg	0.91U mg/Kg
SB021-02	Sodium	170 mg/Kg	200U mg/Kg
SB021-03	Sodium	120 mg/Kg	300U mg/Kg
SB021-07	Sodium	130 mg/Kg	170U mg/Kg
SB022-01	Antimony	0.21 mg/Kg	0.80U mg/Kg
SB022-02	Sodium	180 mg/Kg	220U mg/Kg
SB022-03	Sodium	200 mg/Kg	210U mg/Kg
SB022-04	Sodium	53 mg/Kg	180U mg/Kg
SB024-03	Sodium	160 mg/Kg	190U mg/Kg
SB016-03	Silver	0.53 mg/Kg	0.55U mg/Kg
SB017-03	Silver Sodium	0.60 mg/Kg 100 mg/Kg	0.63U mg/Kg 190U mg/Kg
SB018-06	Silver Sodium	0.50 mg/Kg 130 mg/Kg	0.64U mg/Kg 190U mg/Kg
SB018-04	Selenium	1.4 mg/Kg	2.3U mg/Kg

Sample	Analyte	Reported Concentration	Modified Final Concentration
SB017-02	Thallium	0.16 mg/Kg	0.23U mg/Kg
SB016-02	Thallium	0.16 mg/Kg	0.27U mg/Kg
SB90016-02	Thallium	0.12 mg/Kg	0.30U mg/Kg
SB016-04	Silver Thallium	0.10 mg/Kg 0.04 mg/Kg	0.66U mg/Kg 0.26U mg/Kg
SB017-01	Silver Thallium	0.18 mg/Kg 0.06 mg/Kg	0.52U mg/Kg 0.21U mg/Kg
SB017-07	Cadmium Silver Thallium	0.24 mg/Kg 0.31 mg/Kg 0.07 mg/Kg	0.25U mg/Kg 0.63U mg/Kg 0.25U mg/Kg
SB018-01	Thallium	0.17 mg/Kg	0.20U mg/Kg
SB90018-01	Thallium	0.14 mg/Kg	0.23U mg/Kg
SB020-01	Antimony	0.73 mg/Kg	0.84U mg/Kg
SB90020-01	Antimony	0.16 mg/Kg	0.86U mg/Kg
SB024-06	Antimony Silver	0.45 mg/Kg 0.12 mg/Kg	0.52U mg/Kg 0.61U mg/Kg
SB024-01	Thallium	0.14 mg/Kg	1.34U mg/Kg
SB015-04	Selenium	1.6 mg/Kg	2.3U mg/Kg
SB017-04	Selenium	3.2 mg/Kg	3.6U mg/Kg
SB017-06	Selenium	0.71 mg/Kg	2.3U mg/Kg
SB019-04	Selenium	2.2 mg/Kg	2.5U mg/Kg
SB90019-04	Selenium	2.1 mg/Kg	2.5U mg/Kg
SB023-04	Selenium	1.6 mg/Kg	2.2U mg/Kg

VI. Field Blanks

No field blanks were identified in this SDG.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SB017-02MS/MSD (SB015-01 SB015-02 SB016-01 SB016-02 SB90016-02 SB016-04 SB017-01 SB017-02 SB017-07 SB018-01 SB90018-01 SB018-02 SB018-05 SB019-01 SB019-02 SB019-05 SB019-06 SB019-07 SB020-01 SB90020-01)	Aluminum Antimony	137 (75-125) 148 (75-125)	52 (75-125) 63 (75-125)	J (all detects) J (all detects)	A
SB017-02MS/MSD (SB017-02)	Magnesium Manganese	232 (75-125) 147 (75-125)	- -	J (all detects) J (all detects)	A
SB017-02MS/MSD (SB017-02)	Cadmium	-	20 (75-125)	J (all detects)	A
SB018-02MS/MSD (SB015-01 SB015-02 SB016-01 SB016-02 SB90016-02 SB016-04 SB017-01 SB017-02 SB017-07 SB018-01 SB90018-01 SB018-02 SB018-05 SB019-01 SB019-02 SB019-05 SB019-06 SB019-07 SB020-01 SB90020-01)	Antimony	170 (75-125)	41 (75-125)	J (all detects)	A

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SB018-02MS/MSD (SB015-01 SB015-02 SB016-01 SB016-02 SB90016-02 SB016-04 SB017-01 SB017-02 SB017-07 SB018-01 SB90018-01 SB018-02 SB018-05 SB019-01 SB019-02 SB019-05 SB019-06 SB019-07 SB020-01 SB90020-01)	Aluminum	21 (75-125)	0 (75-125)	J (all detects)	A
SB018-02MS/MSD (SB018-02)	Barium	-	51 (75-125)	J (all detects)	A
SB019-01MS/MSD (SB015-01 SB015-02 SB016-01 SB016-02 SB90016-02 SB016-04 SB017-01 SB017-02 SB017-07 SB018-01 SB90018-01 SB018-02 SB018-05 SB019-01 SB019-02 SB019-05 SB019-06 SB019-07 SB020-01 SB90020-01)	Antimony Aluminum	183 (75-125) 40 (75-125)	0 (75-125) 68 (75-125)	J (all detects) J (all detects)	A
SB019-01MS/MSD (SB019-01)	Arsenic Barium Cadmium Chromium Nickel	- - - - -	19 (75-125) 28 (75-125) 47 (75-125) 45 (75-125) 59 (75-125)	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A
SB019-01MS/MSD (SB019-01)	Selenium	-	126 (75-125)	J (all detects)	A

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SB020-02MS/MSD (SB020-02 SB020-06 SB020-07 SB021-01 SB021-02 SB90021-02 SB021-03 SB021-07 SB022-01 SB022-02 SB022-03 SB022-04 SB022-06 SB022-08 SB023-01 SB023-02 SB024-02 SB024-03 SB024-04 SB024-07)	Antimony Cadmium Calcium Magnesium Nickel Potassium Selenium Vanadium	180 (75-125) 66 (75-125) 9.6 (75-125) 62 (75-125) 67 (75-125) 47 (75-125) 65 (75-125) 63 (75-125)	40 (75-125) 66 (75-125) - - 69 (75-125) 57 (75-125) 26 (75-125) 68 (75-125)	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A
SB020-02MS/MSD (SB020-02 SB020-06 SB020-07 SB021-01 SB021-02 SB90021-02 SB021-03 SB021-07 SB022-01 SB022-02 SB022-03 SB022-04 SB022-06 SB022-08 SB023-01 SB023-02 SB024-02 SB024-03 SB024-04 SB024-07)	Manganese Aluminum	19 (75-125) 0 (75-125)	- 29 (75-125)	J (all detects) J (all detects)	A
SB020-02MS/MSD (SB020-02 SB020-06 SB020-07 SB021-01 SB021-02 SB90021-02 SB021-03 SB021-07 SB022-01 SB022-02 SB022-03 SB022-04 SB022-06 SB022-08 SB023-01 SB023-02 SB024-02 SB024-03 SB024-04 SB024-07)	Tin	277 (75-125)	212 (75-125)	J (all detects)	A

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SB024-06MS (SB024-06 SB024-01)	Arsenic Barium Lead Manganese Selenium	137 (75-125) 147 (75-125) 1420 (75-125) 223 (75-125) 126 (75-125)	NA	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A
SB024-06MS (SB024-06 SB024-01)	Thallium Aluminum	32 (75-125) 60 (75-125)	NA	J (all detects) J (all detects)	A
SB02-03MS (SB015-03 SB016-03 SB016-05 SB017-03 SB018-06)	Calcium Selenium Sodium	188 (75-125) 129 (75-125) 144 (75-125)	NA	J (all detects) J (all detects) J (all detects)	A
SB02-03MS (SB015-03 SB016-03 SB016-05 SB017-03 SB018-06)	Aluminum	0 (75-125)	NA	J (all detects)	A
SB019-03MS (SB019-03 SB020-03 SB020-04 SB020-05 SB021-04 SB022-05 SB022-07 SB023-03 SB018-03)	Arsenic	72 (75-125)	NA	J (all detects)	A
SB019-03MS (SB019-03 SB020-03 SB020-04 SB020-05 SB021-04 SB022-05 SB022-07 SB023-03 SB018-03)	Nickel	127 (75-125)	NA	J (all detects)	A
SB019-03MS (SB019-03 SB020-03 SB020-04 SB020-05 SB021-04 SB022-05 SB022-07 SB023-03 SB018-03)	Aluminum	0 (75-125)	NA	J (all detects)	A

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SB015-05MS/MSD (SB015-04 SB015-05 SB017-04 SB017-06 SB019-04 SB90019-04 SB021-05 SB021-06 SB023-04 SB023-05 SB024-05)	Calcium Lead Selenium Arsenic	74 (75-125) 62 (75-125) 60 (75-125) -	0 (75-125) 21 (75-125) - 62 (75-125)	J (all detects) J (all detects) J (all detects) J (all detects)	A
SB015-05MS/MSD (SB015-04 SB015-05 SB017-04 SB017-06 SB019-04 SB90019-04 SB021-05 SB021-06 SB023-04 SB023-05 SB024-05)	Manganese Sodium	128 (75-125) 126 (75-125)	- -	J (all detects) J (all detects)	A
SB015-05MS/MSD (SB015-04 SB015-05 SB017-04 SB017-06 SB019-04 SB90019-04 SB021-05 SB021-06 SB023-04 SB023-05 SB024-05)	Aluminum	0 (75-125)	0 (75-125)	J (all detects)	A
SB017-05MS (SB017-05 SB018-07 SB023-06)	Aluminum	15 (75-125)	NA	J (all detects)	A
SB017-05MS (SB017-05 SB018-07 SB023-06)	Cadmium	170 (75-125)	NA	J (all detects)	A
SB017-05MS (SB017-05 SB018-07 SB023-06)	Tin	59 (75-125)	NA	J (all detects)	A

For SB017-02MS/MSD, no data were qualified for Barium, Copper, Lead, Zinc, Calcium, Iron, and Tin percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For SB018-02MS/MSD, no data were qualified for Cadmium, Calcium, Iron, Manganese, Tin, Copper, Lead, and Zinc percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For SB019-01MS/MSD, no data were qualified for Calcium, Iron, Magnesium, Manganese, Tin, Zinc, Copper, and Lead percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For SB020-02MS/MSD, no data were qualified for Copper, Iron, Zinc, and Lead percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For SB024-06MS, no data were qualified for Copper, Iron, and Zinc percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For SB02-03, no data were qualified for Iron and Manganese percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For SB019-03MS, no data were qualified for Calcium, Copper, Iron, Lead, Magnesium, Manganese, and Zinc percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For SB015-05MS/MSD, no data were qualified for Iron and Zinc percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For SB017-05MS, no data were qualified for Copper, Lead, Zinc, Calcium, Chromium, Iron, Magnesium, and Manganese percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	RPD (Limits)	Flag	A or P
SB017-02MS/MSD (SB015-01 SB015-02 SB016-01 SB016-02 SB90016-02 SB016-04 SB017-01 SB017-02 SB017-07 SB018-01 SB90018-01 SB018-02 SB018-05 SB019-01 SB019-02 SB019-05 SB019-06 SB019-07 SB020-01 SB90020-01)	Aluminum Lead	26 (≤25) 48 (≤25)	J (all detects) J (all detects)	A
SB017-02MS/MSD (SB017-02)	Copper Calcium Iron Magnesium Tin	153 (≤25) 63 (≤25) 36 (≤25) 27 (≤25) 26 (≤25)	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A
SB018-02MS/MSD (SB015-01 SB015-02 SB016-01 SB016-02 SB90016-02 SB016-04 SB017-01 SB017-02 SB017-07 SB018-01 SB90018-01 SB018-02 SB018-05 SB019-01 SB019-02 SB019-05 SB019-06 SB019-07 SB020-01 SB90020-01)	Antimony Lead	29 (≤25) 40 (≤25)	J (all detects) J (all detects)	A

Spike ID (Associated Samples)	Analyte	RPD (Limits)	Flag	A or P
SB019-01MS/MSD (SB015-01 SB015-02 SB016-01 SB016-02 SB90016-02 SB016-04 SB017-01 SB017-02 SB017-07 SB018-01 SB90018-01 SB018-02 SB018-05 SB019-01 SB019-02 SB019-05 SB019-06 SB019-07 SB020-01 SB90020-01)	Antimony Lead	93 (≤25) 134 (≤25)	J (all detects) J (all detects)	A
SB019-01MS/MSD (SB019-01)	Arsenic Barium Cadmium Calcium Chromium Iron Magnesium Nickel Selenium Tin Zinc Copper	38 (≤25) 37 (≤25) 38 (≤25) 31 (≤25) 41 (≤25) 38 (≤25) 26 (≤25) 40 (≤25) 27 (≤25) 116 (≤25) 116 (≤25) 160 (≤25)	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A
SB020-02MS/MSD (SB020-02 SB020-06 SB020-07 SB021-01 SB021-02 SB90021-02 SB021-03 SB021-07 SB022-01 SB022-02 SB022-03 SB022-04 SB022-06 SB022-08 SB023-01 SB023-02 SB024-02 SB024-03 SB024-04 SB024-07)	Antimony Copper Iron Selenium Zinc Lead	59 (≤25) 60 (≤25) 49 (≤25) 51 (≤25) 40 (≤25) 100 (≤25)	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A

Spike ID (Associated Samples)	Analyte	RPD (Limits)	Flag	A or P
SB015-05MS/MSD (SB015-04 SB015-05 SB017-04 SB017-06 SB019-04 SB90019-04 SB021-05 SB021-06 SB023-04 SB023-05 SB024-05)	Calcium Iron	38 (≤25) 33 (≤25)	J (all detects) J (all detects)	A

VIII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits with the following exceptions:

DUP ID (Associated Samples)	Analyte	RPD (Limits)	Difference (Limits)	Flag	A or P
SB024-06DUP (SB024-06 SB024-01)	Barium Lead Manganese Tin	46 (≤25) 106 (≤25) 30 (≤25) 33 (≤25)	- - - -	J (all detects) J (all detects) J (all detects) J (all detects)	A
SB02-03DUP (SB015-03 SB016-03 SB016-05 SB017-03 SB018-06)	Arsenic Lead Magnesium Nickel Tin Zinc	30 (≤25) 30 (≤25) 67 (≤25) 43 (≤25) - -	- - - - 1.3 mg/Kg (≤0.90) 24 mg/Kg (≤22)	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A
SB019-03DUP (SB019-03 SB020-03 SB020-04 SB020-05 SB021-04 SB022-05 SB022-07 SB023-03 SB018-03)	Barium Chromium Cobalt Manganese Nickel Potassium	26 (≤25) 60 (≤25) 43 (≤25) 33 (≤25) 55 (≤25) -	- - - - - 380 mg/Kg (≤260)	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A
SB017-05DUP (SB017-05 SB018-07 SB023-06)	Copper Chromium Iron Manganese Arsenic Cadmium Cobalt Magnesium Nickel Tin	- 89 (≤25) 60 (≤25) 60 (≤25) 42 (≤25) 64 (≤25) 53 (≤25) 45 (≤25) 42 (≤25) 29 (≤25)	1300 mg/Kg (≤500) - - - - - - - - -	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A

IX. Serial Dilution

Serial dilution analysis was performed on an associated project sample. Percent differences (%D) were within QC limits with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
SB018-02	Lead	14 (≤10)	SB018-02	J (all detects)	A
SB019-01	Antimony	17 (≤10)	SB019-01	J (all detects)	A
SB019-01	Barium	18 (≤10)	SB015-01 SB015-02 SB016-01 SB016-02 SB90016-02 SB016-04 SB017-01 SB017-02 SB017-07 SB018-01 SB90018-01 SB018-02 SB018-05 SB019-01 SB019-02 SB019-05 SB019-06 SB019-07 SB020-01 SB90020-01	J (all detects)	A

X. Standard Reference Materials

Standard reference materials (SRM) were analyzed as required by the method. The results were within QC limits.

XI. Field Duplicates

Samples SB016-02 and SB90016-02, samples SB018-01 and SB90018-01, samples SB019-04 and SB90019-04, samples SB020-01 and SB90020-01, and samples SB021-02 and SB90021-02 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/Kg)		RPD (Limits)
	SB016-02	SB90016-02	
Aluminum	6400	4500	35 (≤30)
Antimony	100	100	0 (≤30)
Arsenic	29	24	19 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	SB016-02	SB90016-02	
Barium	1100	490	77 (≤30)
Beryllium	0.56	0.34	49 (≤30)
Cadmium	8.8	9.2	4 (≤30)
Calcium	6500	4300	41 (≤30)
Chromium	81	39	70 (≤30)
Cobalt	8.0	7.7	4 (≤30)
Copper	6400	3900	49 (≤30)
Iron	37000	71000	63 (≤30)
Lead	6600	4300	42 (≤30)
Magnesium	1200	1200	0 (≤30)
Manganese	300	320	6 (≤30)
Nickel	34	31	9 (≤30)
Potassium	460	380	19 (≤30)
Selenium	3.8	4.4	15 (≤30)
Silver	2.8	2.8	0 (≤30)
Sodium	260	230	12 (≤30)
Thallium	0.16	0.12	29 (≤30)
Tin	1100	570	63 (≤30)
Vanadium	36	28	25 (≤30)
Zinc	6700	4400	41 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	SB018-01	SB90018-01	
Aluminum	10000	9600	4 (≤30)
Antimony	340	1200	112 (≤30)
Arsenic	18	40	76 (≤30)
Barium	350	720	69 (≤30)
Beryllium	0.17	0.15	13 (≤30)
Cadmium	12	28	80 (≤30)
Calcium	23000	36000	44 (≤30)
Chromium	23	43	61 (≤30)
Cobalt	10	12	18 (≤30)
Copper	4200	14000	108 (≤30)
Iron	65000	73000	12 (≤30)
Lead	12000	21000	55 (≤30)
Magnesium	13000	21000	47 (≤30)
Manganese	240	340	34 (≤30)
Nickel	24	42	55 (≤30)
Potassium	920	710	26 (≤30)
Selenium	2.5	3.7	39 (≤30)
Silver	1.7	2.8	49 (≤30)
Sodium	400	420	5 (≤30)
Thallium	0.17	0.14	19 (≤30)
Tin	350	1100	103 (≤30)
Vanadium	57	61	7 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	SB018-01	SB90018-01	
Zinc	3000	7400	85 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	SB019-04	SB90019-04	
Aluminum	3900	1900	69 (≤30)
Antimony	8.7	5.3	49 (≤30)
Arsenic	14	14	0 (≤30)
Barium	140	100	33 (≤30)
Beryllium	0.26	0.19	31 (≤30)
Cadmium	1.3	0.97	29 (≤30)
Calcium	8700	8500	2 (≤30)
Chromium	24	24	0 (≤30)
Cobalt	6.3	6.2	2 (≤30)
Copper	2000	800	86 (≤30)
Iron	19000	22000	15 (≤30)
Lead	680	290	80 (≤30)
Magnesium	1400	610	79 (≤30)
Manganese	360	350	3 (≤30)
Nickel	22	24	9 (≤30)
Potassium	600	470	24 (≤30)
Selenium	2.2	2.1	5 (≤30)
Silver	0.59	0.37	46 (≤30)
Sodium	150	160	6 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	SB019-04	SB90019-04	
Thallium	0.12	0.11	9 (≤30)
Tin	75	30	86 (≤30)
Vanadium	16	11	37 (≤30)
Zinc	560	630	12 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	SB020-01	SB90020-01	
Aluminum	7000	3800	59 (≤30)
Antimony	0.73	0.16	128 (≤30)
Arsenic	3.2	2.0	46 (≤30)
Barium	21	10	71 (≤30)
Beryllium	0.13	0.11	17 (≤30)
Cadmium	0.19	0.16	17 (≤30)
Calcium	52000	99000	62 (≤30)
Chromium	6.5	4.3	41 (≤30)
Cobalt	12	6.4	61 (≤30)
Copper	95	46	70 (≤30)
Iron	26000	13000	67 (≤30)
Lead	24	10	82 (≤30)
Magnesium	34000	59000	54 (≤30)
Manganese	230	220	4 (≤30)
Nickel	14	8.2	52 (≤30)
Potassium	440	260	51 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	SB020-01	SB90020-01	
Selenium	4.8	2.8	53 (≤30)
Silver	0.05	0.04U	22 (≤30)
Sodium	540	410	27 (≤30)
Thallium	0.05	0.03	50 (≤30)
Tin	2.2	1.0	75 (≤30)
Vanadium	82	31	90 (≤30)
Zinc	64	40	46 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	SB021-02	SB90021-02	
Aluminum	12000	13000	8 (≤30)
Antimony	77	71	8 (≤30)
Arsenic	25	21	17 (≤30)
Barium	2300	1000	79 (≤30)
Beryllium	0.82	1.1	29 (≤30)
Cadmium	14	6.2	77 (≤30)
Calcium	30000	32000	6 (≤30)
Chromium	150	26	141 (≤30)
Cobalt	19	6.8	95 (≤30)
Copper	6400	1700	116 (≤30)
Iron	15000	21000	33 (≤30)
Lead	16000	9200	54 (≤30)
Magnesium	41000	4100	164 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	SB021-02	SB90021-02	
Manganese	210	95	75 (≤30)
Nickel	240	40	143 (≤30)
Potassium	460	540	16 (≤30)
Selenium	6.4	6.0	6 (≤30)
Silver	1.7	1.2	34 (≤30)
Sodium	170	240	34 (≤30)
Thallium	0.11	0.11	0 (≤30)
Tin	920	320	97 (≤30)
Vanadium	30	27	11 (≤30)
Zinc	17000	18000	6 (≤30)

XII. Internal Standards (ICP-MS)

All internal standard percent recoveries (%R) were within QC limits.

XIII. Sample Result Verification

All sample result verifications were acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to MS/MSD %R and RPD, DUP RPD and difference, and serial dilution %D, data were qualified as estimated in seventy samples.

Due to laboratory blank contamination, data were qualified as not detected in thirty-three samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Atlas White Metals
Metals - Data Qualification Summary - SDG L1622604

Sample	Analyte	Flag	A or P	Reason
SB015-01 SB015-02 SB016-01 SB016-02 SB90016-02 SB016-04 SB017-01 SB017-02 SB017-07 SB018-01 SB90018-01 SB018-02 SB018-05 SB019-01 SB019-02 SB019-05 SB019-06 SB019-07 SB020-01 SB90020-01	Aluminum Antimony	J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SB017-02	Magnesium Manganese Cadmium	J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SB018-02	Barium	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SB019-01	Arsenic Barium Cadmium Chromium Nickel Selenium	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SB020-02 SB020-06 SB020-07 SB021-01 SB021-02 SB90021-02 SB021-03 SB021-07 SB022-01 SB022-02 SB022-03 SB022-04 SB022-06 SB022-08 SB023-01 SB023-02 SB024-02 SB024-03 SB024-04 SB024-07	Antimony Cadmium Calcium Magnesium Nickel Potassium Selenium Vanadium Manganese Aluminum Tin	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)

Sample	Analyte	Flag	A or P	Reason
SB024-06 SB024-01	Arsenic Barium Lead Manganese Selenium Thallium Aluminum	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SB015-03 SB016-03 SB016-05 SB017-03 SB018-06	Calcium Selenium Sodium Aluminum	J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SB019-03 SB020-03 SB020-04 SB020-05 SB021-04 SB022-05 SB022-07 SB023-03 SB018-03	Arsenic Nickel Aluminum	J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SB015-04 SB015-05 SB017-04 SB017-06 SB019-04 SB90019-04 SB021-05 SB021-06 SB023-04 SB023-05 SB024-05	Calcium Lead Selenium Arsenic Manganese Sodium Aluminum	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SB017-05 SB018-07 SB023-06	Aluminum Cadmium Tin	J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SB015-01 SB015-02 SB016-01 SB016-02 SB90016-02 SB016-04 SB017-01 SB017-02 SB017-07 SB018-01 SB90018-01 SB018-02 SB018-05 SB019-01 SB019-02 SB019-05 SB019-06 SB019-07 SB020-01 SB90020-01	Aluminum Lead	J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD)

Sample	Analyte	Flag	A or P	Reason
SB017-02	Copper Calcium Iron Magnesium Tin	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD)
SB019-01	Arsenic Barium Cadmium Calcium Chromium Iron Magnesium Nickel Selenium Tin Zinc Copper	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD)
SB020-02 SB020-06 SB020-07 SB021-01 SB021-02 SB90021-02 SB021-03 SB021-07 SB022-01 SB022-02 SB022-03 SB022-04 SB022-06 SB022-08 SB023-01 SB023-02 SB024-02 SB024-03 SB024-04 SB024-07	Antimony Copper Iron Selenium Zinc Lead	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD)
SB015-04 SB015-05 SB017-04 SB017-06 SB019-04 SB90019-04 SB021-05 SB021-06 SB023-04 SB023-05 SB024-05	Calcium Iron	J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD)
SB024-06 SB024-01	Barium Lead Manganese Tin	J (all detects) J (all detects) J (all detects) J (all detects)	A	Duplicate sample analysis (RPD)
SB015-03 SB016-03 SB016-05 SB017-03 SB018-06	Arsenic Lead Magnesium Nickel	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Duplicate sample analysis (RPD)

Sample	Analyte	Flag	A or P	Reason
SB019-03 SB020-03 SB020-04 SB020-05 SB021-04 SB022-05 SB022-07 SB023-03 SB018-03	Barium Chromium Cobalt Manganese Nickel	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Duplicate sample analysis (RPD)
SB017-05 SB018-07 SB023-06	Chromium Iron Manganese Arsenic Cadmium Cobalt Magnesium Nickel Tin	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Duplicate sample analysis (RPD)
SB015-03 SB016-03 SB016-05 SB017-03 SB018-06	Tin Zinc	J (all detects) J (all detects)	A	Duplicate sample analysis (difference)
SB019-03 SB020-03 SB020-04 SB020-05 SB021-04 SB022-05 SB022-07 SB023-03 SB018-03	Potassium	J (all detects)	A	Duplicate sample analysis (difference)
SB017-05 SB018-07 SB023-06	Copper	J (all detects)	A	Duplicate sample analysis (difference)
SB018-02	Lead	J (all detects)	A	Serial dilution (%D)
SB019-01	Antimony	J (all detects)	A	Serial dilution (%D)

Sample	Analyte	Flag	A or P	Reason
SB015-01 SB015-02 SB016-01 SB016-02 SB90016-02 SB016-04 SB017-01 SB017-02 SB017-07 SB018-01 SB90018-01 SB018-02 SB018-05 SB019-01 SB019-02 SB019-05 SB019-06 SB019-07 SB020-01 SB90020-01	Barium	J (all detects)	A	Serial dilution (%D)

Atlas White Metals
Metals - Laboratory Blank Data Qualification Summary - SDG L1622604

Sample	Analyte	Modified Final Concentration	A or P
SB020-02	Sodium	200U mg/Kg	A
SB020-06	Sodium Selenium	170U mg/Kg 2.2U mg/Kg	A
SB020-07	Antimony	0.91U mg/Kg	A
SB021-02	Sodium	200U mg/Kg	A
SB021-03	Sodium	300U mg/Kg	A
SB021-07	Sodium	170U mg/Kg	A
SB022-01	Antimony	0.80U mg/Kg	A
SB022-02	Sodium	220U mg/Kg	A
SB022-03	Sodium	210U mg/Kg	A
SB022-04	Sodium	180U mg/Kg	A
SB024-03	Sodium	190U mg/Kg	A
SB016-03	Silver	0.55U mg/Kg	A

Sample	Analyte	Modified Final Concentration	A or P
SB017-03	Silver Sodium	0.63U mg/Kg 190U mg/Kg	A
SB018-06	Silver Sodium	0.64U mg/Kg 190U mg/Kg	A
SB018-04	Selenium	2.3U mg/Kg	A
SB017-02	Thallium	0.23U mg/Kg	A
SB016-02	Thallium	0.27U mg/Kg	A
SB90016-02	Thallium	0.30U mg/Kg	A
SB016-04	Silver Thallium	0.66U mg/Kg 0.26U mg/Kg	A
SB017-01	Silver Thallium	0.52U mg/Kg 0.21U mg/Kg	A
SB017-07	Cadmium Silver Thallium	0.25U mg/Kg 0.63U mg/Kg 0.25U mg/Kg	A
SB018-01	Thallium	0.20U mg/Kg	A
SB90018-01	Thallium	0.23U mg/Kg	A
SB020-01	Antimony	0.84U mg/Kg	A
SB90020-01	Antimony	0.86U mg/Kg	A
SB024-06	Antimony Silver	0.52U mg/Kg 0.61U mg/Kg	A
SB024-01	Thallium	1.34U mg/Kg	A
SB015-04	Selenium	2.3U mg/Kg	A
SB017-04	Selenium	3.6U mg/Kg	A
SB017-06	Selenium	2.3U mg/Kg	A
SB019-04	Selenium	2.5U mg/Kg	A
SB90019-04	Selenium	2.5U mg/Kg	A

Sample	Analyte	Modified Final Concentration	A or P
SB023-04	Selenium	2.2U mg/Kg	A

Atlas White Metals
Metals - Field Blank Data Qualification Summary - SDG L1622604

No Sample Data Qualified in this SDG

LDC #: 37226B4a
SDG #: L1622604
Laboratory: Alpha Analytical

VALIDATION COMPLETENESS WORKSHEET

~~Category B~~ Level IV

Date: 10-21-16
Page: 1 of 4
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Metals (EPA SW 846 Method 6020A/~~7471B~~) Hg removed per client

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	SW	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Laboratory Blanks	SW	
VI.	Field Blanks	N	
VII.	Matrix Spike/Matrix Spike Duplicates	SW	MS/MSD (SDG: L1622423)
VIII.	Duplicate sample analysis	SW	DUP (↓)
IX.	Serial Dilution	SW	SD: 5, 14, 17, 22, 27, 29, 37, 69
X.	Laboratory control samples	A	SRM
XI.	Field Duplicates	SW	D= 8+9, 20+21, 30+31, 35+36, 44+45
XII.	Internal Standard (ICP-MS)	A	
XIII.	Sample Result Verification	A	
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1 2	SB015-01	L1622604-01	Soil	07/20/16
2 2	SB015-02	L1622604-02	Soil	07/20/16
3 4	SB015-03	L1622604-03	Soil	07/20/16
4 8	SB015-04	L1622604-04	Soil	07/20/16
5 8	SB015-05	L1622604-05	Soil	07/20/16
6 7	SB015-06	L1622604-06	Soil	07/20/16
7 2	SB016-01	L1622604-10	Soil	07/20/16
8 2	SB016-02	L1622604-11	Soil	07/20/16
9 2	SB90016-02	L1622604-12	Soil	07/20/16
10 4	SB016-03	L1622604-13	Soil	07/20/16
11 2	SB016-04	L1622604-14	Soil	07/20/16
12 4	SB016-05	L1622604-15	Soil	07/20/16
13 2	SB017-01	L1622604-19	Soil	07/20/16
14 2	SB017-02	L1622604-20	Soil	07/20/16
15 4	SB017-03	L1622604-21	Soil	07/20/16

LDC #: 37226B4a
SDG #: L1622604
Laboratory: Alpha Analytical

VALIDATION COMPLETENESS WORKSHEET
Category B

Date: 10-21-16

Reviewer: MG
2nd Reviewer: AV

METHOD: Metals (EPA SW 846 Method 6020A/7471B)

	Client ID	Lab ID	Matrix	Date
168	SB017-04	L1622604-23	Soil	07/20/16
176	SB017-05	L1622604-24	Soil	07/20/16
188	SB017-06	L1622604-25	Soil	07/20/16
192	SB017-07	L1622604-26	Soil	07/20/16
202	SB018-01	L1622604-28	Soil	07/20/16
212	SB90018-01	L1622604-29	Soil	07/20/16
222	SB018-02	L1622604-30	Soil	07/20/16
237	SB018-04	L1622604-31	Soil	07/20/16
242	SB018-05	L1622604-33	Soil	07/20/16
254	SB018-06	L1622604-34	Soil	07/20/16
266	SB018-07	L1622604-35	Soil	07/20/16
272	SB019-01	L1622604-37	Soil	07/20/16
282	SB019-02	L1622604-38	Soil	07/20/16
295	SB019-03	L1622604-39	Soil	07/20/16
308	SB019-04	L1622604-40	Soil	07/20/16
318	SB90019-04	L1622604-41	Soil	07/20/16
322	SB019-05	L1622604-42	Soil	07/20/16
332	SB019-06	L1622604-43	Soil	07/20/16
342	SB019-07	L1622604-44	Soil	07/20/16
352	SB020-01	L1622604-46	Soil	07/20/16
362	SB90020-01	L1622604-47	Soil	07/20/16
371	SB020-02	L1622604-48	Soil	07/20/16
385	SB020-03	L1622604-49	Soil	07/20/16
395	SB020-04	L1622604-50	Soil	07/20/16
405	SB020-05	L1622604-51	Soil	07/20/16
411	SB020-06	L1622604-52	Soil	07/20/16
421	SB020-07	L1622604-53	Soil	07/20/16
431	SB021-01	L1622604-55	Soil	07/20/16
441	SB021-02	L1622604-56	Soil	07/20/16
451	SB90021-02	L1622604-57	Soil	07/20/16
461	SB021-03	L1622604-58	Soil	07/20/16
475	SB021-04	L1622604-59	Soil	07/20/16
488	SB021-05	L1622604-60	Soil	07/20/16
498	SB021-06	L1622604-61	Soil	07/20/16
501	SB021-07	L1622604-62	Soil	07/20/16

LDC #: 37226B4a
SDG #: L1622604
Laboratory: Alpha Analytical

VALIDATION COMPLETENESS WORKSHEET
Category B

Date: 10-21-16

Reviewer: MG
2nd Reviewer:

METHOD: Metals (EPA SW 846 Method 6020A/7471B)

	Client ID	Lab ID	Matrix	Date
51	SB022-01	L1622604-64	Soil	07/20/16
52	SB022-02	L1622604-65	Soil	07/20/16
53	SB022-03	L1622604-66	Soil	07/20/16
54	SB022-04	L1622604-67	Soil	07/20/16
555	SB022-05	L1622604-68	Soil	07/20/16
56	SB022-06	L1622604-69	Soil	07/20/16
575	SB022-07	L1622604-70	Soil	07/20/16
58	SB022-08	L1622604-71	Soil	07/20/16
59	SB023-01	L1622604-72	Soil	07/20/16
60	SB023-02	L1622604-73	Soil	07/20/16
615	SB023-03	L1622604-74	Soil	07/20/16
628	SB023-04	L1622604-75	Soil	07/20/16
638	SB023-05	L1622604-76	Soil	07/20/16
646	SB023-06	L1622604-77	Soil	07/20/16
651	SB024-02	L1622604-80	Soil	07/20/16
66	SB024-03	L1622604-81	Soil	07/20/16
67	SB024-04	L1622604-82	Soil	07/20/16
688	SB024-05	L1622604-83	Soil	07/20/16
693	SB024-06	L1622604-84	Soil	07/20/16
70	SB024-07	L1622604-85	Soil	07/20/16
715	SB018-03	L1622604-87	Soil	07/20/16
723	SB024-01	L1622604-88	Soil	07/20/16
738	SB015-05MS	L1622604-05MS	Soil	07/20/16
748	SB015-05MSD	L1622604-05MSD	Soil	07/20/16
752	SB017-02MS	L1622604-20MS	Soil	07/20/16
762	SB017-02MSD	L1622604-20MSD	Soil	07/20/16
776	SB017-05MS	L1622604-24MS	Soil	07/20/16
786	SB017-05DUP	L1622604-24DUP	Soil	07/20/16
792	SB018-02MS	L1622604-30MS	Soil	07/20/16
802	SB018-02MSD	L1622604-30MSD	Soil	07/20/16
812	SB019-01MS	L1622604-37MS	Soil	07/20/16
822	SB019-01MSD	L1622604-37MSD	Soil	07/20/16
835	SB019-03MS	L1622604-39MS	Soil	07/20/16
845	SB019-03DUP	L1622604-39DUP	Soil	07/20/16
851	SB020-02MS	L1622604-48MS	Soil	07/20/16

LDC #: 37226B4a
SDG #: L1622604
Laboratory: Alpha Analytical

VALIDATION COMPLETENESS WORKSHEET
Category B

Date: 10-21-16
Page: 4 of 4
Reviewer: MG
2nd Reviewer:

METHOD: Metals (EPA SW 846 Method 6020A/7471B)

	Client ID	Lab ID	Matrix	Date
86 1	SB020-02MSD	L1622604-48MSD	Soil	07/20/16
87 3	SB024-06MS	L1622604-84MS	Soil	07/20/16
88 3	SB024-06DUP	L1622604-84DUP	Soil	07/20/16
89 1	PBS1			
90 2	PBS2			
91 3	PBS3			
92 4	PBS4			
93 5	PBS5			
94 6	PBS6			

Notes: 7 PBS7
8 PBS8

LDC #: 37226B4a

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: CM

Method: Metals (EPA SW 846 Method 6010/7000/6020)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.		✓		
Cooler temperature criteria was met.	✓			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?	✓			
Were %RSD of isotopes in the tuning solution ≤5%?	✓			
III. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	✓			
Were all initial calibration correlation coefficients > 0.995?	✓			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	✓			
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	✓			
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.		✓		
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were ≤ 5X the RL, including when only one of the duplicate sample values were ≤ 5X the RL.		✓		
VII. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?	✓			
If the %Rs were outside the criteria, was a reanalysis performed?			✓	
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL(ICP/MS)?	✓			
Were all percent differences (%Ds) < 10%?		✓		
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.	✓			
XIII. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 37226B4a

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: MG
2nd reviewer: [signature]

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1→72	S	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, (Sn)
QC 73→76, 79→82, 85→88	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, (Sn)
77, 78, 83, 84	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, (Sn)
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
Analysis Method		
ICP		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
ICP-MS	S	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, (Sn)
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,

Comments: (Mercury by CVAA if performed)

LDC #: 37226B4a

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Page: 1 of 1
Reviewer: MG
2nd reviewer: CA

Were samples preserved? (Y) N N/A
All circled dates have exceeded the technical holding time.
(Y) N N/A Were all cooler temperatures within validation criteria?

METHOD: EPA SW 846 Method 6010/6020/7000		(CVAA) Hg	(ICP) Al, As, Sb, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Ni, K, Se, Ag, Na, Tl, V, Zn	(ICP-MS) Al, As, Sb, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Ni, K, Se, Ag, Na, Tl, V, Zn	(GFAA) —	(GFAA) —	
Sample ID:	**Sampling Date**	**Analysis Date**	**Analysis Date**	**Analysis Date**	**Analysis Date**	**Analysis Date**	**Qualifier**
4	7-20-16	8-19-16	(30 days)				J/UJ/P (det)
5		↓	↓				↓
16							
18							
30							
31							
48							
49							
62							
63							
68		↓	↓				
6		8-29-16	(40 days)				
17		↓	↓				
23							
26							
64		↓	↓				
73		8-19-16	(30 days)				
74		↓	↓				

Technical Holding Time Criteria

Mercury: 28 days preserved pH <2
All other metals 6 months preserved pH <2
Organic lead Extracted within 14 days for soils and 7 days for waters, analyzed within 40 days of extraction. (no preservation)

LDC #: 37226B4a
SDG #: See Cover
METHOD: Trace metals (EPA SW 864 Method 6020A/7471B)
Sample Concentration units, unless otherwise noted: mg/kg

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: 40x
Associated Samples: 37,41-46,50-54,56,58-60,65-67,70

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	37	41	42	44	46	50	51	52	53	54
Sb	0.13						0.79/0.91U				0.21/0.80U			
Cu	1.5													
Na	16				120/200U	96/170U		170/200U	120/300U	130/170U		180/220U	200/210U	53/180U
Sn	0.07													

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 37,41-46,50-54,56,58-60,65-67,70

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	66									
Sb	0.13													
Cu	1.5													
Na	16				160/190U									
Sn	0.07													

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 69,72 (>RL)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sn	0.05													

LDC #: 37226B4a
SDG #: See Cover
METHOD: Trace metals (EPA SW 864 Method 6020A/7471B)
Sample Concentration units, unless otherwise noted: mg/kg

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: 40x
Associated Samples: 3,10,12,15,25 (Sb 10x dil)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	10	15	25							
Sb	0.08		2.05	0.820										
K	24													
Ag			0.104		0.53/0.55U	0.60/0.63U	0.50/0.64U							
Na	24					100/190U	130/190U							
Sn	0.07		0.652	0.026										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 29,38-40,47,55,57,61,71 (>RL)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sb	0.12													
Sn	0.05													

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 4,5,16,18,30,31,48,49,62,63,68 (>RL)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sb	0.06													
Sn	0.05													

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 17,26,64 (>RL)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sb	0.05													
Sn	0.02													

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Soil preparation factor applied: 40x
Sample Concentration units, unless otherwise noted: mg/kg
Associated Samples: 6,23 (Sb 10x dil)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	23									
Sb	0.31		1.94	0.776										
Se	0.42				1.4/2.3U									
Sn	0.06		0.245											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 14 (Sn 100x dil)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	14									
Sb			0.437											
Pb			0.635											
Se			1.58											
Tl			0.103		0.16/0.23U									
Sn			0.785	3.14										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 22,27 (Sn 100x dil, >RL or >1x))

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sb			0.437											
Sn			0.583	2.33										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 1,2,7 (>RL)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sb			0.437											
Sn			0.316											

LDC #: 37226B4a
SDG #: See Cover
METHOD: Trace metals (EPA SW 864 Method 6020A/7471B)

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Soil preparation factor applied: 40x

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 8,9,11

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	8	9	11							
Sb			0.437											
Cd			0.0797											
Ag			0.0947				0.10/0.66U							
Tl			0.0850		0.16/0.27U	0.12/0.30U	0.04/0.26U							
Sn			0.477											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 13,19,20,21

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	13	19	20	21						
Sb			0.437											
Cd			0.0797			0.24/0.25U								
Ag			0.0947		0.18/0.52U	0.31/0.63U								
Tl			0.0850		0.06/0.21U	0.07/0.25U	0.17/0.20U	0.14/0.23U						
Sn			1.04	0.042										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 13,19,20 (>RL)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Pb			0.305											

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: 40x
Associated Samples: 24,28,32-36

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	35	36								
Sb			0.437		0.73/0.84U	0.16/0.86U								
Sn			0.526	0.021										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 24,28,32-34,36 (>RL)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Se			1.13											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 37,41

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	41									
Sb			0.668											
Se			1.78		0.99/2.2U									
Sn			0.476											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 42-46,50,51

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	42	51								
Sb			0.668		see PB	see PB								
Sn			0.679	0.027										

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: 40x
Associated Samples: 52,53,54,56,58,59,60 (> RL or > 1x)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sb			0.668											
Sn			1.43	0.057										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 65,66,67 (Sn 10x dil, > RL or > 1x))

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sb			0.668											
Sn			0.678	0.271										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 70 (Sn 10x dil, > RL or > 1x))

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sb			0.668											
Sn			0.732	0.293										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 69 (10x dil)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	69									
Sb			1.29	0.516	0.45/0.52U									
K			40.8											
Ag			0.136		0.12/0.61U									
Tl			3.35	1.34										
Sn			0.618	0.247										

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	72									
Sb			1.29	0.516										
K			40.8											
Tl			3.35	1.34	0.14/1.34U									
Sn			0.534	0.214										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 10,12,15,25 (>RL)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Cu			0.846											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 29 (Sb 10x dil, > RL or > 1x))

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sb			1.72	0.688										
As			0.244											
Tl			0.0707											
Sn			0.309											

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 38,39,40,47 (Sb 10x dil, > RL or > 1x)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sb			1.92	0.768										
Se			2.27											
Sn			0.342											

LDC #: 37226B4a
SDG #: See Cover
METHOD: Trace metals (EPA SW 864 Method 6020A/7471B)

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Soil preparation factor applied: 40x

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 55,57,61,71 (Sb 10x dil, > RL or > 1x)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sb			1.72	0.688										
As			0.305											
Sn			0.562	0.022										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 5 (Sn 10x dil, > RL or > 1x)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sb			0.732											
Se			1.27											
Sn			0.691	0.276										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 4,16,18

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	4	16	18							
Sb			0.882											
Se			1.27		1.6/2.3U	3.2/3.6U	0.71/2.3U							

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 30,31,48,49,62,63,68

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	30	31	62							
Sb			1.09											
Se			1.27		2.2/2.5U	2.1/2.5U	1.6/2.2U							

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: 40x
Associated Samples: 4,16,18,30,31,48,49,62,63,68 (>1x)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sn			0.703	0.028										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 17 (Sn 10x dil, > RL or > 1x)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sb			0.601											
Sn			0.828	0.331										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 26,64 (>RL)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Sb			0.726											
Sn			0.457											

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 37226B4a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of (75-125)? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y (N) N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
1	75/76	soil	Al	137	52		(1,2,7→9,11, 13,14,19→22, 24,27,28, 32→36)	J/UJ/A (all dets)
			Sb	148	63			
			Mg	232			*14	J dets/A (det)
			Mn	148				
			Cd		20			J/R/A (No PDS)
			Al			26 (≤25)	(1,2,7→9,11, 13,14,19→22, 24,27,28, 32→36)	J/UJ/A (all dets)
			Pb			48 ( )		
			Cu			153 ( )	*14	(det)
			Ca			63 ( )		
			Fe			36 ( )		
			Mg			27 ( )		
			Sn			26 ( )		
	(see pg 6)		~~Hg~~			~~67 ( )~~		
2	79/80		Sb	170	41		(1,2,7→9,11, 13,14,19→22, 24,27,28, 32→36)	J/R/A (all dets) (PDS fails)
			Al	21	0			

Comments: #75/76: Ba, Cu, Pb, Zn, Ca, Fe, Sn, Hg - 4x
#79/80: Cd, Ca, Fe, Mn, Sn, Cu, Pb, Zn, Hg - 4x
* Other QC for this batch are within limits, so qualify parent only

LDC #: 37226B4a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of (75-125)? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y (N) N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications	
2	79/80	Soil	Ba		51		*22	J/UJ/A (det)	
	↓	↓	Sb			29 (≤25)	(1, 2, 7→9, 11,	(all dets)	
	↓	↓	Pb			40 ( )	13, 14, 19→22,	(↓)	
	(See pg 6 for Hg)						24, 27, 28,		
							32→36)		
3	81/82		Sb	183	0			(all dets) (PDS	in limit
	↓	↓	Al	40	68		↓	(↓)	
	↓	↓	As		19		*27	(det) (PDS	in limit
	↓	↓	Ba		28		↓	(↓) (PDS	in limit)
	↓	↓	Cd		47		↓	(↓)	
	↓	↓	Cr		45		↓	(↓)	
	↓	↓	Ni		59		↓	(↓)	
	↓	↓	Se		126		↓	J dets/A (↓)	
	↓	↓	Sb			93 ( )	(1, 2, 7, 8, 9, 11,	J/UJ/A (all dets)	
	↓	↓	Pb			134 ( )	13, 14, 19→22,	↓	
	↓	↓					24, 27, 28,		
	↓	↓					32→36)		
	↓	↓	As			38 ( )	*27	(det)	
	↓	↓	Ba			37 (↓)	↓	(↓)	

Comments: #81/82: Ca, Fe, Mg, Mn, Sn, Zn, Cu, Pb - 4x

*Other QC for this batch are within limits, so qualify parent only

LDC #: 37226B4a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of (75-125?) If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y (N) N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications	
3	81/82	soil	Cd			38 (≤25)	* 27	J/UJ/A	(det)
			Ca			31 ( )			( )
			Cr			41 ( )			( )
			Fe			38 ( )			( )
			Mg			26 ( )			( )
			Ni			40 ( )			( )
			Se			27 ( )			( )
			Sn			116 ( )			( )
			Zn			116 ( )			( )
			Cu			160 (↓)			(↓)
4	85/86		Sb	180	40		37, 41→46,		(all dets)
			Cd	66	66		50→54, 56,		( )
			Ca	9.6			58→60,		( ) (PDS in limit)
			Mg	62			65→67, 70		( )
			Mn	19				J/R/A	( ) (No PDS)
			Ni	67	69			J/UJ/A	( )
			K	47	57				( )
			Se	65	26				( ) (PDS in limit)

Comments: #85/86: Cu, Fe, Zn, Pb -4x

* Other QC for this batch are within limits, so qualify parent only

LDC #: 37226B4a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: MG
2nd Reviewer: CL

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of (75-125?) If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y (N) N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
4	85/86	soil	Sn	277	212		37, 41→46,	J dets/A (all dets)
			V	63	68		50→54, 56,	J/UJ/A ( )
			Al	0	29		58→60,	J/R/A ( ) (PDS fails)
			Sb			59 (≤25)	65→67, 70	J/UJ/A ( )
			Cu			60 ( )		( )
			Fe			49 ( )		( )
			Se			51 ( )		( )
			Zn			40 ( )		( )
			Pb			100 ( )		( )
5	87		As	137			69, 72	J dets/A ( )
			Ba	147				( )
			Pb	1420				( )
			Mn	223				( )
			Se	126				( )
			Tl	32				J/UJ/A ( )
			Al	60				( )

Comments: #87: Ca, Fe, Zn, Hg - 4x

LDC #: 37226B4a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: MG
2nd Reviewer: CL

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of (75-125?) If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y (N) N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications	
6	SB02-03	soil	Ca	188			(3,10,12,15,	J dets /A	(all dets)
	MS	↓	Se	129			25)	↓	( )
	↓		Na	144			↓		( )
			Al	0				J/R/A	( ) (No PDS)
			Hg	144				J dets /A	( )
7	83		As	72			(29, 38→40,	J/UJ/A	( )
	↓		Ni	127			47,55,57,61,	J dets/A	( )
			Al	0			71)	J/R/A	( ) (PDS fails)
8	73/74		Ca	74	0		(4,5,16,18,30,	J/UJ/A	( ) (PDS in limit
	↓		Pb	62	21		31,48,49,62,	↓	( ) (PDS in limit
			Mn	128			63,68,~~73,74~~)	J dets/A	( )
			Se	60			↓	J/UJ/A	( )
			Na	126				J dets/A	( )
			As		62			J/UJ/A	( )
	↓	↓	Al	0	0		↓	J/R/A	(↓) (PDS fails)
	↓	↓	Hg	13	45		↓	↓	(↓) (No PDS)

Comments: SB02-03: Fe, Mn
#83: Ca, Cu, Fe, Pb, Mg, Mn, Zn
#73/74: Fe, Zn

LDC #: 37726B4a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: MG
2nd Reviewer: QL

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of (75-125)? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y (N) N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
8	73/74	soil	Ca			38 (≤25)	4,5,16,18,30,	J/UJ/A (all dets)
	↓		Fe			33 (↓)	31,48,49,62, 63,68	↓ ( )
9	77	Al	Al	15			17,26,64	J/R/A ( ) (PDS fails)
			Cd	170				J dets/A ( )
	↓		Sn	59			↓	J/UJ/A ( )
10	75/76		Hg			67 (≤25)	1,2,7→9,11, 13,14,19→21, 24,28,32→36, 41,42	(↓)
11	79/80		Hg			27 (≤25)	* 22	↓ (det)
12	81/82		Hg	219	0		* 27	J/R/A ( )
	↓	↓	Hg			55 (≤25)	↓	J/UJ/A (↓)

Comments: #77: Cu, Pb, Zn, Ca, Cr, Fe, Mg, Mn - 4x
#75/76: Hg - 4x
#79/80: Hg - 4x
#85/86: Hg - 4x

* Other QC for this batch are in limits, so qualify parent only

LDC #: 37226B4a

VALIDATION FINDINGS WORKSHEET
Duplicate Analysis

Reviewer: MG
2nd Reviewer: CL

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a duplicate sample analyzed for each matrix in this SDG?

Y (N) N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤ 35% for soil samples? If no, see qualifications below. A control limit of ±R.L. (±2X R.L. for soil) was used for sample values that were <5X the R.L., including the case when only one of the duplicate sample values was <5X R.L.. If field blanks were used for laboratory duplicates, note in the Overall Assessment.

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Date	Duplicate ID	Matrix	Analyte	RPD (Limits)	Difference (Limits)	Associated Samples	Qualifications
1		88	soil	Ba	46 (≤25)		69, 72	J/U J/A (all dets)
		↓	↓	Pb	106 ( )		↓	( )
		↓	↓	Mn	30 ( )		↓	( )
		↓	↓	Sn	33 ( )		↓	( )
		↓	↓	Hg		4.4 mg/kg (≤0.82)	↓	( )
2		SB02-03		As	30 ( )		3, 10, 12, 15, 25,	( )
		DUP		Pb	30 ( )		↓	( )
		↓	↓	Mg	67 ( )		↓	( )
		↓	↓	Ni	43 ( )		↓	( )
		↓	↓	Sn		1.3 mg/kg (≤0.90)	↓	( )
		↓	↓	Zn		24 mg/kg (≤22)	↓	( )
3		84		Ba	26 ( )		(29, 38→40, 47, 55, 57, 61, 71)	( )
		↓	↓	Cr	60 ( )		↓	( )
		↓	↓	Co	43 ( )		↓	( )
		↓	↓	Mn	33 ( )		↓	( )
		↓	↓	Ni	55 ( )		↓	( )
		↓	↓	K		380 mg/kg (≤260)	↓	( )

Comments: #88: Na OK by difference
#84: Al, Sb, Cd OK by difference

LDC #: 37226B4a

VALIDATION FINDINGS WORKSHEET
Duplicate Analysis

Reviewer: MG
2nd Reviewer: 01

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a duplicate sample analyzed for each matrix in this SDG?

Y (N) N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤ 35% for soil samples? If no, see qualifications below. A control limit of ±R.L. (±2X R.L. for soil) was used for sample values that were <5X the R.L., including the case when only one of the duplicate sample values was <5X R.L.. If field blanks were used for laboratory duplicates, note in the Overall Assessment.

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Date	Duplicate ID	Matrix	Analyte	RPD (Limits)	Difference (Limits)	Associated Samples	Qualifications
4		78	Soil	Cu		1300 mg/kg (≤ 500)	17, 26, 64	J/UJ/A (all dets)
				Cr	89 (≤ 25)			( )
				Fe	60 ( )			( )
				Mn	60 ( )			( )
				As	42 ( )			( )
				Cd	64 ( )			( )
				Co	53 ( )			( )
				Mg	45 ( )			( )
				Ni	42 ( )			( )
				Sn	29 ( )			( )

Comments: #78: Ag OK by difference

LDC #: 37226B4a

VALIDATION FINDINGS WORKSHEET
ICP Serial Dilution

Reviewer: MG
2nd Reviewer: Q

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A If analyte concentrations were > 50X the MDL (ICP) ,or >100X the MDL (ICP/MS), was a serial dilution analyzed?

Y (N) N/A Were ICP serial dilution percent differences (%D) ≤10%?

Y (N) N/A Is there evidence of negative interference? If yes, professional judgement will be used to qualify the data.

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Date	Diluted Sample ID	Matrix	Analyte	%D (Limits)	Associated Samples	Qualifications
1		22	Soil	Pb	14 (≤10)	* 22	J/UJ/A (det)
2		27	↓	Sb	17 (↓)	* 27	(↓)
		↓	↓	Ba	18 (↓)	(1, 2, 7→9, 11, 13, 14, 19→22, 24, 27, 28, 32→36)	↓ (all dets)

Comments: * Other QC for this batch are in limit, so qualify parent only

LDC#: 37226B4a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: MG
2nd Reviewer: CW

METHOD: Metals (EPA Method 6020A/7471B)

(Y)N NA Were field duplicate pairs identified in this SDG?
(Y)N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/Kg)		RPD (≤30)	
	8	9		
Aluminum	6400	4500	35	
Antimony	100	100	0	
Arsenic	29	24	19	
Barium	1100	490	77	
Beryllium	0.56	0.34	49	
Cadmium	8.8	9.2	4	
Calcium	6500	4300	41	
Chromium	81	39	70	
Cobalt	8.0	7.7	4	
Copper	6400	3900	49	
Iron	37000	71000	63	
Lead	6600	4300	42	
Magnesium	1200	1200	0	
Manganese	300	320	6	
Mercury	2.2	1.2	59	
Nickel	34	31	9	
Potassium	460	380	19	
Selenium	3.8	4.4	15	
Silver	2.8	2.8	0	

LDC#: 37226B4a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: MG
2nd Reviewer: [signature]

METHOD: Metals (EPA Method 6020A/7471B)

(Y)N NA Were field duplicate pairs identified in this SDG?
(Y)N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/Kg)		RPD (≤30)	
	8	9		
Sodium	260	230	12	
Thallium	0.16	0.12	29	
Tin	1100	570	63	
Vanadium	36	28	25	
Zinc	6700	4400	41	

V:\FIELD DUPLICATES\FD_inorganic\37226B4a.WPD

Analyte	Concentration (mg/Kg)		RPD (≤30)	
	20	21		
Aluminum	10000	9600	4	
Antimony	340	1200	112	
Arsenic	18	40	76	
Barium	350	720	69	
Beryllium	0.17	0.15	13	
Cadmium	12	28	80	
Calcium	23000	36000	44	
Chromium	23	43	61	
Cobalt	10	12	18	
Copper	4200	14000	108	
Iron	65000	73000	12	

LDC#: 37226B4a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: MG
2nd Reviewer: [signature]

METHOD: Metals (EPA Method 6020A/7471B)

(Y)N NA Were field duplicate pairs identified in this SDG?
(Y)N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/Kg)		RPD (≤30)	
	20	21		
Lead	12000	21000	55	
Magnesium	13000	21000	47	
Manganese	240	340	34	
Mercury	0.32	0.49	42	
Nickel	24	42	55	
Potassium	920	710	26	
Selenium	2.5	3.7	39	
Silver	1.7	2.8	49	
Sodium	400	420	5	
Thallium	0.17	0.14	19	
Tin	350	1100	103	
Vanadium	57	61	7	
Zinc	3000	7400	85	

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Analyte	Concentration (mg/Kg)		RPD (≤30)	
	30	31		
Aluminum	3900	1900	69	
Antimony	8.7	5.3	49	
Arsenic	14	14	0	

LDC#: 37226B4a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: MG
2nd Reviewer:

METHOD: Metals (EPA Method 6020A/7471B)

(Y)N NA Were field duplicate pairs identified in this SDG?
(Y)N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/Kg)		RPD (≤30)	
	30	31		
Barium	140	100	33	
Beryllium	0.26	0.19	31	
Cadmium	1.3	0.97	29	
Calcium	8700	8500	2	
Chromium	24	24	0	
Cobalt	6.3	6.2	2	
Copper	2000	800	86	
Iron	19000	22000	15	
Lead	680	290	80	
Magnesium	1400	610	79	
Manganese	360	350	3	
Mercury	2.5	2.2	13	
Nickel	22	24	9	
Potassium	600	470	24	
Selenium	2.2	2.1	5	
Silver	0.59	0.37	46	
Sodium	150	160	6	
Thallium	0.12	0.11	9	
Tin	75	30	86	

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: Metals (EPA Method 6020A/7471B)

(Y)N NA Were field duplicate pairs identified in this SDG?
(Y)N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/Kg)		RPD (≤30)	
	30	31		
Vanadium	16	11	37	
Zinc	560	630	12	

V:\FIELD DUPLICATES\FD_inorganic\37226B4a.WPD

Analyte	Concentration (mg/Kg)		RPD (≤30)	
	35	36		
Aluminum	7000	3800	59	
Antimony	0.73	0.16	128	
Arsenic	3.2	2.0	46	
Barium	21	10	71	
Beryllium	0.13	0.11	17	
Cadmium	0.19	0.16	17	
Calcium	52000	99000	62	
Chromium	6.5	4.3	41	
Cobalt	12	6.4	61	
Copper	95	46	70	
Iron	26000	13000	67	
Lead	24	10	82	
Magnesium	34000	59000	54	
Manganese	230	220	4	

METHOD: Metals (EPA Method 6020A/7471B)

(Y) N NA Were field duplicate pairs identified in this SDG?
(Y) N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/Kg)		RPD (≤30)	
	35	36		
Mercury	0.02	0.02	0	
Nickel	14	8.2	52	
Potassium	440	260	51	
Selenium	4.8	2.8	53	
Silver	0.05	0.04U	22	
Sodium	540	410	27	
Thallium	0.05	0.03	50	
Tin	2.2	1.0	75	
Vanadium	82	31	90	
Zinc	64	40	46	

V:\FIELD DUPLICATES\FD_inorganic\37226B4a.WPD

Analyte	Concentration (mg/Kg)		RPD (≤30)	
	44	45		
Aluminum	12000	13000	8	
Antimony	77	71	8	
Arsenic	25	21	17	
Barium	2300	1000	79	
Beryllium	0.82	1.1	29	
Cadmium	14	6.2	77	

LDC#: 37226B4a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: MG
2nd Reviewer: GV

METHOD: Metals (EPA Method 6020A/7471B)

(Y)N NA Were field duplicate pairs identified in this SDG?
(Y)N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/Kg)		RPD (≤30)	
	44	45		
Calcium	30000	32000	6	
Chromium	150	26	141	
Cobalt	19	6.8	95	
Copper	6400	1700	116	
Iron	15000	21000	33	
Lead	16000	9200	54	
Magnesium	41000	4100	164	
Manganese	210	95	75	
Mercury	0.64	0.12	137	
Nickel	240	40	143	
Potassium	460	540	16	
Selenium	6.4	6.0	6	
Silver	1.7	1.2	34	
Sodium	170	240	34	
Thallium	0.11	0.11	0	
Tin	920	320	97	
Vanadium	30	27	11	
Zinc	17000	18000	6	

LDC #: 37226B4a

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found x 100 / True

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated %R	Reported %R	Acceptable (Y/N)
	ICP (Initial calibration)						
0848 ICV	ICP/MS (Initial calibration)	Cd	99.123	100.0	99	99	Y
2056 ICV	CVAA (Initial calibration)	Hg	2.905	3.0	97	97	
	ICP (Continuing calibration)						
1059 CCV	ICP/MS (Continuing calibration)	Mn	98.437	100.0	98	98	
2144 CCV	CVAA (Continuing calibration)	Hg	9.155	10.0	92	92	
	GFAA (Initial calibration)						
	GFAA (Continuing calibation)						

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 37226B4a

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: MG
2nd Reviewer: CL

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$\%D = \frac{|I-SDR|}{I} \times 100$ Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
0900 ICSAB	ICP interference check	Ag	9.620 (µg/L)	10 (µg/L)	96	96	Y
0916 LCS	Laboratory control sample	Tl	157.1 (mg/kg)	151 (mg/kg)	104	106	
0953 85	Matrix spike	Cr	(SSR-SR) 16.00 (mg/kg)	20.9 (mg/kg)	77	76	
0953 / 0959 85/86	Duplicate	As	27.20 (mg/kg)	28.02 (mg/kg)	3	4	
0937 / 0978 37	ICP serial dilution	Sb	66.04 (mg/kg)	65.05 (mg/kg)	1	2	

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 37226B4a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 4
Reviewer: MG
2nd reviewer: ✓

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Have results been reported and calculated correctly?
(Y) N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
(Y) N N/A Are all detection limits below the CRDL?

Detected analyte results for #1, Se were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)}$

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

$$\frac{(6.319\ \mu g/L)(0.050\ L)(10)}{(1.282\ g)(0.97)} = 2.541\ \frac{\mu g}{g}\ \text{or}\ \frac{mg}{Kg}$$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/Kg)	Acceptable (Y/N)
1	1	Se	2.5	2.5	Y
2	2	Cr	19	19	↓
3	3	Cd	9.1	9.1	↓
4	4	Mn	29	29	↓
5	5	Ag	0.14	0.14	↓
6	6	Ba	72	72	↓
7	7	Hg	1.8	1.8	↓
8	8	As	29	29	↓
9	9	Mg	1200	1200	↓
10	10	Ni	16	16	↓
11	11	Zn	190	190	↓
12	12	Pb	230	230	↓
13	13	Tl	0.06	0.06	↓
14	14	Sb	110	110	↓
15	15	Ca	5100	5100	↓
16	16	Na	530	530	↓
17	17	Be	0.27	0.27	↓
18	18	Cu	40	40	↓
19	19	Hg	0.56	0.56	↓
20	20	K	920	920	↓

Note:

LDC #: 37226B4a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: MG
2nd reviewer: CA

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Have results been reported and calculated correctly?
(Y) N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
(Y) N N/A Are all detection limits below the CRDL?

Detected analyte results for # 21, Co were recalculated and verified using the following equation:

Concentration = (RD)(FV)(Dil) / (In. Vol.)

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

$$\frac{(26.300\ mg/L)(0.050_L)(10)}{(1.262\ g)(0.85)} = 12.259\ \frac{mg}{g}\ \text{or}\ \frac{mg}{kg}$$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
21	21	Co	12	12	Y
22	22	Hg	2.8	2.8	
23	23	Ca	870	870	
24	24	As	22	22	
25	25	Cr	49	49	
26	26	Mg	1200	1200	
27	27	V	35	35	
28	28	Hg	1.8	1.8	
29	29	Cd	0.41	0.41	
30	30	Tl	0.12	0.12	
31	31	Sb	5.3	5.3	
32	32	Sn	51	51	
33	33	Hg	3.0	3.0	
34	34	Be	0.26	0.26	
35	35	Na	540	540	
36	36	Cu	46	46	
37	37	Ag	0.58	0.58	
38	38	Fe	18000	18000	
39	39	Mn	180	180	
40	40	Ba	160	160	

Note:

LDC #: 37226B4a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: MG
2nd reviewer: MG

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Have results been reported and calculated correctly?
(Y) N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
(Y) N N/A Are all detection limits below the CRDL?

Detected analyte results for #41, Hg were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)}$

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

$$\frac{(8.512\ mg/L)(0.050\ L)}{(0.371\ g)(0.87)} = 1.319\ \frac{mg}{g}\ \text{or}\ \frac{mg}{kg}$$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
41	41	Hg	1.3	1.3	Y
42	42	Mg	460	460	
43	43	Cd	2.6	2.6	
44	44	Se	6.4	6.4	
45	45	Co	6.8	6.8	
46	46	Tl	0.06	0.06	
47	47	Sb	22	22	
48	48	Na	220	220	
49	49	Cr	26	26	
50	50	Hg	8.5	8.5	
51	51	Cu	85	85	
52	52	Fe	9200	9200	
53	53	Ni	53	53	
54	54	As	21	21	
55	55	Ca	22000	22000	
56	56	V	32	32	
57	57	Zn	1400	1400	
58	58	Na	240	240	
59	59	Mg	12000	12000	
60	60	Be	0.40	0.40	↓

Note:

LDC #: 37226 B4a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: MG
2nd reviewer: [signature]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Have results been reported and calculated correctly?
(Y) N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
(Y) N N/A Are all detection limits below the CRDL?

Detected analyte results for #61, Mn were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)}$

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

$$\frac{(198.720\ \mu g/L)(0.050\ L)(10)}{(1.255\ g)(0.66)} = 119.96\ \frac{\mu g}{g}\ \text{or}\ \frac{mg}{kg}$$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
61	61	Mn	120	120	Y
62	62	Sb	2.0	2.0	
63	63	Cu	46	46	
64	64	Ag	1.4	1.4	
65	65	Co	7.0	7.0	
66	66	K	380	380	
67	67	Hg	0.62	0.62	
68	68	Ca	15000	15000	
69	69	V	6.4	6.4	
70	70	Ni	43	43	
71	71	Be	0.35	0.35	
72	72	Sn	100	100	

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Atlas White Metals

LDC Report Date: December 8, 2016

Parameters: Metals

Validation Level: Stage 4

Laboratory: Alpha Analytical, Inc.

Sample Delivery Group (SDG): L1632941

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SB025-01	L1632941-01	Soil	10/13/16
SB025-02	L1632941-02	Soil	10/13/16
SB025-03	L1632941-03	Soil	10/13/16
SB025-04	L1632941-04	Soil	10/13/16
SB025-05	L1632941-05	Soil	10/13/16
SB025-06	L1632941-06	Soil	10/13/16
SB025-07	L1632941-07	Soil	10/13/16
SB90025-07	L1632941-08	Soil	10/13/16
SB025-08	L1632941-09	Soil	10/13/16
SB026-01	L1632941-10	Soil	10/13/16
SB026-02	L1632941-11	Soil	10/13/16
SB026-03	L1632941-12	Soil	10/13/16
SB026-04	L1632941-13	Soil	10/13/16
SB026-05	L1632941-14	Soil	10/13/16
SB026-06	L1632941-15	Soil	10/13/16
SB026-07	L1632941-16	Soil	10/13/16
GW001	L1632941-19	Water	10/13/16
GW002	L1632941-20	Water	10/13/16
GW9002	L1632941-21	Water	10/13/16
GW003	L1632941-22	Water	10/13/16
EQUIPMENT BLANK	L1632941-23	Water	10/13/16
GW001F	L1632941-19F	Water	10/13/16
GW002F	L1632941-20F	Water	10/13/16
GW9002F	L1632941-21F	Water	10/13/16
GW003F	L1632941-22F	Water	10/13/16
EQUIPMENT BLANKF	L1632941-23F	Water	10/13/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SB026-03MS	L1632941-12MS	Soil	10/13/16
SB026-03MSD	L1632941-12MSD	Soil	10/13/16
GW001MS	L1632941-19MS	Water	10/13/16
GW001MSD	L1632941-19MSD	Water	10/13/16
SB026-08	L1632941-17	Water	10/13/16
GW001FMS	L1632941-19FMS	Water	10/13/16
GW001FMSD	L1632941-19FMSD	Water	10/13/16

Samples appended with "F" were analyzed for dissolved metals

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Quality Assurance Project Plan, Atlas White Metal Co. Site, Brooklyn, Kings County, New York (March 2016) and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, and Zinc by Environmental Protection Agency (EPA) SW 846 Method 6020A

All sample results were subjected to Stage 4 evaluation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5% with the following exceptions:

Date	Isotope	Mass (limits)	Associated Samples	Affected Analyte	Flag	A or P
10/15/16	Indium^{115}	114.8837 (114.9-115.1)	GW001 GW002 GW9002 GW003 EQUIPMENT BLANK	Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Nickel Potassium Selenium Silver Sodium Thallium Tin Vanadium Zinc	J (all detects) UJ (all non-detects)	A

III. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

IV. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Sodium	0.065 mg/L	GW001 GW002 GW9002 GW003 EQUIPMENT BLANK
ICB/CCB	Antimony	3.79 ug/L	GW001 GW002 GW9002 GW003 EQUIPMENT BLANK
PB (prep blank)	Antimony	0.19 mg/Kg	SB025-01 SB025-02 SB025-03 SB025-04 SB025-05 SB025-06 SB025-07 SB90025-07 SB025-08 SB026-01 SB026-02 SB026-03 SB026-04 SB026-05 SB026-06 SB026-07
PB (prep blank)	Antimony	0.0007 mg/L	GW001F GW002F GW9002F W003F EQUIPMENT BLANKF
ICB/CCB	Antimony	2.24 ug/L	GW001F GW002F GW9002F W003F EQUIPMENT BLANKF
PB (prep blank)	Antimony Sodium	0.17 mg/Kg 14 mg/Kg	SB026-08
ICB/CCB	Antimony Lead Tin	1.76 ug/L 0.546 ug/L 0.961 ug/L	SB026-08
ICB/CCB	Antimony	1.49 ug/L	SB025-01 SB025-03 SB026-03

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Tin Copper	3.38 ug/L 1.23 ug/L	SB025-01 SB025-02 SB025-03 SB025-04 SB025-06 SB025-07 SB90025-07 SB025-08 SB026-03
ICB/CCB	Lead	4.02 ug/L	SB025-01 SB025-02 SB025-03 SB025-04 SB025-06 SB90025-07 SB026-03
ICB/CCB	Antimony	1.83 ug/L	SB025-02 SB025-04 SB025-05 SB025-06 SB025-07 SB90025-07 SB025-08 SB026-01 SB026-02 SB026-04 SB026-05 SB026-06 SB026-07
ICB/CCB	Copper	0.727 ug/L	SB025-05 SB026-01 SB026-02 SB026-05
ICB/CCB	Tin	2.49 ug/L	SB025-05 SB026-01 SB026-02 SB026-04 SB026-05 SB026-06
ICB/CCB	Lead	3.14 ug/L	SB025-05 SB025-07 SB025-08 SB026-04
ICB/CCB	Tin	0.755 ug/L	SB026-07
ICB/CCB	Silver	0.209 ug/L	EQUIPMENT BLANKF

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
GW002	Antimony	0.0019 mg/L	0.0040U mg/L
GW9002	Antimony	0.0020 mg/L	0.0040U mg/L
GW003	Antimony	0.0004 mg/L	0.0040U mg/L
EQUIPMENT BLANK	Antimony	0.0006 mg/L	0.0040U mg/L
GW001F	Antimony	0.0008 mg/L	0.0040U mg/L
GW002F	Antimony	0.0014 mg/L	0.0040U mg/L
GW9002F	Antimony	0.0014 mg/L	0.0040U mg/L
EQUIPMENT BLANKF	Antimony	0.0008 mg/L	0.0040U mg/L

VI. Field Blanks

Samples EQUIPMENT BLANK and EQUIPMENT BLANKF were identified as equipment blanks. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration	Associated Samples
EQUIPMENT BLANK	10/13/16	Aluminum Antimony Barium Calcium Chromium Copper Iron Lead Magnesium Manganese Potassium Sodium Zinc	0.012 mg/L 0.0006 mg/L 0.0019 mg/L 0.128 mg/L 0.0004 mg/L 0.0017 mg/L 0.041 mg/L 0.0013 mg/L 0.065 mg/L 0.0009 mg/L 0.176 mg/L 0.105 mg/L 0.0095 mg/L	GW001 GW002 GW9002 GW003
EQUIPMENT BLANKF	10/13/16	Aluminum Antimony Barium Calcium Chromium Copper Lead Manganese Potassium Sodium Zinc	0.003 mg/L 0.0008 mg/L 0.0006 mg/L 0.071 mg/L 0.0003 mg/L 0.0008 mg/L 0.0004 mg/L 0.0009 mg/L 0.044 mg/L 0.058 mg/L 0.0043 mg/L	GW001F GW002F GW9002F GW003F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
GW001	Copper	0.0115 mg/L	0.0115J mg/L
GW002	Antimony	0.0019 mg/L	0.0040U mg/L
GW9002	Antimony	0.0020 mg/L	0.0040U mg/L
GW003	Antimony Copper Lead	0.0004 mg/L 0.0042 mg/L 0.0070 mg/L	0.0040U mg/L 0.0042J mg/L 0.0070J mg/L
GW001F	Antimony Zinc	0.0008 mg/L 0.0075 mg/L	0.0040U mg/L 0.0100U mg/L
GW002F	Antimony Chromium	0.0014 mg/L 0.0007 mg/L	0.0040U mg/L 0.0010U mg/L
GW9002F	Aluminum Antimony Chromium	0.006 mg/L 0.0014 mg/L 0.0005 mg/L	0.010U mg/L 0.0040U mg/L 0.0010U mg/L
GW003F	Copper	0.0006 mg/L	0.0010U mg/L

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
GW001MS/MSD (GW001 GW002 GW9002 GW003)	Aluminum Arsenic Barium Beryllium Chromium Cobalt Copper Lead Manganese Nickel Vanadium Zinc	244 (75-125) 144 (75-125) 146 (75-125) 144 (75-125) 150 (75-125) 146 (75-125) 152 (75-125) 138 (75-125) 226 (75-125) 155 (75-125) 150 (75-125) 144 (75-125)	140 (75-125) - - - - - - - 133 (75-125) - - -	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
GW001MS/MSD (GW002 GW9002 GW003)	Antimony	154 (75-125)	128 (75-125)	J (all detects)	A
GW001MS/MSD (GW001)	Antimony	154 (75-125)	128 (75-125)	NA	-
GW001MS/MSD (GW002 GW9002)	Cadmium	148 (75-125)	-	J (all detects)	A
GW001MS/MSD (GW001 GW003)	Cadmium	148 (75-125)	-	NA	-
GW001MS/MSD (GW001 GW002 GW9002 GW003)	Selenium	148 (75-125)	0 (75-125)	J (all detects) UJ (all non-detects)	A
GW001MS/MSD (GW001 GW002 GW9002 GW003)	Silver Thallium	146 (75-125) 136 (75-125)	- -	NA	-
GW001MS/MSD (GW001)	Tin	129 (75-125)	-	J (all detects)	A
GW001MS/MSD (GW002 GW9002 GW003)	Tin	129 (75-125)	-	NA	-
SB026-03MS/MSD (SB025-01 SB025-02 SB025-03 SB025-04 SB025-05 SB025-06 SB025-07 SB90025-07 SB025-08 SB026-01 SB026-02 SB026-03 SB026-04 SB026-05 SB026-06 SB026-07)	Aluminum Chromium Thallium	67 (75-125) - 72 (75-125)	154 (75-125) 58 (75-125) -	J (all detects) UJ (all non-detects)	A

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SB026-03MS/MSD (SB025-01 SB025-02 SB025-03 SB025-04 SB025-05 SB025-06 SB025-07 SB90025-07 SB025-08 SB026-01 SB026-02 SB026-03 SB026-04 SB026-05 SB026-06 SB026-07)	Arsenic Calcium Magnesium Nickel Sodium Tin	201 (75-125) 164 (75-125) - - - -	- 490 (75-125) 131 (75-125) 158 (75-125) 138 (75-125) 137 (75-125)	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A
GW001FMS/MSD (GW001F GW002F GW9002F GW003F)	Magnesium	139 (75-125)	-	J (all detects)	A

For GW001MS/MSD, no data were qualified for Calcium, Iron, Magnesium, Potassium, and Sodium percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For SB026-03MS/MSD, no data were qualified for Copper, Iron, Lead, Manganese, and Zinc percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For GW001FMS/MSD, no data were qualified for Calcium, Potassium, and Sodium percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	RPD (Limits)	Flag	A or P
GW001MS/MSD (GW001 GW002 GW9002 GW003)	Aluminum Arsenic Barium Beryllium Calcium Chromium Copper Iron Lead Magnesium Manganese Nickel Potassium Selenium Sodium Thallium Vanadium Zinc	29 (≤20) 39 (≤20) 27 (≤20) 30 (≤20) 23 (≤20) 22 (≤20) 21 (≤20) 24 (≤20) 23 (≤20) 25 (≤20) 23 (≤20) 25 (≤20) 24 (≤20) 83 (≤20) 28 (≤20) 26 (≤20) 21 (≤20) 22 (≤20)	J (all detects) UJ (all non-detects)	A
SB026-03MS/MSD (SB025-01 SB025-02 SB025-03 SB025-04 SB025-05 SB025-06 SB025-07 SB90025-07 SB025-08 SB026-01 SB026-02 SB026-03 SB026-04 SB026-05 SB026-06 SB026-07)	Aluminum Arsenic Calcium Iron Manganese	30 (≤20) 25 (≤20) 63 (≤20) 63 (≤20) 21 (≤20)	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A

VIII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

IX. Serial Dilution

Serial dilution analysis was performed on an associated project sample. Percent differences (%D) were within QC limits with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
GW001	Barium	13 (≤10)	GW001 GW002 GW9002 GW003	J (all detects)	A

X. Laboratory Control Samples/Standard Reference Materials

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

Standard reference materials (SRM) were analyzed as required by the method. The results were within QC limits.

XI. Field Duplicates

Samples SB025-07 and SB90025-07, samples GW002 and GW9002, and samples GW002F and GW9002F were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/Kg)		RPD (Limits)
	SB025-07	SB90025-07	
Aluminum	3500	3200	9 (≤30)
Antimony	8.4	3.5	82 (≤30)
Arsenic	21	25	17 (≤30)
Barium	160	86	60 (≤30)
Beryllium	0.32	0.30	6 (≤30)
Cadmium	2.6	4.6	56 (≤30)
Calcium	13000	45000	110 (≤30)
Chromium	29	16	58 (≤30)
Cobalt	7.0	13	60 (≤30)
Copper	1100	1801	48 (≤30)
Iron	29000	32000	10 (≤30)
Lead	2800	710	119 (≤30)
Magnesium	1300	2700	70 (≤30)
Manganese	240	290	19 (≤30)
Nickel	24	32	29 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	SB025-07	SB90025-07	
Potassium	460	440	4 (≤30)
Selenium	1.8	2.2	20 (≤30)
Silver	0.81	0.19	124 (≤30)
Sodium	210	300	35 (≤30)
Thallium	0.09	0.12	29 (≤30)
Tin	180	33	138 (≤30)
Vanadium	18	18	0 (≤30)
Zinc	2100	3000	35 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	GW002	GW9002	
Aluminum	8.11	6.26	26 (≤30)
Antimony	0.0019	0.0020	5 (≤30)
Arsenic	0.0061	0.0060	2 (≤30)
Barium	0.0603	0.0736	20 (≤30)
Beryllium	0.0006	0.0005	18 (≤30)
Cadmium	0.0002	0.0001	67 (≤30)
Calcium	117	128	9 (≤30)
Chromium	0.0266	0.0214	22 (≤30)
Cobalt	0.0084	0.0070	18 (≤30)
Copper	0.0238	0.0215	10 (≤30)
Iron	16.8	13.1	25 (≤30)
Lead	0.0320	0.0242	28 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	GW002	GW9002	
Magnesium	37.6	35.2	7 (≤30)
Manganese	0.2531	0.2157	16 (≤30)
Nickel	0.0451	0.0371	19 (≤30)
Potassium	28.9	28.7	1 (≤30)
Selenium	0.007	0.007	0 (≤30)
Sodium	409	419	2 (≤30)
Vanadium	0.0220	0.0180	20 (≤30)
Zinc	0.0597	0.0485	21 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	GW002F	GW9002F	
Aluminum	0.056	0.006	161 (≤30)
Antimony	0.0014	0.0014	0 (≤30)
Arsenic	0.0011	0.0011	0 (≤30)
Barium	0.0188	0.0177	6 (≤30)
Calcium	104	112	7 (≤30)
Chromium	0.0007	0.0005	33 (≤30)
Cobalt	0.0013	0.0014	7 (≤30)
Copper	0.0031	0.0024	25 (≤30)
Magnesium	32.1	32.2	0 (≤30)
Manganese	0.1062	0.1001	6 (≤30)
Nickel	0.0098	0.0093	5 (≤30)
Potassium	26.1	26.6	2 (≤30)

Analyte	Concentration (mg/Kg)		RPD (Limits)
	GW002F	GW9002F	
Sodium	379	400	5 (≤30)
Vanadium	0.0018	0.0017	6 (≤30)

XII. Internal Standards (ICP-MS)

All internal standard percent recoveries (%R) were within QC limits with the following exceptions:

Sample	Internal Standard	%R (Limits)	Affected Analyte	Flag	A or P
SB025-01	Bismuth^{209}	138 (65-125)	Thallium	J (all detects)	A
SB025-02	Bismuth^{209}	175 (65-125)	Thallium	J (all detects)	A
SB025-05	Bismuth^{209}	159 (65-125)	Thallium	J (all detects)	A
SB026-07	Bismuth^{209}	165 (65-125)	Thallium	J (all detects)	A
SB026-08	Bismuth^{209}	187 (65-125)	Thallium	J (all detects)	A

XIII. Sample Result Verification

All sample result verifications were acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to ICPMS tune mass, MS/MSD %R and RPD, serial dilution %D, and internal standard %R, data were qualified as estimated in twenty-seven samples.

Due to laboratory blank contamination, data were qualified as not detected in eight samples.

Due to equipment blank contamination, data were qualified as estimated or not detected in eight samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Atlas White Metals
Metals - Data Qualification Summary - SDG L1632941

Sample	Analyte	Flag	A or P	Reason
GW001 GW002 GW9002 GW003 EQUIPMENT BLANK	Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Nickel Potassium Selenium Silver Sodium Thallium Tin Vanadium Zinc	J (all detects) UJ (all non-detects)	A	ICPMS Tune (mass)
GW001 GW002 GW9002 GW003	Aluminum Arsenic Barium Beryllium Chromium Cobalt Copper Lead Manganese Nickel Vanadium Zinc	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
GW002 GW9002 GW003	Antimony	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
GW002 GW9002	Cadmium	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
GW001 GW002 GW9002 GW003	Selenium	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)
GW001	Tin	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)

Sample	Analyte	Flag	A or P	Reason
SB025-01 SB025-02 SB025-03 SB025-04 SB025-05 SB025-06 SB025-07 SB90025-07 SB025-08 SB026-01 SB026-02 SB026-03 SB026-04 SB026-05 SB026-06 SB026-07	Aluminum Chromium Thallium	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)
SB025-01 SB025-02 SB025-03 SB025-04 SB025-05 SB025-06 SB025-07 SB90025-07 SB025-08 SB026-01 SB026-02 SB026-03 SB026-04 SB026-05 SB026-06 SB026-07	Arsenic Calcium Magnesium Nickel Sodium Tin	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
GW001F GW002F GW9002F GW003F	Magnesium	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
GW001 GW002 GW9002 GW003	Aluminum Arsenic Barium Beryllium Calcium Chromium Copper Iron Lead Magnesium Manganese Nickel Potassium Selenium Sodium Thallium Vanadium Zinc	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (RPD)

Sample	Analyte	Flag	A or P	Reason
SB025-01 SB025-02 SB025-03 SB025-04 SB025-05 SB025-06 SB025-07 SB90025-07 SB025-08 SB026-01 SB026-02 SB026-03 SB026-04 SB026-05 SB026-06 SB026-07	Aluminum Arsenic Calcium Iron Manganese	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD)
GW001 GW002 GW9002 GW003	Barium	J (all detects)	A	Serial dilution (%D)
SB025-01 SB025-02 SB025-05 SB026-07 SB026-08	Thallium	J (all detects)	A	Internal standards (%R)

Atlas White Metals
Metals - Laboratory Blank Data Qualification Summary - SDG L1632941

Sample	Analyte	Modified Final Concentration	A or P
GW002	Antimony	0.0040U mg/L	A
GW9002	Antimony	0.0040U mg/L	A
GW003	Antimony	0.0040U mg/L	A
EQUIPMENT BLANK	Antimony	0.0040U mg/L	A
GW001F	Antimony	0.0040U mg/L	A
GW002F	Antimony	0.0040U mg/L	A
GW9002F	Antimony	0.0040U mg/L	A
EQUIPMENT BLANKF	Antimony	0.0040U mg/L	A

Atlas White Metals
Metals - Field Blank Data Qualification Summary - SDG L1632941

Sample	Analyte	Modified Final Concentration	A or P
GW001	Copper	0.0115J mg/L	A
GW002	Antimony	0.0040U mg/L	A
GW9002	Antimony	0.0040U mg/L	A
GW003	Antimony Copper Lead	0.0040U mg/L 0.0042J mg/L 0.0070J mg/L	A
GW001F	Antimony Zinc	0.0040U mg/L 0.0100U mg/L	A
GW002F	Antimony Chromium	0.0040U mg/L 0.0010U mg/L	A
GW9002F	Aluminum Antimony Chromium	0.010U mg/L 0.0040U mg/L 0.0010U mg/L	A
GW003F	Copper	0.0010U mg/L	A

LDC #: 37599A4a
SDG #: L1632941
Laboratory: Alpha Analytical

VALIDATION COMPLETENESS WORKSHEET

~~Category B~~
Stage 4

Date: 12/6/16
Page: 1 of 2
Reviewer: JD
2nd Reviewer: [signature]

METHOD: Metals (EPA SW 846 Method 6020A~~/7470A/7471B~~)
(Do not validate Hg - client request)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	10/13/16
II.	ICP/MS Tune	SW	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Laboratory Blanks	SW	
VI.	Field Blanks	SW	EB= (21) (26)
VII.	Matrix Spike/Matrix Spike Duplicates	SW	MS/D = See List
VIII.	Duplicate sample analysis	N	
IX.	Serial Dilution	SW	SER= (12) (17) (22)
X.	Laboratory control samples	A	LCS & SRM
XI.	Field Duplicates	SW	FD= (7,8) (18,19) (23,24)
XII.	Internal Standard (ICP-MS)	SW	
XIII.	Sample Result Verification	A	
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable; ND = No compounds detected; D = Duplicate; SB=Source blank
N = Not provided/applicable; R = Rinsate; TB = Trip blank; OTHER:
SW = See worksheet; FB = Field blank; EB = Equipment blank
Samples appended with F were analyzed as dissolved.

	Client ID	Lab ID	Matrix	Date
1	SB025-01	L1632941-01	Soil	10/13/16
2	SB025-02	L1632941-02	Soil	10/13/16
3	SB025-03	L1632941-03	Soil	10/13/16
4	SB025-04	L1632941-04	Soil	10/13/16
5	SB025-05	L1632941-05	Soil	10/13/16
6	SB025-06	L1632941-06	Soil	10/13/16
7	SB025-07	L1632941-07	Soil	10/13/16
8	SB90025-07	L1632941-08	Soil	10/13/16
9	SB025-08	L1632941-09	Soil	10/13/16
10	SB026-01	L1632941-10	Soil	10/13/16
11	SB026-02	L1632941-11	Soil	10/13/16
12	SB026-03	L1632941-12	Soil	10/13/16
13	SB026-04	L1632941-13	Soil	10/13/16
14	SB026-05	L1632941-14	Soil	10/13/16
15	SB026-06	L1632941-15	Soil	10/13/16

LDC #: 37599A4a
SDG #: L1632941
Laboratory: Alpha Analytical

VALIDATION COMPLETENESS WORKSHEET
Category B

Date: 12/6/16
Page: 2 of 2
Reviewer: JD
2nd Reviewer:

METHOD: Metals (EPA SW 846 Method 6020A/7470A/7471B)

	Client ID	Lab ID	Matrix	Date
16	SB026-07	L1632941-16	Soil	10/13/16
17	GW001	L1632941-19	Water	10/13/16
18	GW002	L1632941-20	Water	10/13/16
19	GW9002	L1632941-21	Water	10/13/16
20	GW003	L1632941-22	Water	10/13/16
21	EQUIPMENT BLANK	L1632941-23	Water	10/13/16
22	GW001F	L1632941-19F	Water	10/13/16
23	GW002F	L1632941-20F	Water	10/13/16
24	GW9002F	L1632941-21F	Water	10/13/16
25	GW003F	L1632941-22F	Water	10/13/16
26	EQUIPMENT BLANKF	L1632941-23F	Water	10/13/16
27	SB026-03MS Hg 6020	L1632941-12MS	Soil	10/13/16
28	SB026-03MSD ↓ ↓	L1632941-12MSD	Soil	10/13/16
29	GW001MS 6020	L1632941-19MS	Water	10/13/16
30	GW001MSD ↓	L1632941-19MSD	Water	10/13/16
~~31~~	~~GW002MS~~ F Hg	L1632941-20MS	Water	10/13/16
~~32~~	~~GW002MSD~~ F DUP ↓	~~L1632941~~-20MSD	Water	10/13/16
33	SB026-08	L1632941-17	W	10/13/16
34	#21MS 6020			
35	#22MSD ↓			
36				
37				

Notes:

#17 & 22 Hg cancelled by Client

LDC #: 31599ANc

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: 3D
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1-16, 18-21, 23-26, 33		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
17, 22		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
QC: 27-28		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
QC: 29-30, 34-35		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
QC: 31-32		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
Analysis Method		
ICP		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___

Comments: Mercury by CVAA if performed

LDC #: 51594A5

VALIDATION FINDINGS CHECKLIST

Reviewer: SD
2nd Reviewer:

Method: Metals (EPA SW 846 Method 6010B/7000/6020)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?		✓		
Were %RSD of isotopes in the tuning solution ≤5%?	✓			
III. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	✓			
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	✓			
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.		✓		
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were ≤ 5X the RL, including when only one of the duplicate sample values were ≤ 5X the RL.		✓		
VII. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?		✓		
If the %Rs were outside the criteria, was a reanalysis performed?		✓		
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL(ICP/MS)?	✓			
Were all percent differences (%Ds) < 10%?		✓		
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.	✓			
XIII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.	✓			

LDC #: 37599A4a

VALIDATION FINDINGS WORKSHEET
Tune (ICP-MS)

Reviewer: SD
2nd Reviewer: CL

METHOD: Metals (EPA SW846 Method6020)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all isotopes in the tuning solution mass resolution within 0.1amu?

(Y) N N/A Were %RSD of isotopes in the tuning solution ≤5%?

#	Date	Isotope	Associated Metals	Mass (Limits)	RSD (≤5%)	Associated Samples	Qualifications
	10/15/16	In (115)	6020A TAL	114.8837 (114.9-115.1)		17-21	J/UJ/A* See below for det/nd

17 = All det except Sb, Cd, Ag, Tl
18-19 = All det except Ag, Tl, Sn
20 = All det except Cd, Se, Ag, Tl, Sn
21 = All det except As, Be, Cd, Co, Ni, Se, Ag, Tl, Sn, V

LDC #: 37599A4a

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reviewer: JD
2nd Reviewer:

METHOD: Metals (EPA SW 864 Method 6010/6020/7000) Soil preparation factor applied: 50X

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 17-21

					Sample Identification									
Analyte	**Maximum PB[a] (mg/Kg)**	**Maximum PB[a] (mg/L)**	**Maximum ICB/CCB[a] (ug/L)**	**Blank Action Limit**	18	19	20	21						
Na		0.065												
Sb			3.79	0.00379	0.0019/0.0040	0.0020/0.0040	0.0004/0.0040	0.0006/0.0040						

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 1-16

					Sample Identification									
Analyte	**Maximum PB[a] (mg/Kg)**	**Maximum PB[a] (mg/L)**	**Maximum ICB/CCB[a] (ug/L)**	**Blank Action Limit**	No Qual.									
Sb	0.19													

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 22-26

					Sample Identification									
Analyte	**Maximum PB[a] (mg/Kg)**	**Maximum PB[a] (mg/L)**	**Maximum ICB/CCB[a] (ug/L)**	**Blank Action Limit**	22	23	24	26						
Sb		0.0007	2.24	0.0022	0.0008/0.0040	0.0014/0.0040	0.0014/0.0040	0.0008/0.0040						

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 33 (Sb = 10X) (Pb and Sn = 200X)

					Sample Identification									
Analyte	**Maximum PB[a] (mg/Kg)**	**Maximum PB[a] (mg/L)**	**Maximum ICB/CCB[a] (ug/L)**	**Blank Action Limit**	No Qual.									
Sb	0.17		1.76	0.0176										
Na	14													
Pb			0.546	0.1092										
Sn			0.961	0.1922										

METHOD: Metals (EPA SW 864 Method 6010/6020/7000) Soil preparation factor applied: 50X

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 1, 3, 12 (10X)

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	No Qual.									
Sb			1.49	0.745										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 1-4, 6-9, 12

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	No Qual.									
Sn			3.38	0.169										
Cu			1.23											

Cu = (1-2 = 1000X), (3-4, 6-9, 12 = 10X)
Sb = (2-3 = 1000X), (1, 4, 6-9, 12 = 10X)

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 1-4, 6, 8, 12 (1-4 = 1000X) (6, 8, 12 = 10X)

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	No Qual.									
Pb			4.02	0.201										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples 2, 4, 5-11, 13-16 (2, 5 = 1000X) (4, 6-11, 13-16 = 10X)

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	No Qual.									
Sb			1.83	0.0915										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 5, 10-11, 14 (5 = 1000X) (10-11, 14 = 10X)

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	No Qual.									
Cu			0.727											

METHOD: Metals (EPA SW 864 Method 6010/6020/7000) Soil preparation factor applied: 50X

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 5, 10-11, 13-15 (5 = 1000X) (10-11, 13-15 = 10X)

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	No Qual.									
Sn			2.49	0.1245										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 5, 7, 9 , 13 (5, 7 = 1000X) (13 = 10X) (9 = 100X)

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	No Qual.									
Pb			3.14	0.157										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 16 (1000X)

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	No Qual.									
Sn			0.755	37.75										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 16 (1000X)

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	No Qual.									
Sn			0.755	37.75										

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 26

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	No Qual.									
Ag			0.209											

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 37599A4a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JD
2nd Reviewer: CL

METHOD: Trace Metals (EPA Method 200.7/200.8)

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 10/13/16
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 17-20

Analyte	Blank ID	Sample Identification										
	21	Action Limit	17	18	19	20						
Al	0.012	0.12										
Sb	0.0006			0.0019/0.0040	0.0020/0.0040	0.0004/0.0040						
Ba	0.0019	0.019										
Ca	0.128	1.28										
Cr	0.0004											
Cu	0.0017	0.017	0.0115J			0.0042J						
Fe	0.041											
Pb	0.0013	0.013				0.0070J						
Mg	0.065											
Mn	0.0009											
K	0.176	1.76										
Na	0.105	1.05										
Zn	0.0095											

LDC #: 37599A4a

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA Method 200.7/200.8)

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 10/13/16
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 22-25

Analyte	Blank ID	Sample Identification											
	26	Action Limit	22	23	24	25							
Al	0.003				0.006/0.010								
Sb	0.0008		0.0008/0.0040	0.0014/0.0040	0.0014/0.0040								
Ba	0.0006	0.006											
Ca	0.071												
Cr	0.0003			0.0007/0.0010	0.0005/0.0010								
Cu	0.0008					0.0006/0.0010							
Pb	0.0004												
Mn	0.0009												
K	0.044												
Na	0.058												
Zn	0.0043		0.0075/0.0100										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 37599A4a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: SD
2nd Reviewer: a

METHOD: Trace metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y N N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for samples?

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications	Postspike (75-125)
	29/30	W	Al	244	140		17-20*	Jdet/A (det)	
			Sb	154	128			Jdet/A (det = 18-20)	
			As	144				Jdet/A (det)	
			Ba	146				Jdet/A (det)	
			Be	144				Jdet/A (det)	
			Cd	148				Jdet/A (det = 18-19)	
			Cr	150				Jdet/A (det)	
			Co	146				Jdet/A (det)	
			Cu	152				Jdet/A (det)	
			Pb	138				Jdet/A (det)	
			Mn	226	133			Jdet/A (det)	
			Ni	155				Jdet/A (det)	
			Se	148	0			J/UJ/A (det/nd)	114
			Ag	146				Jdet/A (nd)	
			Tl	136				Jdet/A (nd)	
			Sn	129				Jdet/A (det = 17)	
			V	150				Jdet/A (det)	
			Zn	144				Jdet/A (det)	

LDC #: 37599A4a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: SD
2nd Reviewer: A

METHOD: Trace metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y N N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for samples?

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
	29/30	W	Al			29 (≤20)	17-20*	J/UJ/A (det)
			As			39 (≤20)		J/UJ/A (det)
			Ba			27 (≤20)		J/UJ/A (det)
			Be			30 (≤20)		J/UJ/A (det)
			Ca			23 (≤20)		J/UJ/A (det)
			Cr			22 (≤20)		J/UJ/A (det)
			Cu			21 (≤20)		J/UJ/A (det)
			Fe			24 (≤20)		J/UJ/A (det)
			Pb			23 (≤20)		J/UJ/A (det)
			Mg			25 (≤20)		J/UJ/A (det)
			Mn			23 (≤20)		J/UJ/A (det)
			Ni			25 (≤20)		J/UJ/A (det)
			K			24 (≤20)		J/UJ/A (det)
			Se			83 (≤20)		J/UJ/A (det/nd)
			Na			28 (≤20)		J/UJ/A (det)
			Tl			26 (≤20)		J/UJ/A (nd)
			V			21 (≤20)		J/UJ/A (det)
			Zn			22 (≤20)		J/UJ/A (det)

LDC #: 37599A4a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: 3D
2nd Reviewer: AL

METHOD: Trace metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y N N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for samples?

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
	27/28	S	Al	67	154		1-16	J/UJ/A (det)
			As	201				Jdet/A (det)
			Ca	164	490			Jdet/A (det)
			Cr		58			J/UJ/A (det)
			Mg		131			Jdet/A (det)
			Ni		158			Jdet/A (det)
			Na		138			Jdet/A (det)
			Tl	72				J/UJ/A (det/nd)
			Sn		137			Jdet/A (det)
			~~Hg~~	~~230~~	~~18~~			~~J/R/A (det)~~ C
	34/35	W	Mg	139			22-25*	Jdet/A (det)
	27/28	S	Al			30 (≤20)	1-16	J/UJ/A (det)
			As			25 (≤20)		J/UJ/A (det)
			Ca			63 (≤20)		J/UJ/A (det)
			Fe			63 (≤20)		J/UJ/A (det)
			Mn			21 (≤20)		J/UJ/A (det)
			~~Hg~~			~~51 (≤20)~~		~~J/UJ/A (det)~~ C

Comments: 29/30: Ca, Fe, Mg, K, Na > 4X
*EB not associated (different matrix)
27/28: Cu, Fe Pb, Mn, Zn > 4X 34/35: Ca, K, Na > 4X

LDC #: 37599A4a

VALIDATION FINDINGS WORKSHEET
ICP Serial Dilution

Reviewer: SD
2nd Reviewer: a

METHOD: Trace Metals (EPA SW 846 Method 6010C/6020A/7471B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A If analyte concentrations were > 50X the MDL (ICP) ,or >100X the MDL (ICP/MS), was a serial dilution analyzed?
Y (N) N/A Were ICP serial dilution percent differences (%D) ≤10%?
Y (N) N/A Is there evidence of negative interference? If yes, professional judgement will be used to qualify the data.

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Diluted Sample ID	Matrix	Analyte	%D (Limits)	Associated Samples	Qualifications
	17	W	Ba	13	17-20*	J/UJ/A (det)

Comments: *EB not associated (different matrix)

LDC#: 37599A4a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/Kg)		RPD (≤30)
	7	8	
Aluminum	3500	3200	9
Antimony	8.4	3.5	82
Arsenic	21	25	17
Barium	160	86	60
Beryllium	0.32	0.30	6
Cadmium	2.6	4.6	56
Calcium	13000	45000	110
Chromium	29	16	58
Cobalt	7.0	13	60
Copper	1100	1801	48
Iron	29000	32000	10
Lead	2800	710	119
Magnesium	1300	2700	70
Manganese	240	290	19
Mercury	13	3.9	108
Nickel	24	32	29
Potassium	460	440	4
Selenium	1.8	2.2	20
Silver	0.81	0.19	124

LDC#: 37599A4a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/Kg)		RPD (≤30)
	7	8	
Sodium	210	300	35
Thallium	0.09	0.12	29
Tin	180	33	138
Vanadium	18	18	0
Zinc	2100	3000	35

Analyte	Concentration (mg/L)		RPD (≤30)
	18	19	
Aluminum	8.11	6.26	26
Antimony	0.0019	0.0020	5
Arsenic	0.0061	0.0060	2
Barium	0.0603	0.0736	20
Beryllium	0.0006	0.0005	18
Cadmium	0.0002	0.0001	67
Calcium	117	128	9
Chromium	0.0266	0.0214	22
Cobalt	0.0084	0.0070	18
Copper	0.0238	0.0215	10
Iron	16.8	13.1	25

LDC#: 37599A4a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤30)
	18	19	
Lead	0.0320	0.0242	28
Magnesium	37.6	35.2	7
Manganese	0.2531	0.2157	16
Mercury	0.00006	0.00006U	0
Nickel	0.0451	0.0371	19
Potassium	28.9	28.7	1
Selenium	0.007	0.007	0
Sodium	409	419	2
Vanadium	0.0220	0.0180	20
Zinc	0.0597	0.0485	21

Analyte	Concentration (mg/L)		RPD (≤30)
	23	24	
Aluminum	0.056	0.006	161
Antimony	0.0014	0.0014	0
Arsenic	0.0011	0.0011	0
Barium	0.0188	0.0177	6
Calcium	104	112	7
Chromium	0.0007	0.0005	33
Cobalt	0.0013	0.0014	7

LDC#: 37599A4a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JD
2nd Reviewer:

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤30)
	23	24	
Copper	0.0031	0.0024	25
Magnesium	32.1	32.2	0
Manganese	0.1062	0.1001	6
Nickel	0.0098	0.0093	5
Potassium	26.1	26.6	2
Sodium	379	400	5
Vanadium	0.0018	0.0017	6

LDC #: 37599A4a

VALIDATION FINDINGS WORKSHEET
Internal Standards (ICP-MS)

Reviewer: JD
2nd Reviewer:

METHOD: Metals (EPA SW 846 Method 6020C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all internal standard percent recoveries within 65-125% of the intensity of the internal standard in the initial calibration standard ?

Y (N) N/A If the response to either of the above questions is no, were the samples reanalyzed as required ?

#	Date	Internal Standard	Associated Metals	%R (Limits)	Associated Samples	Qualifications
		Bi (209)	Tl	138	1	J/UJ/A (det)
		Bi (209)	Tl	175	2	J/UJ/A (det)
		Bi (209)	Tl	159	5	J/UJ/A (det)
		Bi (209)	Tl	165	16	J/UJ/A (det)
		Bi (209)	Tl	187	33	J/UJ/A (det)

LDC #: 37599A4c

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: SD
2nd Reviewer: a

METHOD: Trace Metals (See cover)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found x 100 / True

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated %R	Reported %R	Acceptable (Y/N)
	ICP (Initial calibration)						
ICV 15:55	ICP/MS (Initial calibration)	Al	99.73ug/L	100 ug/L	100%R	100%R	Y
ICV 10:28	CVAA (Initial calibration)	Hg	0.00292mg/L	0.003mg/L	98%R	98%R	Y
	ICP (Continuing calibration)						
CCV 18:31	ICP/MS (Continuing calibration)	Sb	96.42ug/L	100ug/L	96%R	96%R	Y
CCV 14:58	CVAA (Contining calibration)	Hg	0.0096mg/L	0.01mg/L	96%R	96%R	Y
	GFAA (Initial calibration)						
	GFAA (Continuing calibation)						

Comments: _____

LDC #: 37599A4

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: SD
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$

Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$\%D = \frac{|I-SDR|}{I} \times 100$

Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
ICSAB 9:24	ICP interference check	As	21.07 ug/L	20 ug/L	105%R	106%R	Y*
LCS 14:41	Laboratory control sample	Hg	11.2 mg/kg	12.3 mg/kg	91%R	89%R	Y*
MS 18:00	Matrix spike	Cd	(SSR-SR) 0.0760 mg/L	0.051 mg/L	149%R	148%R	Y*
MSD 18:02	Duplicate	Co	596.38 ug/L	732.36 ug/L	20%RPD	20%RPD	Y
SER 18:08	ICP serial dilution	Ba	141.65 ug/L	163.40 ug/L	13%D	13%D	Y

*Rounding

Comments: _____

LDC #: 37599A1a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 2
Reviewer: SD
2nd reviewer:

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
Y N N/A Are all detection limits below the CRDL?

Detected analyte results for (1) Hg were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)(\%\ solids)}$

Recalculation: $\frac{(4.822\ ug/L)(50ml)(1)}{(0.399g)(0.88)} \times \frac{1mg}{1000ug} = 0.69\ mg/kg$

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Dil = 1
RD = 4.822 ug/L
% solids = 0.88
FV = 50ml
In. W = 0.399g

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
	1	Hg	0.69	0.69	Y
	2	Al	11000	11000	
	3	Pb	13000	13000	
	4	As	37	37	
	5	Zn	18000	18000	
	6	Ba	190	190	
	7	Be	0.32	0.32	
	8	Cd	4.6	4.6	
	9	Ca	18000	18000	
	10	Cr	10	10	
	11	Co	11	11	
	12	Cu	740	730	Y*
	13	Co	13	13	Y
	14	Fe	61000	61000	
	15	Mg	1400	1400	
	16	Ni	200	200	
	17	Sn	0.0036mg/L	0.0036mg/L	Y
	18	Ag	0.00006mg/L	0.00006mg/L	Y
	19	Ca	18mg/L	19 mg/L	Y*
	20	Al	1.23mg/L	1.23mg/L	Y

Note:

*Rounding

LDC #: 32599A4

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JD
2nd reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
Y N N/A Are all detection limits below the CRDL?

Detected analyte results for See pg. 1 were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)}$ Recalculation:

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
	21	Ba	0.009	0.009	Y
	22	K	45.1	45.1	
	23	Cu	0.0031	0.0031	
	24	Na	400	400	
	25	Mn	0.2071	0.2071	
	26	Cr	0.0003	0.0003	
	33	Al	3800 mg/kg	3802 mg/kg	

Note: _____