

**REMEDIAL INVESTIGATION/
FEASIBILITY STUDY
REPORT**

FINAL

**ALUMINUM RECYCLING
TRENTWOOD SITE
VERADALE, WASHINGTON**

AGREED ORDER NO. 6968

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Certification

The technical material and data contained in this document were prepared under the supervision and direction of the undersigned, whose seals, as a professional geologist and professional engineer licensed to practice as such, is affixed below.



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1.0 INTRODUCTION

This document presents the findings and conclusions of the Remedial Investigation/Feasibility Study (RI/FS) conducted at the Aluminum Recycling Trentwood Site (the Site), located at 2317 North Sullivan Road, Veradale, Washington. This RI/FS Report complies with the requirements of the Model Toxics Control Act (MTCA), RCW 70.105D and its implementing regulations Washington Administrative Code (WAC) 173-340. The RI/FS Report was prepared by Pastor, Behling, & Wheeler, LLC (PBW) on behalf of Union Pacific Railroad (UPRR) who is conducting the RI/FS pursuant to Agreed Order 6968 issued by the Washington State Department of Ecology (Ecology). The RI/FS Report complies with all substantive requirements of the Agreed Order and is consistent with MTCA requirements.

2.0 SITE BACKGROUND

2.1 Site Description

The Site is located in Spokane County, Washington in the Spokane Valley, within the incorporated limits of the City of Spokane Valley. The physical address of the Site is 2317 North Sullivan Road, Veradale, Washington (per the Agreed Order). The Site is identified by Ecology as Facility/Site No. 628 in accordance with the MTCA RCW 70.105D and its implementing regulations 173-340 WAC.

The Site is located west of Sullivan Road and north of the Spokane River (Figure 1). In the Agreed Order, the Site is defined “by the extent of contamination caused by the release of hazardous substances”. Therefore, for the purposes of the RI/FS, the Site includes the area where a stockpile of material resulting from aluminum recycling operations is currently observed. This area, which consists of approximately 9 acres, includes property owned by Union Pacific Railroad Company (UPRR), Pentzer Venture Holdings II, Inc. (Pentzer), and the State of Washington Department of Transportation (WSDOT) (Figure 2). Other property owners in the area include the Washington State Department of Parks and Recreation (Parks) and the City of Spokane Valley.

Land use at the Site is heavy industrial (Zone I-2, per the City of Spokane Valley). The nearest residential neighborhood is approximately 1.2 miles south of the Site across Interstate 90. The Spokane Valley Mall is approximately 0.3 miles southwest of the Site across the Spokane River. The Kaiser Trentwood Works (an aluminum rolling mill) is located 0.5 miles northwest of the Site. A UPRR rail line is present on the northern boundary of the Site. The UPRR property south of the rail line (south parcel) totals approximately 11 acres and includes a large stockpile of material and an industrial facility on land leased from UPRR (described below). UPRR also owns the contiguous property north of the rail line (north parcel). The Pentzer property is located immediately adjacent to the west side of the UPRR south parcel. The property south of the UPRR south parcel is owned by WSDOT. The Spokane River is located approximately 350 feet southwest of the UPRR property (beyond the Pentzer and WSDOT properties).

Kemira Water Solutions, Inc. leases a portion of the UPRR property and operates a facility that manufactures chemical coagulants (polyaluminum chloride (PAX) and aluminum sulfate (alum)) for use in water and wastewater treatment applications. Raw materials used in the manufacturing process include sulfuric acid, chloride sources (aluminum chloride, hydrochloric acid, etc.), and aluminum sources (alumina hydrate, aluminum metal, and/or alumina cake). Other materials used in the manufacturing process include soda ash, resins, xylene, and isopropyl alcohol. Sulfuric and hydrochloric acid are unloaded from railcars and stored in tanks at this facility. Other raw materials are stored in tanks and/or silos. The chemical coagulants are produced in various reactors and the finished products are stored in tanks.

2.2 Site History

Industrial operations on the UPRR property (south parcel) were begun in 1979 by the Aluminum Recycling Corporation (ARC), which leased the property from Spokane International Railroad (subsequently merged with UPRR in 1987). In May 1984, ARC filed for reorganization under Chapter 11 and apparently ceased operations at that time (Ecology, 1987). ARC utilized a rotary kiln to recycle aluminum cans and aluminum dross into secondary aluminum which was then sold. Aluminum dross (“white dross”) is a by-product of the primary aluminum smelting process and represents impurities which are removed as skim during the smelting process. The white dross contains various oxides, aluminum metal, carbides and nitrides. Further processing to remove aluminum metal from the white dross includes combining the material with salts (NaCl or KCl), cryolite (Na₃AlF₆) or

hexafluoroaluminate), and heat to extract additional molten aluminum. The residue resulting from this secondary processing is high-salt “black dross”. Ecology correspondence from 1986 indicates that the black dross associated with ARC operations was removed from the Site by UPRR and placed in the Dishman-Mica Sanitary Landfill in Mica, Washington. A sketch of the Site included in this correspondence indicates that the dross pile was located on the eastern portion of the property (east of the “plant”), which contains no dross or other material at this time (currently a crushed gravel parking lot). A letter from Ecology to UPRR (September 15, 1986) and Ecology Memo (September 23, 1986) indicate that all black dross material was removed from the Site by September 3, 1986.

Following the ARC bankruptcy, Imperial West Chemical (IWC) operated on the UPRR property from 1986 to 1995 and used aluminum dross to make aluminum sulfate. A Site Inspection Report prepared by Ecology in 1987 indicated that since all of the black dross was removed in 1986, IWC transported “low-salt dross” from the Hillyard/Wellesley site (another ARC aluminum dross facility) for use in aluminum sulfate manufacturing. IWC treated the low-salt aluminum dross with sulfuric acid to produce aluminum sulfate, which generated un-reacted solids in the form of aluminum, magnesium, and silica oxides. These solids were stockpiled at the Site and likely comprise a portion of the existing stockpile.

A 4.4 acre portion of the current UPRR property was purchased from the WSDOT in 1991 (southern portion of south parcel, see Figure 2). IWC leased both the original UPRR property and the 4.4 acre acquisition from 1995 until 1998 (please note that the dates that IWC leased and/or operated on the property may not be consistent in historical documentation related to the Site). In 1998 Kemwater North America Inc. began leasing the property. Kemiron NW, Inc. took over the lease from Kemwater North America Inc. in 2001. The current tenant, Kemira Water Solutions, Inc., produces industrial water treatment chemicals and does not stockpile or process aluminum dross, or otherwise use the material in the stockpile.

According to Ecology records, aluminum dross was transported to the Site and stockpiled between 1982 and 1991, after which the dross was also stockpiled on a portion of the newly acquired 4.4 acre parcel until 1998. Photo records (from Ecology) from an October 1987 site investigation show significant amounts of dross at the Site, with piles located to the west and east of the plant facilities (Ecology, 1987). The labeled photos indicate that this material was IWC “low-salt dross” to be used in the manufacture of aluminum sulfate. There is no indication of black dross or other by-products associated with aluminum recovery using the smelting process. The site inspection memo states “last year Union Pacific removed a sizable amount of high salt dross on Site to Mica Landfill, virtually taking the entire amount stored on the ARC site. Recently, however, IWC obtained low salt dross from ARC Wellesley and another large pile now exists on site” (Ecology, 1987). The volume and distribution of dross material in the 1987 photos is somewhat consistent with the current extent of the stockpile, although the photos depict a much more variable material than what is observed at the Site currently.

There is no evidence that ARC or IWC continued aluminum recycling operations that generate high salt black dross after 1986. Based on the available history of Site operations, the stockpiled material on the western portion of the Site is most likely solids from the aluminum sulfate manufacturing process or low salt aluminum dross material intended as a feed stock for aluminum sulfate production.

Ecology records indicate that no Site investigations or other activities documenting Site conditions were conducted from late 1987 until late 2006 when investigation into the Site was re-initiated.

A portion of the stockpile is located adjacent to the UPRR property on property which is owned by Pentzer. Pentzer was named a Potentially Liable Person (PLP) by Ecology on December 11, 2009. Information regarding Pentzer’s PLP status was brought to Ecology’s attention during the public comment period for the Agreed Order. As the Agreed Order between Ecology and UPRR had already

been negotiated, and the public comment period had expired, UPRR and Ecology agreed to finalize the Agreed Order. Pentzer remains a PLP and has allowed UPRR access to the property for the purposes of the RI, but did not participate in the RI/FS.

With the exception of the railroad along the north side of the Site, UPRR has never conducted any other operations at the Site.

2.3 Previous Investigations, Remedial Activities and Dross Data

2.3.1 Previous Investigations

A Potential Hazardous Waste Site Preliminary Assessment was performed by Ecology for the Site in 1985, with a Summary Memorandum issued July 17, 1985 (State of Washington, 1985). The Summary Memorandum stated that there was “no evidence of hazardous wastes deposited at this site”; however, there were conventional pollution problems of concern including chlorides, nitrates and ammonia. The Summary Memorandum recommended monitoring the nearby Spokane River and underlying groundwater, as well as preserving air quality through prevention of dust and ammonia vapors.

Following the 1985 hazardous waste site assessment, a Phase I Site Inspection was performed by Ecology in 1987 (Ecology, 1987). The Site Inspection was conducted to “(1) determine if hazardous materials were present on-site from records and site inspection, (2) ascertain if they were migrating off-site, (3) determine any potential receptor to off-site contamination and (4) make recommendations of further action at the site”. The inspection indicated that the stockpiled dross material was not a U.S. Environmental Protection Agency (EPA) designated waste, and there had been no EPA-designated waste previously present at the Site. The investigation concluded that the Site should be removed from the CERCLIS list of active potential hazardous waste sites and that CERCLA investigations of the Site were not required. The report further recommended that the regional Ecology office should be the lead agency for further actions. The high salt content of the dross, potential surface runoff to the Spokane River and other receptors, and potential leaching of chloride to underlying groundwater, were identified as the primary concerns at the Site.

The Spokane Regional Health District conducted a Site Hazard Assessment (SHA) site inspection in September 2007 to estimate the relative potential risk posed by the Site to human health and the environment (Spokane Regional Health District, 2008). The Site was assessed in accordance with Section 320 of the MTCA 173-340 WAC and the Washington Ranking Method Scoring Manual, which assigns rankings of one through five with a ranking of one as the highest risk. The Site was assigned an overall rank of “2”, based on exposure pathways and potential receptors. This assessment conservatively assumed that the material stockpiled at the Site was high-salt black dross.

No additional Site investigations or assessments were conducted at the Site following the 1986 removal of dross material and 1987 Site Inspection Report, until a Site investigation was initiated in 2006. The Site Hazard Assessment conducted for the Site in 2007 is based on the risks associated with high salt black dross, which may only be minimally present at the Site, if at all.

2.3.2 Previous Remedial Activities

Correspondence between ARC and Ecology in 1983 indicates that ARC obtained permission to transport black dross to the Dishman-Mica Sanitary Landfill for disposal, and had begun shipments by November 1983. In September 1986, UPRR removed black dross material that was associated with the ARC operations, and transported it to the Mica Landfill in Spokane, which was permitted to receive the

material. As previously discussed, the September 23, 1986 Ecology memo stated that all of the black dross was removed from the Site in 1986.

2.3.3 Historical Dross Analysis

As described in the 2008 Site Hazard Assessment report, several analyses were performed in 1983 and 1984 on the black dross material, including bioassay tests for toxicity. A 96-hour bioassay using juvenile Coho salmon was performed on a sample of “fresh black dross” collected August 26, 1983 from the ARC facility. The results of the toxicity testing indicated 100% mortality at a concentration of 1000 mg/L, and 7% mortality at a concentration of 100 mg/L. [The 100 mg/L and 1,000 mg/L levels are those specified in the Department of Ecology “General Procedure for Static Base Acute Fish Toxicity Test”] In April 1984, a sample of “baghouse dust”, described as a grey powder, was collected at the ARC facility for a 96-hour bioassay test using juvenile rainbow trout. The results of this analysis indicated a 0% mortality at a concentration of 100 mg/L, and 100% mortality at a concentration of 1000 mg/L. In July 1984, a sample of black dross material was collected from an aluminum recycling facility of unknown origin and submitted for toxicity analysis. A 96-hour acute toxicity test was performed using juvenile rainbow trout which indicated 0% mortality at a concentration of 1000 mg/L.

The Site Hazard Assessment report (Ecology, 2008) included analytical results for a sample of dross (not identified as black or white dross) submitted by ARC for analysis in September 1983. The sample was found to contain the following:

<u>Compound</u>	<u>Concentration (%)</u>
Calcium	0.0575
Sodium	14.15
Potassium	13.35
Aluminum	21.4
Oxides, as Al ₂ O ₃	40.4
Chloride	43.0
Fluoride	0.13
Nitrides, as NH ₃	1.4
pH (Standard Units)	10.14
Soluble Material	64.6

All historical analytical data obtained from Ecology records was from samples collected prior to the 1986 removal of black dross from the Site.

2.4 **Physical Setting**

2.4.1 Elevation

The surface elevation of the upper part of the southern parcel (stockpile area) is approximately 1,985 ft mean sea level (MSL), the elevation of the stockpile itself ranges from approximately 1,988 to 2,030 ft MSL. The surface elevation of the lower part of the southern parcel (at the base of the steep slope south of the stockpile) is approximately 1,965 ft MSL. The elevation of the Spokane River near the Site is approximately 1,920 ft MSL.

2.4.2 Site Description

The stockpile is located on the northern portion of the UPRR property and the eastern portion of the Pentzer property (Figure 2). The stockpile material on both properties was placed there intentionally by

former property users during their occupancy. The stockpile is located on land that is at a higher elevation than the property to the south, which has resulted in stockpile material being transported from the main stockpile to the south by storm water runoff and vehicle traffic. The stockpile is approximately 600 feet long on the north side, 425 feet long on the south side, and 220 feet wide (approximately 4 acres). The depth of the stockpile varies from 5 to 30 feet deep. The stockpile side slopes were estimated to be approximately 1:1 and the total volume of the stockpile estimated to be approximately 57,000 cubic yards. Approximately 8,000 to 10,000 cubic yards of the total volume is estimated to be present on the Pentzer property.

The stockpile contains a mixture of several different materials based on historical information and visual differences in color and chemical composition. Information obtained during the RI indicates the stockpile is comprised of two main types of material that are readily identifiable by color. The western portion of the stockpile is made up of grey, fine grained material that contains high concentrations of aluminum (40,000 – 60,000 mg/Kg) and sulfate (10,000 mg/Kg – 30,000 mg/Kg). The eastern portion of the stockpile is made up of tan, fine grained material that contains low concentrations of aluminum (< 9.9 mg/Kg) and higher chloride/salt content (approaching 10,000 mg/Kg or 1%). Throughout this report the term “stockpile” or “dross” is used to refer to the material in the stockpile, regardless of composition (i.e., dross, aluminum sulfate, metallic oxides).

A silt fence was installed around a portion of the stockpile in November 2010 as an interim measure to control surface water runoff from the pile. Temporary chain-link fencing was also installed during this time to reduce the potential for exposure to the pile.

An abandoned pipeline is present at the Site, running parallel to the railroad tracks along the north side of the Site and terminating at the Spokane River. The pipeline is both below and above grade along its length. The pipeline was investigated as part of the RI/FS and is discussed in Section 3.1.6.

2.4.3 Climate

The Spokane Valley is a semi-arid region that has warm, dry summers and cool, moist winters. Annual rainfall averages 20 inches, with most precipitation occurring from November to March, frequently as snowfall. Snowfall accumulations of one foot or more are frequent in the Spokane area, but the snow usually melts within a few days (Molenaar, 1988). Average temperatures in the area range from 27° F during the winter months to 69° F during the summer months. Precipitation in the area ranges from less than 1 inch during the months of July, August, and September, slightly more than 2 inches during the months of November and December, and slightly less than 2 inches during January through June (NOAA, 2010). Wind data from Felts Field, located approximately 5 miles west of the Site, indicates that the prevailing wind direction is SW or SSW from November through June and NNE from July through October (Western Regional Climate Center, 2010).

2.4.4 Geology

The surface geology in the Site vicinity consists of Pleistocene-aged glacial flood deposits (Hart Crowser, 2009). The glacial flood deposits consist of poorly to moderately well-sorted, massive to thick-bedded, stratified deposits of boulders, cobbles, pebbles, and sand resulting from multiple episodes of catastrophic outbursts from glacially dammed Lake Missoula. Undifferentiated alluvium and loess deposits may be present along the Spokane River. The top of the bedrock (metamorphic rocks) is at an elevation of approximately 1,700 to 1,750 ft MSL, or at a depth of approximately 250 to 300 feet below grade.

Based on observation of subsurface materials collected during the drilling program at the Site, the Site geology is consistent with the scientific literature and descriptions reported in other environmental

investigations conducted in the area. A 1 – 2 ft thick surface soil layer was observed across the Site. This soil layer consisted of unconsolidated silt, sand, and gravel (see Boring Logs in Appendix A). Beneath this surficial soil layer are poorly sorted sandy gravel, gravelly sand, and sand consistent with glacial flood deposits. These soils are typically dark gray and tan, have angular grains, and contain some cobbles and pebbles. Groundwater was observed between 45 and 55 feet below ground surface (bgs).

2.4.5 Groundwater

Groundwater in the vicinity of the Site was previously characterized by Hart Crowser Inc. as part of a Groundwater Remedial Investigation conducted at the adjacent Kaiser Trentwood Facility (located northwest of the Site, see Figure 1). The results of the Remedial Investigation were summarized in a report issued in May 2009 and are used as a basis for understanding the groundwater conditions at the Aluminum Recycling Trentwood Site.

The Pleistocene-aged glacial flood deposits present at the Site are part of a regional aquifer system called the Spokane Valley-Rathdrum Prairie (SVRP) aquifer. The SVRP aquifer is designated as a Sole Source Aquifer by the EPA. The SVRP provides drinking water to approximately 500,000 residents in the region and covers approximately 370 square miles (Hart Crowser, 2009). In the vicinity of the Site, the aquifer is called the Spokane aquifer, which underlies about 135 square miles in the Spokane River valley. The Spokane aquifer is unconfined and is recharged by surface infiltration, from the Spokane and Little Spokane Rivers, and contribution from the Spokane-Rathdrum Prairie aquifer that is hydraulically connected and located to the east. Groundwater flow in the aquifer is generally to the west, with flow in the vicinity of the Site to the west/southwest (Hart Crowser, 2009). Groundwater flow in general is influenced by the Spokane and Little Spokane Rivers, which have a close hydraulic connection to the aquifer. The Spokane aquifer is highly permeable and consists of coarse sand, gravel, cobbles, and boulders deposited by historic floods which accounts for the large amount of water storage and high hydraulic conductivity in the aquifer. The thickness of the aquifer varies from relatively thin in the city of Spokane where basalt bedrock approaches the surface, to a thickness of greater than 300 feet near the state border with Idaho. In the vicinity of the Site, the thickness is estimated to be approximately 200-350 ft, and the groundwater flow velocity approximately 33 feet per day (Hart Crowser, 2009).

During the RI investigation, groundwater was encountered in the monitoring wells (Figure 3) at a depth of approximately 45-55 ft bgs (Table 1). Groundwater flow is from east to west towards the Spokane River (Figures 4 and 5), which can act as a losing or gaining water body depending on river flow and recent precipitation. The groundwater gradient across the Site is approximately 0.003 ft/ft based on water level data collected during the RI.

2.4.6 Receptors

A receptor survey was conducted within 500 feet of the Site to identify current or potential land and groundwater users that may constitute a complete receptor pathway. For the purposes of the survey the limits of the stockpile were considered “the Site”, and the results of the survey consider all features within the resulting 500-foot boundary. To conduct the survey, PBW personnel walked all accessible areas within the survey boundary. Most of the survey area could be best observed from the top of the stockpile and many of the photographs were taken from that location. Photographs from the survey are included in Appendix B. The survey area was divided into four quadrants (NE, SE, SW and NW) to facilitate the evaluation and simplify presentation of the results. The results of the survey are presented by quadrant in Table B-1 in Appendix B.

A water well search was conducted by Banks Environmental Data in May 2010 to identify potential water wells near the Site. Twenty-three water wells were identified within one mile of the UPRR property. The

well depths range from 78 to 200 feet. Most of the wells are registered for industrial use, though there are several which are registered for domestic and/or irrigation use. The water well search results did not locate any records on a well that was reportedly present on Site, according to State of Washington (1985). During the performance of the RI, a physical survey was performed to identify the water wells identified in the water well database search as well as identify any water wells in the area that were omitted from the report. No additional wells were identified during the well search.

3.0 REMEDIAL INVESTIGATION

The overall objective of the Site characterization effort was to identify the nature and extent of contamination at the Site and to identify potential threats to human health and the environment consistent with MTCA requirements. Site characterization was accomplished through collection of soil, groundwater, and stockpile samples as described in the Ecology-approved RI/FS Work Plan. Additional objectives such as identifying potential exposure pathways and receptors, assessing the physical properties of the waste material, and evaluating the Site for applicability of institutional or physical controls were also evaluated. Finally, an FS was performed to select a remedial alternative consistent with MTCA requirements. The RI field work was conducted from October 20 through 27, 2010, with additional sampling conducted in December 2010. A description and summary of the activities conducted during the RI are described below.

3.1 Remedial Investigation Activities

3.1.1 Stockpile Investigation

Two soil borings, DB-1 and DB-2 (Figure 3), were advanced through the stockpile into the underlying soil to evaluate constituents of concern (COCs) in the material and potential leaching into the underlying soils. At DB-1, the stockpile material was approximately 4 ft thick and a sample of the stockpile material was collected from the 2-3 ft interval. At DB-2, the stockpile was approximately 6 ft thick and samples of the stockpile material were collected from the 1-2 ft and 5-6 ft sample intervals. Soil samples underlying the stockpile were also collected immediately below the interface of the stockpile and native soil. Observations of the stockpile surface show the eastern two-thirds of the stockpile consist of a tan material. The western one-third of the stockpile consists of grey material. Soil borings DB-1 and DB-2 were collected on the western side of the stockpile and represent grey dross material. Other than the difference in the color, the two materials are similar in texture and other physical characteristics. Samples of the grey (sample ID “Grey Dross”) and tan (sample ID “Tan Dross”) stockpile material were collected for analysis from the surface of the stockpile to assess the differences in these two materials. At one soil boring location, SB-2, stockpile material is present at ground surface due to runoff and is reflected in the analytical results for this sample. Dross/stockpile samples were collected in accordance with the RI/FS Work Plan and were analyzed for the same analytical suite as soil samples. Analytical data obtained from stockpile samples collected during the soil boring activities are presented with soil data in Table 2, and analytical data from all stockpile sampling are presented in Table 3.

3.1.2 Soil Investigation

Surface and subsurface soil samples were collected from locations outside of the stockpile area, as well as from below the stockpile (Figure 3). Soil borings were advanced using rotasonic (sonic) drilling techniques except where collection by hand tools was possible (for surface soil samples). Soil borings were typically advanced to 15 ft bgs with soil samples collected from the 0-1 ft, 4-5 ft, and 14-15 ft depth intervals (see Table 2). Soil sample locations were selected to provide information on potential transport of stockpile material, with some locations placed in drainage areas with visible evidence of stockpile material. One soil sample, SB-4, was collected from the 0-1 ft bgs interval at a location near the Spokane River, in the area most likely to receive surface runoff from the stockpile. At locations where stockpile material was present, soil samples were collected from the soil interval immediately below the interface between the stockpile material and native soils, from 4-5 ft below the interface, and again 14-15 ft below the interface (locations DB-1 and DB-2). Soil samples were collected during the installation of two monitoring wells, MW-2 and MW-3, located in the stockpile and down slope of the stockpile, respectively.

The compounds selected for evaluation in the RI were based on COCs observed at other aluminum cross sites. As detailed in the RI/FS Work Plan, the primary COCs evaluated included metals, chloride, fluoride, and nitrogen compounds (PBW, 2010). Based on the history of the Site and the materials handled there, organic compounds were not expected to be present and were not included in the investigation. Many of the COCs are not considered toxic at concentrations observed in Site soils (i.e., no official toxicity data published). Soils were analyzed for the following site-specific COCs:

<u>Metals</u>		<u>Conventionals</u>
Aluminum	Copper	Chloride
Arsenic	Lead	Fluoride
Barium	Selenium	Nitrate – Nitrogen
Cadmium	Silver	Nitrite – Nitrogen
Chromium	Mercury	Sulfate

One soil sample, SB-5 (14-15), was randomly selected and analyzed for Total Organic Carbon (TOC) to evaluate the potential for COCs to leach from Site soils. A summary of soil sampling results are presented on Table 2.

To evaluate the naturally occurring concentrations of Site COCs, background soil samples were collected from an adjacent property owned by UPRR to the north of the Site (north parcel, See Figure 3). Historical records do not indicate any activities related to the Site were conducted on this property. Background soil samples were collected from three sample locations at 0-1 ft bgs, 4-5 ft bgs, and 14-15 ft bgs and one additional location from the 0-1 ft depth interval, per the RI/FS Work Plan. Background soil samples were analyzed for the COCs described above. Soil borings advanced for the collection of background soil samples were installed using sonic drilling techniques and samples were collected and handled in a manner consistent with the Site soil samples and in accordance with the procedures described in the Sampling and Analysis Plan (PBW, 2010). Representative background concentrations were calculated using the MTCStat97 spreadsheet provided by Ecology. A summary of the background sample results is provided on Table 4 and discussed in Section 3.3.2 below.

3.1.3 Groundwater Investigation

3.1.3.1 *Monitoring Well Installation*

Three groundwater monitoring wells were installed during the RI at the following locations (Figure 3):

- MW-1 installed on the eastern edge of the Site, upgradient of the stockpile;
- MW-2 installed on the southern edge of the stockpile; and
- MW-3 installed at the western (downgradient) edge of the Site.

An existing monitoring well of unknown origin was observed during the RI and has been designated well MWX-4 for the purposes of this report. This monitoring well may be the well mentioned in the 1985 Potential Hazardous Waste Site preliminary Assessment, however, the Assessment does not mention the specific location of the well or any other identifying information. The well was checked during the RI and found to have a total depth of 58.39 feet below the top of the well casing. There was no water present in the well.

Boreholes for the installation of monitoring wells were advanced using sonic drilling techniques. During the drilling process, a 6-inch diameter steel casing was advanced to act as an isolation casing and keep the borehole from collapsing. A 4-inch core barrel was used for collecting soil cores at 10-foot intervals from the borings. Soil was collected continuously with depth for lithologic logging and soil sample collection.

Soil cores were generally logged in accordance with the Unified Soil Classification System (USCS). Boring logs are presented in Appendix A.

Borings were advanced to approximately 20 feet below the saturated zone, with total depths ranging from 67 to 87 feet bgs. Monitoring wells were constructed of 2-inch diameter, flush-joint threaded Schedule 40 PVC casing and 0.01-inch slotted PVC well screen. Wells were screened using 25-ft slotted casing installed to span the top of the water table and extend sufficiently into the aquifer to account for variations in the water table. Wells were installed through the 6-inch outer drill casing with the casing withdrawn as annular materials were added. A sand filter pack was installed from the bottom of the well screen to approximately 2-feet above the top of the screen at each well. The remainder of the annular space was filled with hydrated bentonite pellets to create the annular seal. Monitoring well MW-1 was completed with a flush-mount surface completion due to its location in a parking/drive area. Wells MW-2 and MW-3 were completed as above-ground completions with protective metal casings and bollards. Monitoring wells were surveyed by a licensed professional surveyor following installation. Monitoring well construction information is presented on the boring logs provided in Appendix A.

Monitoring wells were developed after installation by surging and pumping using a submersible pump. Wells were surged using the pump as a surge block with the well being pumped for a five-minute period between surging. Groundwater was pumped directly into a 55-gallon drum during well development. A minimum of 10 well casing volumes of groundwater were removed during development. Groundwater quality parameters, including temperature, pH, conductivity, oxidation-reduction potential (ORP), and turbidity, were periodically measured during development. Well development was continued until the parameters were relatively stable and the water was clear.

3.1.3.2 Groundwater Sample Collection

Groundwater samples were collected following well development using low-flow sampling techniques. A bladder pump and flow-through cell was used to purge the well and collect the groundwater samples. Groundwater was pumped at a low flow rate into a flow-through cell containing a multi-parameter meter, which measured the temperature, pH, conductivity, turbidity, and ORP of the groundwater. Groundwater samples were collected from the discharge of the flow-through cell when the parameters had stabilized. In accordance with the approved Sampling and Analysis Plan, samples collected for metals analysis were filtered in the field using a disposable 10 micron filter when turbidity exceeded 10 NTUs. With the exception of sample MW-2 collected 10/26/2010; all samples collected for metals analysis were filtered. Samples were collected in pre-preserved, laboratory-supplied sample containers and immediately placed on wet ice for transport to the laboratory.

Groundwater samples were analyzed for the following COCs:

Metals		Conventionals
Aluminum	Lead	Chloride
Arsenic	Magnesium	Fluoride
Barium	Potassium	Nitrate – Nitrogen
Cadmium	Selenium	Nitrite – Nitrogen
Calcium	Silver	Sulfate
Chromium	Sodium	Ammonia
Copper	Mercury	Total Nitrogen
		Alkalinity

A summary of groundwater sampling results is provided on Table 5 and analytical reports are provided in Appendix C. Groundwater results are considered representative and sampling protocols comply with

MTCA requirements. Depth to water was measured at each monitoring well prior to sample collection (October and December, 2010). A summary of groundwater measurements is provided on Table 1.

3.1.4 Ecological Evaluation

Per the RI/FS Work Plan, an ecological survey was conducted to assist in the completion of the Terrestrial Ecological Evaluation (TEE). The results of the TEE are provided in the following sections.

3.1.4.1 *Land Use*

The Site is located within an industrial area. Railroad and former water treatment facilities are present to the north of the Site, industrial manufacturing is conducted on the eastern portion of the Site, and a large former WSDOT gravel pit is located south of the Site. The Spokane River is present approximately 450 feet to the west of the Site (stockpile) and represents the only potential environmentally sensitive area in the vicinity of the Site. The area across the Spokane River from the Site is generally urban in nature, with commercial development including restaurants, hotels, and a shopping mall. The river corridor is generally undisturbed and contains native vegetation. The river and corridor is Washington State Department of Parks and Recreation property and becomes contiguous with City of Spokane Valley property containing Sullivan Park. No indications of wetlands or other habitat attractive to wildlife were observed at the Site. Additional information related to land use is presented in Appendix B.

3.1.4.2 *Threatened or Endangered Species*

A database search performed using the State Department of Fish and Wildlife GIS system did not indicate the presence of threatened or endangered wildlife in the area (see below).

3.1.4.3 *Priority Species or Species of Concern*

The GIS utility provided by the Washington State Department of Fish and Wildlife was used to perform a search for Priority Habitats and Species (PHS) in the vicinity of the Site. The database search returned one result for a mussel found in the Spokane River. The mussel is a monitored species but is not a PHS listed species.

3.1.4.4 *Endangered, Threatened, or Sensitive Plant Species*

To evaluate the potential presence of plant species classified by the Washington State Department of Natural Resources Natural Heritage Program, the Rare Plants and High Quality Ecosystems GIS database (updated December 2010) was reviewed. The Site and surrounding vicinity is not indicated as containing endangered, threatened, or sensitive plant species.

3.1.4.5 *Native Vegetation Areas Adjacent to Site*

The areas around and adjacent to the Site consist of disturbed land in various stages of re-growth. The adjacent properties are characterized by hearty grasses that have become established after the land was allowed to sit idle, including the former gravel pit to the south. Several species of native trees are present on the western side of the Site; however, development/power transmission in the area has resulted in the removal of most of the tall or timber-bearing trees. The areas around the Site considered containing native vegetation show impacts from heavy use of the area by recreational users (city and WSDOT properties) and trespassers (UPRR and Pentzer properties).

3.1.5 Receptor Survey

A receptor survey was conducted for the area within 500 feet of the Site. The results of the receptor survey are provided in Appendix B. Additional information related to land use was provided in Section 3.1.4.1.

3.1.6 Pipeline Survey

A pipeline emerges from underground at the top of the slope leading to the Spokane River west of the Site. The orientation of the pipe and the presence of a concrete sump in-line with the pipe on the UPRR property suggest that the pipeline is related to the Site. Concrete sumps located on the Site are generally full of sediment and don't appear to be in use. The pipeline appears to be abandoned and may have been used to transport process water during historical Site operations. The pipeline parallels the railroad tracks along the north side of the Site and terminates at the Spokane River. The pipeline is below ground until reaching the steep banks of the river where it continues horizontally above ground until terminating at a standpipe in the river. The piping has separated at a joint a few feet from the where the pipe appears above ground. The break allows discharge to the ground in this area with no visibly apparent adverse affects other than some mild erosion. Pipeline investigation documentation is provided in Appendix D and includes photos of the items described above and a Site map showing the pipeline location and location of the photos (Figure D-1).

3.1.7 Data Validation

Analytical data generated as part of the RI/FS were validated by a third-party data validation company, Conestoga-Rovers Associates (CRA), contracted directly by UPRR for data validation services. Data were validated in accordance with the Data Quality Objectives (DQOs) presented in the RI Work Plan and "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Review, US EPA 540/R-94/013, February 1994." Data collected for the RI were determined to be acceptable for use as intended. Data was flagged in accordance with US EPA data validation protocols to indicate deviations from quality control requirements (e.g., 'j' flags to indicate estimated values). Complete analytical reports and associated data validation summaries are provided in Appendix C.

3.1.8 Deviations from the RI/FS Work Plan

Deviations from the RI/FS Work Plan were minimal and are not expected to significantly affect the findings of the RI/FS. A summary of deviations is provided below:

Sample Locations – Sample locations were revised from the proposed locations based on conditions encountered at the Site. Sample locations on the stockpile were relocated due to the steep and unstable nature of the stockpile. Sample locations proposed on the western portion of the Site were relocated closer to the stockpile due to the steep terrain directly above the Spokane River. Sample location SB-4 was re-located to a flat area midway between the stockpile area and the Spokane River, and was selected to represent down slope conditions. These revised sample locations were reviewed with and approved by the Ecology Project Manager during a Site visit on October 20, 2010.

Ammonia Monitoring – An ammonia meter was intended to be used during the investigation to evaluate the occurrence of ammonia gas generation from aluminum dross and as a part of the Health and Safety Plan to ensure investigation personnel were not exposed to unsafe levels of ammonia. Initial attempts to calibrate/standardize the meter were unsuccessful due to a hardware issue. Ammonia odors were not observed during drilling activities, including activities that introduced water to the stockpile material. After the problem with the ammonia meter was resolved, samples of the grey and tan stockpile material

were placed in zip-loc bags and mixed with water. Following the addition of water the headspace was checked for the presence of ammonia, which was not detected. Laboratory results for the stockpile material (Table 3) suggest that only the tan stockpile material would potentially produce ammonia due to the nitrate content.

Collection of Samples on WSDOT Property – Samples proposed to be collected on the WSDOT property located south of the stockpile were not collected during the initial investigation activities because of access issues. Samples were collected during a subsequent mobilization to the Site six weeks later. Based on the results of subsurface samples from SB-1 and SB-5 collected during the first field mobilization (concentrations of COCs below screening levels in the 4-5 or 14-15 foot intervals), subsurface samples were not collected at SB-6, SB-7, and SB-8 on the WSDOT property.

3.2 Cleanup Levels and Risk Assessment Analysis

In accordance with MTCA, final cleanup standards for the Site will be established by Ecology in the Cleanup Action Plan (CAP) prepared for the Site following approval of the RI/FS Report. The proposed cleanup levels presented in this section have been used for screening purposes to determine the nature and extent of hazardous substances at the Site and develop the Remedial Action Objectives (RAOs) for the Site.

Proposed cleanup levels were established for the Site in accordance with the rules and regulations set forth in the MTCA Cleanup Regulation, WAC chapter 173-340. The following information describes the step-wise process used to develop the proposed cleanup levels recommended for use at the Site, and includes Site information utilized in the process.

3.2.1 Point of Compliance

The standard point of compliance for soil cleanup levels is throughout the Site and from ground surface to 15 feet bgs in accordance with WAC 173-340-740(6)(d). The point of compliance for groundwater is throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest depth which could potentially be affected by hazardous substances at the Site. For potential terrestrial ecological exposures, the standard point of compliance (0-15 ft bgs) is used in accordance with WAC 173-340-7490.

3.2.2 Land Use

In accordance with the Agreed Order established for the Site, the Site is defined by the extent of contamination caused by the release of hazardous substances at the Site. Visible observations and analytical data obtained during the RI indicate that material from the stockpile extends onto the adjacent Pentzer and WSDOT properties, and the Washington State Department of Parks and Recreation property adjacent to the Spokane River. The UPRR property containing the stockpile, and the areas on the adjacent properties where stockpile material has been observed, constitute the Site. Based on the conclusions of the RI, soil, groundwater, sediment, and surface water media outside of the visible extent of the stockpile material are not considered affected media (i.e., all potentially impacted media is contained within the properties discussed above).

The applicability of industrial land use at the Site was based on the criteria for using soil cleanup standards for industrial properties presented in WAC 173-340-745. These criteria include meeting the definition of industrial property, the presence of appropriate institutional controls, and the assumption that concentrations of COCs remaining at the Site following remediation are protective of human health and

the environment. Based on the remedial alternative proposed for the Site, these criteria will be met as discussed below.

Industrial Property (WAC 173-340-745(1)(a)(i))

The City of Spokane Valley has conducted land use planning under the Growth Management Act and zoned the Site, including all three properties (UPRR, Pentzer and the State of Washington), as “heavy industrial” (Zoning Category I-2). Ecology expects that properties zoned for heavy industry will meet the WAC definition of industrial property (if city planning is implemented under the Growth Management Act (chapter 36.70A RCW)), and the three properties at the Site meet this expectation. Therefore, the Site meets the definition of industrial properties under WAC 173-340-200.

Institutional Controls (WAC 173-340-745(1)(a)(ii))

Based on the potential assumption of industrial land use considered during development of cleanup levels, environmental covenants to restrict future land use to industrial purposes may be required for the Site. For areas where cleanup levels are based on industrial land use, establishment of these controls would be required to ensure that the exposure assumptions used for development of the cleanup levels do not change as a result of land usage. UPRR will take reasonable efforts to obtain institutional controls on non-UPRR property if they are required.

Stockpile material may be capped (either in-situ or on adjacent property) as part of the proposed remedial action. If capping is implemented as part of the selected remedy, institutional controls consisting of signage, access restrictions (fencing), and other notices will be required to ensure the security of the location and integrity of the cap.

Residual Hazardous Substances (WAC 173-340-745(1)(a)(iii))

Options considered for addressing the stockpile material at the Site consist of removing stockpile material for disposal and/or capping the stockpile material. Removal and/or capping of the stockpile material from the adjacent properties will result in no residual hazardous substances above applicable cleanup levels remaining in these areas. In addition to Site fencing and security provided by the property leaseholder, the stockpile material will be removed/capped to prevent access and exposure to the general public. If capped, appropriate institutional controls will be put in place that will prevent future disturbances due to construction activities and will prevent exposure to wildlife.

3.2.3 Groundwater Cleanup Levels

Groundwater at the Site is part of the SVRP aquifer, a Sole Source Aquifer that provides drinking water regionally to approximately 500,000 residents and covers approximately 370 square miles (Hart Crowser, 2009). Therefore, cleanup levels established for groundwater at the Site were determined using the most conservative state and federal values available, including WAC 173-200 Table 1 and federal Maximum Contaminant Levels (MCLs). Method B cleanup levels were also developed for compounds with published reference dose (RfD) values. Cleanup levels were not developed for the groundwater quality indicator compounds such as calcium, magnesium, potassium, and sodium, which are present in the groundwater at concentrations consistent with the regional groundwater (Spokane County Water Resources 2010 Quarterly Groundwater Monitoring Results). Proposed cleanup levels for groundwater are included in the summary of groundwater sample results presented on Table 5.

Concentrations of Site COCs in groundwater are well below the proposed cleanup levels and all water quality parameters are consistent with concentrations observed in the regional groundwater. Based on these results, groundwater at the Site is not impacted by the overlying soil/stockpile materials and groundwater protection is not considered in the development of the soil cleanup levels.

3.2.4 Ecological Cleanup Levels

Cleanup levels protective of ecological receptors provided on Table 749-3 of the MTCA Cleanup Regulation were considered during the cleanup level development process. The published background value for aluminum was selected as the appropriate cleanup level for aluminum, regardless of the ecological receptor. A literature search was conducted in accordance with WAC 173-340-7493(4) to find soil biota indicator soil concentrations for barium and silver and wildlife indicator soil concentrations for silver. Literature reviews published by the EPA and other governmental entities were searched for relevant values. Additionally, primary literature articles were searched using such online publisher database sources as ScienceDirect and Wiley Online Library. The results of the literature search are presented in Appendix E.

Ecological cleanup levels established for unrestricted and industrial land use are presented on Table 7 and Table 8, respectively.

3.2.5 Soil Cleanup Levels

Cleanup levels for soils considered the following sources:

- MTCA Method A Soil Cleanup Levels for Unrestricted Land Use (WAC 173-340, Table 740-1)
- MTCA Method B Soil Cleanup Levels for unrestricted land use (unmodified) using Equation 740-4 (WAC 173-340-740)
- MTCA Method C Soil Cleanup Levels for industrial land use (unmodified) using Equation 745-4 (WAC 173-340-745)
- MTCA Ecological Indicator Soil Concentrations for Protection of Terrestrial Plants and Animals (Table 749-3)
- Natural Background Metals Concentrations in Washington State (Ecology, 1994)

The long history of aluminum production in the region has resulted in numerous investigations at similar sites and a well developed understanding of the COCs likely to be present. As indicated by Ecology in Exhibit B of the Agreed Order, the COCs investigated at the Site are metals and inorganic chemicals, including chloride, fluoride, and nitrogen compounds, which are concerns for groundwater quality. Soil cleanup levels are based on applicable laws and tables provided in the MTCA and WAC guidance, which are further based on the governing risk assessment equations which use the toxicity of hazardous compounds to determine risk. The conventional COCs associated with aluminum dross sites (chloride, fluoride, and nitrogen compounds) are generally not considered hazardous or toxic, and therefore do not have established risk based cleanup levels for soils.

As indicated in Section 3.2.3, soil COC concentrations are protective of underlying groundwater and Method A cleanup levels are not considered in cleanup level development with the exception of lead, which does not have a calculated value. Since the Site includes properties controlled by a range of stakeholders with different interests, cleanup levels for unrestricted and industrial land use were developed. The unrestricted cleanup levels are proposed as the applicable cleanup levels for the Site, with the industrial cleanup levels reserved for use on the UPRR or Pentzer portions of the Site if unrestricted cleanup levels cannot be met in these areas. Environmental covenants may not be necessary if unrestricted cleanup levels can be met on UPRR or Pentzer property after cleanup of stockpile material.

Cleanup levels for unrestricted land use and protectiveness of the direct contact and ingestion pathways were calculated using the standard Method B formula values provided in Equation 740-4 of WAC 173-340-740. Cleanup levels for industrial land use and protectiveness of the direct contact and ingestion

pathway were calculated using the standard Method C formula values provided in Equation 745-4 of WAC 713-340-745. A summary of the Method B and Method C cleanup level calculations are presented on Table 6.

The lowest of the Method B (or Method C), and ecological receptor cleanup levels was selected as the preliminary cleanup level. The preliminary cleanup levels were compared to the published natural background values and the highest values chosen as the proposed cleanup levels. The soil cleanup levels proposed for the Site are the most stringent of the potentially applicable cleanup levels and include calculated Method B (or Method C for industrial land use) values for protection of human health, concentrations protective of ecological receptors, and published background values. In all cases except aluminum the cleanup levels protective of ecological receptors were the most stringent values and the calculated Method B or Method C values were not relevant. The proposed soil cleanup levels developed using this approach are presented on Table 7 (unrestricted land use) and Table 8 (industrial land use).

3.2.6 Terrestrial Ecological Evaluation Process

A terrestrial ecological evaluation was performed at the Site in a step-wise manner consistent with the guidance provided by MTCA. The initial steps of the evaluation included a review of the primary exclusion criteria and a determination of simple versus site-specific evaluation requirements in the event primary exclusion criteria were not met. It was determined that the Site meets Primary Exclusion Criteria No. 2 and a simple or site-specific terrestrial ecological evaluation was not appropriate for the Site (see below).

The primary exclusions provided in WAC 173-340-7491 were reviewed to determine if the Site has the potential to pose risks to wildlife or plants, or affect the soil biota. If conditions at the Site meet any one of the primary exclusions, then the Site is not considered to pose risks or affect soil biota and the ecological evaluation is completed.

The first primary exclusion considers contaminant analysis. If all contaminated soil is known to be deeper than the point of compliance, then no further ecological evaluation is required. For the purposes of this evaluation, “contaminated soil” is considered to be soil that contains concentrations of a hazardous substance greater than natural background levels, per WAC 173-340-200. The future land use is assumed to be industrial and the soil point of compliance for all possible land uses is from the ground surface to 15 feet below ground surface. Site investigation results have demonstrated that concentrations of hazardous substances above background concentrations exist between the ground surface to depths below the point of compliance. Therefore, current Site conditions do not meet the first primary exclusion. Depending on the remedial alternative selected for the Site, this exclusion may be applicable.

The second primary exclusion considers incomplete pathways in exposure pathway analysis. If contaminated soil is, or will be, covered by physical barriers that prevent exposure to wildlife and plants, then no further ecological evaluation is required. Currently, the stockpile and surrounding soils are not covered by physical barriers. However, remedial actions considered for the Site will include removal or containment of stockpile material, and soil containing stockpile material, at the Site. Consolidation, removal and/or capping of materials at the Site will eliminate the exposure pathway for Site COCs. Therefore, the Site will meet the second primary exclusion and the ecological evaluation is complete.

3.3 Nature and Extent of Chemicals of Concern

The nature and extent of COCs at the Site was evaluated through the collection of stockpile, soil, and groundwater samples for analysis of potential Site COCs and the comparison of the concentrations of potential Site COCs in those samples to cleanup levels developed for those COCs. The selection of media to be collected and analytes to be measured was based on the preliminary conceptual Site model presented in the Ecology-approved RI/FS Work Plan. Based on the data collected during the RI, the activities set forth in the RI/FS Work Plan were sufficient to characterize the nature and extent of COCs at the Site. A revised CSM has been prepared based on the results of the RI and is presented in Section 3.5.

3.3.1 Stockpile Material

Historical information and current Ecology records reviewed for the RI/FS indicate that aluminum dross obtained from surrounding industries was processed and stockpiled at the Site.

Following removal of black dross from the Site by UPRR in 1986, IWC continued dross processing operations at the Site. An October 26, 1987 Ecology memo documenting a site inspection indicates that IWC used low-salt dross in its process and stockpiled dross from the Hillyard/Wellesley ARC Site at the Site. The stockpile at this time is described as mostly low-salt dross, with some high-salt dross present. According to the Ecology memo, IWC produced aluminum sulfate for use in cement at the Site. According to UPRR lease records, the purpose of the IWC leases was for manufacturing and distribution of aluminum sulfate and oxides (from aluminum dross), and storage and handling of sulfuric acid. A description of the process and materials related to the IWC operations was included in an engineering report obtained by UPRR during a file review of IWC records conducted in 2006. According to a brief summary of the report, the engineering report indicates that aluminum dross was reacted with sulfuric acid to produce aluminum sulfate and non-reacted solids (aluminum, magnesium, and silica oxides). The solids generated during this process were stockpiled at the Site and likely constitute a large portion of the overall stockpile. According to the report, the approximate distribution of oxides in the solids is 74% aluminum oxide, 10% silica oxide, and 10% magnesium oxide. The solids are described as refractory under all expected leaching conditions and poses an insignificant threat to the environment when stockpiled. Therefore, based on the available historical information, the existing stockpile is a mixture of aluminum sulfate, un-reacted solids (metal oxides), and possibly aluminum dross. The term “dross” has been used to characterize the stockpile material in much of the historical and recent Site documents; use of this term does not imply that the entire stockpile is actually composed of aluminum dross.

During the RI, stockpile material was collected and analyzed for the Site COCs. There are two visibly distinct materials that make up the existing stockpile: a grey material on the west side of the stockpile, and a tan material on the east side of the stockpile. Samples of the grey material were collected from the surface of the stockpile and from within the stockpile. A sample of the tan material was collected from the surface of the stockpile due to the inability to access the steeper parts of the stockpile with the drilling rig. A summary of the characteristics of the materials is presented in the table below; analytical results from samples collected from the different areas of the stockpile are summarized in Table 3:

Stockpile Material Characteristics

Characteristic	Grey Stockpile Material (West side)	Tan Material (East side)
Sample IDs	DB-1, DB-2, Grey Dross	Tan Dross
Color	Light grey (dry) to dark grey (wet)	Tan – light brown
Texture	Consistently fine grained	Fine grained with gravel/cobbles
Aluminum	~5% (42,000 – 58,000 mg/kg)	Not detected (<9.9 mg/kg)

Chromium	12-45 mg/kg	210 mg/kg
Copper	97-340 mg/kg	1700 mg/kg
Mercury	4.6-24 mg/kg	0.38 mg/kg
Chloride	40.1 – 370 mg/kg	8650 mg/kg
Sulfate	9370 – 30000 mg/kg	6160 mg/kg
Nitrate-nitrogen	Not detected – 129 mg/kg	914 mg/kg

A sample of dross from the ARC Site was analyzed in 1983 at the request of Ecology, results of this analysis is provided in the February 2008 Site Hazard Assessment prepared by Ecology. A comparison of the ARC dross material and the current stockpile material is provided below:

Stockpile Material Comparison

Compound	1983 ARC Dross Sample	2010 Grey Dross (surface sample)	2010 Tan Dross (surface sample)
Aluminum	21.4 %	5.8 %	<0.00099 %
Sodium	14.15 %	0.41 %	0.98 %
Potassium	13.35 %	0.083 %	0.63 %
Chloride	43 %	0.0076 %	0.87 %

The grey stockpile material appears to be aluminum sulfate or related material, with high aluminum and sulfate content and low chloride content. Aluminum was not detected in the tan material on the eastern side of the stockpile (detection limit 9.9 mg/Kg), suggesting that this material is not dross feedstock material (reportedly brought to the Site from the Hillyard/Wellesley Site). The tan material may be processing residue from the production of aluminum sulfate (metal oxides) considering the texture and volume of the material. The tan material may have a dross component however, the concentration of salt compounds are significantly lower than that in the dross material present at the Site during aluminum recycling activities (and there is no evidence of this process being used at the Site after 1986). The low concentrations of salt compounds in the stockpile material are also inconsistent with chemical data from dross at other dross sites.

Several factors may have influenced the stockpile sampling results, including the sample location and analytical methods. Historical records and aerial photos indicate that the stockpile has remained relatively unchanged since the late 1990's and has been subject to weathering. Exposure to precipitation has potentially leached out soluble materials, including salts, from the stockpile. Similarly, the composition of the stockpile may vary with depth as the influence of the exposure decreases from the surface. The US EPA method for analysis of metals utilizes acid digestion for sample preparation prior to analysis; however, metal oxides are less amenable to this digestion method and the results may be low. As indicated previously, the un-reacted solids (metal oxides) from the aluminum sulfate manufacturing process are likely present in the stockpile. The low aluminum results in the tan material suggest that this material is not aluminum dross but could potentially be the un-reacted solids from aluminum sulfate production.

3.3.1.1 Waste Characterization of Stockpile Material

The stockpile material was evaluated for waste classification to guide the potential remedial action selected for the Site. The stockpile material is not exempted from Ecology dangerous waste (DW) regulations, and therefore the regulations in WAC 173-303 were reviewed. WAC 173-303 provides four methods that are applied sequentially to determine whether or not a waste is a dangerous waste:

1. Is the waste a discarded chemical product listed in 173-303-081?
2. Is the waste from a listed dangerous waste source in 173-303-082?
3. Does the waste exhibit dangerous waste characteristics in 173-303-090 (ignitability, corrosivity, reactivity, or toxicity)?
4. Does the waste meet any dangerous waste criteria in 173-303-100?

The stockpile material is not a discarded chemical product listed in WAC 173-303-081. The stockpile material is not a listed dangerous waste source in 173-303-082. The stockpile material does not exhibit waste characteristics such as ignitability, corrosivity or reactivity.

A bioassay test was performed on the two types of stockpile material to determine whether the material should be considered a Dangerous Waste. The fish bioassay was performed in accordance with WAC 173-303-110(3) and considered concentrations of the waste at 100mg/L. Bioassay results indicate that the two types of stockpile material, grey and tan, do not meet the definition of a dangerous waste per the dangerous waste regulations in WAC 173-303. The results of the bioassay tests are included in Appendix C.

3.3.2 Background Soil Samples

Ten soil samples were collected from the background area north of the Site (Figure 3) to evaluate naturally occurring concentrations of Site COCs. Analytical results for the background samples are presented on Table 4 and summarized below.

Summary of Background Results

Compound	Detected Values (Min) (mg/kg)¹	Detected Values (Max) (mg/kg)¹	Average Concentration (mg/kg)	Representative Background Concentration (mg/kg)²	Published Background Value (mg/kg)³
Aluminum	6600	18000	12030	18664	21400
Arsenic	3.2	9	5.84	8.57	9
Barium	38	140	84.7	134.13	NP
Chromium	6.9	14	11.16	13.45	18
Copper	11	47	21.7	38.22	22
Lead	7.8	13	10.54	13.17	15
Mercury	0.0055	0.02	0.0108	Not Calculated	0.02
Chloride	0.41	1.49	0.88	Not Calculated	NP
Fluoride	0.64	5.84	2.31	Not Calculated	NP
Sulfate	3.94	9.24	5.37	Not Calculated	NP

Note: ¹Results include estimated values, non-detect values were not included. ²Representative Background Concentration calculated using MTCAsat97 spreadsheet. ³Published values from Ecology, 1994. NP = Not published.

Background soil concentrations published in *Natural Background Soils Metals Concentrations in Washington State* (Ecology, 1994) were generally equivalent to site-specific background concentrations. Therefore, the Ecology values will be applied to the cleanup level development process when available.

3.3.3 Soil

As discussed in Section 3.1.2, 28 soil samples were collected at the Site to evaluate the concentrations of COCs originating from the stockpile material. Potential transport mechanisms include leaching of

stockpile material into underlying soils and transport of stockpile material to soils via surface water runoff from the stockpile.

Under Stockpile

Soil samples were collected from beneath the stockpile at three locations, DB-1, DB-2, and MW-2, at varying depth intervals to a maximum of 15-ft below the natural ground surface. At locations DB-1 and DB-2, soil samples were collected just below the base of the stockpile and then to a depth of 15 feet below the base of the stockpile. As summarized on Table 2, several COCs associated with the stockpiled material such as aluminum, chromium, and copper were observed in underlying soil at concentrations exceeding the potential cleanup levels (sample DB-1(4-5)). The COC concentrations generally decrease with depth below the stockpile.

Outside of Stockpile

Soil samples were collected in areas outside of the stockpile to evaluate the concentrations of COCs from surface water runoff of stockpile material. Some soil samples collected from outside of the stockpile area had visible evidence of grey stockpile residue present. Sample locations were selected at the base of the sloped areas around the stockpile and further down slope towards the Spokane River.

In general, the less soluble COCs were present at concentrations greater than background in surface soil samples. The relative concentrations of COCs observed in surface soils were consistent with the stockpile material located upgradient. As an example, SB-1, located approximately 120 feet south east of the tan dross area, had very low aluminum concentrations while copper is elevated, consistent with the characteristics of the tan dross material. Where COC concentrations above background were measured, concentrations decrease significantly with depth. SB-2 was located within 10 feet of the edge of the stockpile and in an area where runoff from the stockpile has occurred. COC concentrations for the surface soil sample from this location reflect the presence of stockpile material in the soil at this location.

Due to the steep terrain adjacent to the Site towards the Spokane River, it was not practical to advance soil borings west of borings SB-3 and MW-3. A surface soil sample, SB-4 (0-1), was collected from a flat area at the base of the slope and near the Spokane River. The sample was collected from just below the ground surface at a depth of approximately 6-8 inches. Concentrations of COCs observed in sample SB-4 are generally consistent with COC concentrations observed in background samples. Based on the results of this sample, surface water and sediment in the Spokane River are not interpreted to be impacted due to runoff from the stockpiled material.

3.3.4 Groundwater

Groundwater samples were collected from the three monitoring wells and were analyzed for the Site COCs in accordance with the RI/FS Work Plan. Groundwater samples were initially collected in October 2010 following well installation, and again in December 2010. Groundwater data from the two events were consistent with concentrations of analyzed compounds below their respective MTCA drinking water quality standards (Table 5). The analytical results for groundwater samples at upgradient well MW-1 were similar to the results observed at the other two monitoring wells. Analytical laboratory results for groundwater sampling are provided in Appendix C.

3.3.5 Summary of Nature and Extent of COCs and Areas Requiring Cleanup

COC concentrations in soil and groundwater at the Site were compared to the proposed cleanup levels developed during the RI (Tables 2 and 5). Site soil concentrations were compared to the cleanup level developed for each COC per Section 3.2. Concentrations of COCs in groundwater samples were below the cleanup levels developed for groundwater per Section 3.2.3 and therefore no further action is required

for Site groundwater. Concentrations of Site COCs were detected in soils at the Site at concentrations exceeding the proposed cleanup levels developed in Section 3.2.5. Based on the soil and groundwater sampling results, sediment and surface water near the Site are not impacted by Site COCs and no further action is required for these media. The areas of the Site requiring cleanup are the stockpile, and those areas with soil showing evidence of impacts from the stockpile material, either through chemical analysis or visual observation (i.e., residue on ground surface). The spatial extent of the soil areas requiring cleanup, based on the proposed cleanup levels and cleanup level exceedances presented on Table 2, is shown on Figure 6 and is the basis for the remedial alternatives proposed in the Feasibility Study.

3.3.6 Soil

Deposition of stockpile material, and dissolution of stockpile constituents in soil beneath the stockpile and adjacent to the stockpile, represent the only mechanisms for transport of COCs to soil at the Site. Stockpile material has been deposited on surrounding Site soils (primarily to the south and west) due to surface water runoff from the stockpile, erosion, and dispersion from vehicle traffic. Flat areas adjacent to the stockpile on the west, and steep slopes adjacent to the stockpile on the south, have a visible layer of stockpile material. Concentrations of Site COCs decrease with depth below the ground surface (0-1 foot), suggesting that insoluble stockpile materials remain at the ground surface after deposition from runoff. In almost all cases, COC concentrations decrease to the representative background concentrations within 15 feet bgs. Soils located immediately below the stockpile typically have COC compositions consistent with the material in the stockpile above

3.3.7 Groundwater

Concentrations of COCs measured in groundwater samples underlying the Site are consistent with natural groundwater quality found in the Spokane aquifer. According to Molenaar, naturally occurring chloride concentrations in the Spokane Aquifer show “consistency of concentrations of 2 mg/l or less throughout most of the aquifer” (Molenaar, 1988). Chloride concentrations observed in groundwater at the Site do not exceed 2.62 mg/l (see Table 5). TCLP leachate tests conducted on the stockpiled material indicate that metals present in the material are minimally soluble (see Table 9). As indicated in Section 3.3.1, the stockpile material does not exhibit many of the characteristics normally associated with white or black dross, including the leaching of nitrate and salt compounds. The low concentrations of these compounds in Site groundwater samples demonstrates that the stockpile material contains generally insoluble forms of these compounds.

The stockpile material at the UPRR Trentwood Site has been in place for over 14 years, is exposed directly to precipitation, is in direct contact with the underlying sand/gravel soils, and is approximately 50-60 ft above the underlying aquifer. These are conditions similar to aluminum dross sites with observed groundwater contamination. However, analysis of groundwater data at the Site (upgradient, directly below, and at the downgradient edge of the stockpile) indicates that groundwater below the Site is not impacted by Site COCs.

3.3.8 Surface Water and Sediment

Results of soil and groundwater analyses indicate that stockpile constituents are not likely to have been transported to adjacent surface water or sediments. Concentrations of COCs measured in a soil sample collected near the Spokane River bank, and near an area of stockpile material deposition from surface water runoff, were consistent with concentrations of COCs in background samples collected during the RI. This indicates that there has not been an impact to surface water and sediment via transport of stockpile material to the Spokane River. The absence of groundwater impacts as demonstrated by

concentrations of COCs in groundwater samples collected at the Site also indicates that there is no transport of COCs in groundwater to the Spokane River.

3.3.9 Air

Based on Site observations, the stockpile does not appear to be susceptible to migration of particulate matter with COCs due to wind. Transport and deposition of stockpile material appears to be limited to surface water runoff from the stockpile. However, due to the fine grained nature of the material, this potential transport mechanism is included in the conceptual model as a potentially complete exposure pathway.

3.3.10 Ammonia

Ammonia odors common to other dross stockpiles/sites were not observed during the RI.

3.4 **Conceptual Site Model**

Complete exposure pathways contain three elements: (1) a source of contamination; (2) a transport mechanism to allow exposure to potential receptors; and (3) an exposure route (e.g., soil ingestion) through which a receptor is exposed to COCs.

3.4.1 Sources of Hazardous Substances

The potential or suspected source of hazardous substances at the Site is the material that is currently contained in the large stockpile at the Site, or was previously stored at the Site. Historical records and photos indicate that the current stockpiled material has been in place at the Site since 1987, and has been undisturbed since the late 1990s. The stockpile has developed a “crust” due to weathering and soluble components of the stockpile may have leached out over time. Historical information regarding operations at the Site, and analytical data obtained during the RI, suggest that the stockpile contains two general types of material as discussed in Section 3.3.1. The first material is grey in color and makes up the western portion of the stockpile (extending onto adjacent property and potential source for any sediment or surface water impacts). This grey material is characterized by an aluminum content of approximately 5%, and sulfate content of 1-3%, is uniformly fine grained and is similar in character to aluminum sulfate. The second material is tan in color, comprises the bulk of the stockpile (the east side), and is characterized by low aluminum content, higher chloride and copper content (relative to the grey material), and higher nitrate content. The low aluminum content suggests that the tan material is not aluminum dross. Information about historical Site activities suggests that the tan material may be comprised of un-reacted metal oxides generated as a byproduct of aluminum sulfate production.

3.4.2 Transport Pathways

As described in the RI/FS Work Plan, the potentially contaminated media at the Site include soil, groundwater, surface water, sediment, and air. The potential mechanisms for transport of COCs to environmental media at the Site are as follows:

- 1) Soil beneath and adjacent to the stockpile is potentially impacted by the leaching of COCs from the stockpile by precipitation or by stormwater runoff from the stockpile.
- 2) Groundwater is potentially impacted by COCs from the stockpile via leaching of infiltrating water through the unsaturated zone to the water table.
- 3) Surface water in the Spokane River may be potentially impacted by discharge of potentially contaminated groundwater or stormwater runoff.

- 4) Sediment associated with the Spokane River may be potentially impacted by discharge of potentially contaminated groundwater or stormwater runoff.
- 5) Due to the fine-grained nature of the stockpile material, some contaminants may be transferred from the stockpile to air.
- 6) Aluminum dross may react with water to evolve ammonia vapor to air or ammonia to groundwater.

3.4.3 Exposure Pathways and Potential Receptors

Exposure pathways deemed to be incomplete at the Site are not considered (groundwater, sediment, surface water, vapor intrusion). Based on the results of the RI, potentially complete exposure pathways and receptors include:

Human Health

- Dermal contact with stockpile material – current Site workers, trespassers, construction worker
- Dermal contact with surface water runoff from the stockpile – current Site workers, trespassers, construction worker, adjacent off-site property user

Ecological

- Direct contact with stockpile material, and surface water runoff from the stockpile material – flora and fauna
- Ingestion of stockpile material and surface water runoff – small mammals and birds
- Ingestion of plants or fauna that have been impacted by the above two mechanisms – predatory small mammals and birds

Each of these pathways was evaluated using the analytical data and other information collected during the RI, as described in the following sections.

3.5 Discussion and Recommendations

The results of the RI sufficiently address the data requirements and objectives as stated in the RI/FS Work Plan. Data collected during the RI is adequate to characterize the Site for the purpose of developing and evaluating remedial alternatives in the FS. Cleanup actions at the Site will address the stockpile material. For the purposes of this discussion and the following FS, the term “stockpile” or “stockpile material” will include the main stockpile itself and any stockpile material that has run off or been eroded from the main stockpile and is visible on the ground surface. The stockpile has been present in its current form since at least the late 1990s, indicating that the stockpile is stable. Based on a review of historical records, knowledge of processing activities at the Site, analytical data, and direct observations, the stockpile material does not appear to be aluminum dross and does not present the risks normally associated with aluminum dross material. Security fencing and silt fencing has been installed at the Site as an interim measure to limit exposure and control erosion from the stockpile.

4.0 FEASIBILITY STUDY

4.1 Definition of the Remedial Action Objective

The remedial action objective (RAO) for the Site is based on the need to address the stockpile material, which is a solid waste and contains hazardous substances. The specific RAO for the Site is to:

- 1) Eliminate the potential for ingestion or direct contact of stockpile material or soil mixed with stockpile material, or stormwater runoff from the stockpile, by human and ecological receptors.

4.2 Applicable, Relevant, and Appropriate Requirements (ARARs) Analysis

MTCA requires that all cleanup actions considered at the Site comply with applicable state and federal laws as required in WAC 173-340-360(2). State and federal laws are defined as “legally applicable requirements” and “relevant and appropriate requirements” (ARARs).

The potential ARARs for the cleanup are described in the following sections.

4.2.1 Chemical-Specific ARARs

Chemical-specific ARARs refer to the values established to ensure protection of human health and the environment and generally indicate the amount or concentration of a compound that may remain at the Site in a particular media. The chemical-specific ARARs considered for the Site are the cleanup levels established for soil and groundwater in accordance with MTCA WAC 173-340-740, -745, and -747.

4.2.2 Action-Specific ARARs

Action-specific ARARs refer to restrictions placed on activities or technologies used in conjunction with hazardous materials. Action-specific ARARs may include regulations that establish the design, construction, and operating characteristics of remedial technologies, remedial actions, and remediation equipment. Potential action-specific ARARs were considered based on the remedial alternatives selected and the preferred remedial alternatives in Section 4.8. Action-specific ARARs considered for the remedial actions include the requirements of the Washington Solid Waste Handling Standards (WAC 173-350) and the requirements of the Spokane Regional Clean Air Agency (SRCAA) in compliance with the Washington Clean Air Act. Potential remedial actions may require permitting for grading from the City of Spokane Valley. Other Action-Specific ARARs include compliance with the State Environmental Policy Act (SEPA) and may include permitting requirements of the Spokane Regional Health District if a new, Limited Purpose Landfill is constructed. In accordance with Section VIII, Paragraph P of the Agreed Order, all actions carried out pursuant to the Agreed Order shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits, except as provided in RCW 70.105D.090. For example, if an in-situ action is chosen as the remedial alternative then the substantive portions of the local permitting requirements will be adhered to, however, the action will be exempt from local government permits or approvals. ARARs specific to certain alternatives are discussed in more detail in the following sections.

4.2.3 Location-Specific ARARs

ARARs that are related to land use or geographic concerns are considered location-specific ARARs. These restrictions may be relevant due to the presence of wildlife habitat, flood plains, water bodies or similar geographical or physical characteristics. Location-specific ARARs considered for cleanup actions at the Site include the requirements for ecological assessment in accordance with MTCA WAC 173-340-

7490 through -7494 and WAC 173-340-740 for the consideration of land use. The Site is located above a Sole-Source Aquifer and remedial actions such as relocating the stockpile and capping it on adjacent UPRR property (discussed in more detail below) may be subject to SEPA and MTCA requirements related to construction of a new landfill, e.g., completion of a SEPA checklist (WAC 197-11-960) and Ecology checklist for Review of Solid Waste Permit Application (WAC 173-350-400).

4.2.4 Other Considerations

Cleanup actions conducted at the Site will be performed in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits, except as provided in RCW Section 70.105D.090. The federal, state, local, and permit requirements that may be applicable to this Site are those included in the ARARs listed above. Under RCW Section 70.105D.090, remedial actions conducted under a Consent Decree, Order, or Agreed Order are exempt from the procedural requirements of Chapters 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 RCW, as well as the procedural requirements of any laws requiring or authorizing local government permits or approvals for the remedial action. However, the substantive provisions of Chapters 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 RCW, and the substantive provisions of any laws requiring or authorizing local government permits or approvals will be complied with. During the cleanup actions, UPRR and/or its contractors will continue to evaluate the need for additional permits or approvals in consultation with Ecology. Ecology will be the lead agency for addressing the aforementioned provisions, including any SEPA-specific requirements.

Following identification of the preferred remedial alternative, additional ARARs may be identified as part of the regulatory and public review process.

4.3 Definition of Cleanup Action Areas

Per the RAO developed for the Site, the cleanup action areas consist of the stockpile and the areas where stockpile material has come to be located. These areas are shown on Figure 6.

4.4 Identification and Initial Screening of Remedial Technologies

The following remedial technologies were considered for achieving the RAO for the Site.

- No action
- Capping (on-site containment)
- Relocation of stockpile and capping (containment) on adjacent UPRR property (Limited Purpose Landfill)
- Excavation of stockpile and off-site disposal at an authorized commercial landfill
- Recycling or re-use of the stockpile material.

4.4.1 No Action

No action as a remedial technology involves no further actions at the Site (i.e., no implementation of a remedial technology, monitoring, or maintenance).

4.4.2 Capping (In-Situ Containment)

Capping consists of the covering of the stockpile and stockpile material in its current location with a physical barrier. The cap could consist of an exposed geomembrane cover (EGC), a multimedia cap (a combination of a liner, sand, clay, and vegetative cover), or other type of cap (concrete, asphalt, crushed rock).

4.4.3 Relocation and Capping at Adjacent UPRR Property (Limited Purpose Landfill)

This alternative would entail relocating the stockpile material to an adjacent property and capping using one of the methods described in Section 4.4.2. The relocation and capping of the stockpile material would be considered a Limited Purpose Landfill (WAC 173-350-400).

4.4.4 Excavation and Offsite Disposal at an authorized Commercial Landfill

This technology consists of excavation of the stockpile and transport to an off-site facility for disposal. This technology considers transport by truck and/or rail.

4.4.5 Recycling or Re-Use of the Stockpile Material

This technology considers the potential use of the material in industrial processes or recycling. For instance, dross can be further recycled in a secondary process similar to the process used by ARC previously at the Site. The material could also be used as a component of concrete or used as road base.

4.4.6 Retained Technologies

The following technologies were retained for subsequent evaluation in the FS:

- 1) Capping (In-Situ Containment)
- 2) Relocation and Capping on Adjacent UPRR Property in a Limited Purpose Landfill
- 3) Excavation and Off-Site Disposal at an authorized Commercial Landfill

The no action alternative was eliminated from further evaluation since it would not satisfy the RAO. The stockpile is a solid waste that contains hazardous substances and must be addressed through a remedial action.

The recycling or re-use alternative has been eliminated from further evaluation in the FS. The material was not considered suitable for recycling or re-use according to the companies and organizations contacted during this study. However, if an acceptable use is identified in the future, this option would be considered since it would logically result in removal of the stockpile and therefore meet the RAO.

4.5 Preliminary Remedial Alternatives

A series of remedial alternatives were developed that include the retained technologies and also considered the other factors related to each technology (i.e., the various types of cap and the two primary locations for the capped stockpile/stockpile material). These alternatives are described below.

4.5.1 Capping - EGC

Under this option, stockpile material from the adjacent WSDOT and Parks properties would be consolidated into the main stockpile. The stockpile would be covered with an EGC comprised of 60 mil (minimum) high-density polyethylene (HDPE). Capping the stockpile with a synthetic membrane will prevent infiltration through the waste by precipitation, will prevent transport of the material via surface water runoff and wind, and prevent direct contact with the material. This option would meet the RAO.

4.5.2 Capping - Multimedia Cap

Stockpile material from the adjacent WSDOT and Parks properties would be consolidated into the main stockpile. A traditional engineered cap consisting of a HDPE liner and low-permeability soil would be installed on the stockpile. This option will prevent infiltration through the waste by precipitation, will prevent transport of the material via surface water runoff and wind, and prevent direct contact with the material. This option would meet the RAO.

4.5.3 Relocation and Capping on Adjacent UPRR Property in Limited Purpose Landfill - EGC Cap

The stockpile material would be moved to an adjacent contiguous property owned by UPRR as part of the remedial activities. Stockpile material would be placed in a low or open area and then capped. Under this option, the stockpile (and consolidated soils) would be transported to the UPRR property located north of the railroad tracks (see Figure 6), and capped with the EGC described above. This option would meet the RAO.

4.5.4 Relocation and Capping on Adjacent UPRR Property in Limited Purpose Landfill - Multimedia Cap

The stockpile would be relocated to an adjacent contiguous UPRR property (see Figure 6) and capped using a traditional engineered cap consisting of a HDPE liner and low-permeability soil. This option will prevent infiltration through the waste by precipitation, will prevent transport of the material via surface water runoff and wind, and prevent direct contact with the material. This option would meet the RAO.

4.5.5 Excavation and Off-Site Disposal at an Authorized Commercial Landfill

Options exist for removal of the stockpile material to an off-site landfill. The following landfilling options were considered:

- Graham Road Landfill, Spokane, WA – transport by truck
- Columbia Ridge Landfill, Arlington, OR – transport by rail
- ECDC Landfill, East Carbon, UT – transport by rail

Removal and disposal of stockpile material in an off-site disposal facility would meet the RAO.

4.6 Retained Remedial Alternatives

Considering the range of remedial alternatives outlined above, the following alternatives were developed to meet the applicable solid waste and MTCA requirements and RAOs. These alternatives were developed to be protective of human health and the environment, comply with waste regulations, and comply with state and federal laws. The alternatives presented below are based on the stockpile material (and associated impacted soil) not being considered a dangerous waste. The Site includes properties owned by four separate entities with varying ability or willingness to record environmental covenants or install institutional controls. Consequently, unrestricted and industrial land use is considered in this analysis and may be combined to implement the most appropriate remedial alternative. An environmental covenant will be required for areas of the Site if industrial land use cleanup criteria are used to establish the cleanup levels.

Remedial Alternative 1 – In-situ Capping of Stockpile.

Following consolidation of stockpile material from the adjacent WSDOT and Parks properties into the main stockpile, the stockpile at its current location would be graded, shaped, and compacted to accept a

cap. Capping would prevent precipitation from infiltrating through the waste and prevent surface runoff from carrying waste material off of the Site. The cap would also prevent airborne transport of COCs and prevent direct contact with the waste material. Institutional controls would be implemented in conjunction with the cap, including access controls and signage indicating the presence of the cap and prohibiting subsurface disturbance.

Final design of the capped stockpile is dependent on the area available for construction. Limiting the extent of the cap to the UPRR property is not feasible due to steep slopes that would be required to build the cap in the small area. Therefore, Alternative 1 requires the use of Pentzer property and the cooperation of Pentzer.

Capping the stockpile in its current configuration on UPRR and Pentzer properties would result in a capped stockpile approximately 32 feet high with side slopes of 33% (3:1) or less. The cap proposed for this alternative consists of a flexible membrane layer (FML) covered by a soil layer for protection and drainage. A preliminary design for this alternative is presented on Figure 7. The extent of the cap under this option would not be within 100 ft of properties owned by parties other than UPRR and Pentzer, the required setback distance for landfills in industrial settings.

4.6.1 Remedial Alternative 2 – Relocation and Capping on Adjacent UPRR Property in Limited Purpose Landfill

Under Remedial Alternative 2, the stockpile material would be transported to an adjacent contiguous UPRR property located to the north of the Site for placement and capping. The proposed location for implementation of this alternative is provided on Figure 6.

Moving the material to this location alleviates many of the engineering issues associated with in-situ capping. Under this alternative, the existing excavation on the proposed landfill site (former gravel pit), would be further excavated to accept roughly half of the current stockpile volume; the remaining material would be placed above grade, graded, and capped. A preliminary design of the landfill (Figure 8) indicates that the above-grade portion of the landfill would be approximately 35 feet high with side slopes of 25% (4:1) or less. Similar to the in-situ capping option, the cap construction proposed for this alternative is a FML covered by a protective/drainage layer of soil. The extent of the cap under this option would not be within 100 ft of adjacent non-UPRR property boundaries, the required setback distance for landfills in industrial settings. The current stockpile location would be restored to usable condition for future commercial activities. Institutional controls would be implemented for the capped area, including access controls (fencing) and signage indicating the presence of the cap and prohibiting subsurface disturbance. Ongoing monitoring to ensure the integrity of the cap would be required with this option.

Relocation of the stockpile material from its current location to the adjacent UPRR property would constitute the creation of a landfill. Implementation of this alternative may require permitting as a Limited Purpose Landfill as described in WAC 173-350-400 and adherence to the Spokane County 2009 Comprehensive Solid Waste Management Plan. An Environmental Impact Statement (EIS) will be required if this alternative is selected. Construction of a new landfill in the City of Spokane Valley would require submittal of a SEPA checklist and may require a Land Disturbance Permit. The regulatory language for the permit requirements (Spokane Regional Health District) is broad to accommodate the wide range of materials and conditions that fall under this type of landfill permit. The key elements of the landfill permitting process are discussed below:

Location Requirements – The proposed landfill location is believed to comply with the location requirements of WAC 173-350-400(2). The location is within the City of Spokane Valley and will be subject to any substantive requirements under the City’s ordinances or regulations, including the requirement that the landfill be located in an industrial zone.

Design Standards – The landfill design will be based on the nature of the stockpile material, the physical setting of the landfill, and the operational goal of the landfill (i.e., single use). Data collected during the Remedial Investigation at the Site has demonstrated that the stockpile material does not readily leach toxic compounds (see Table 9 for TCLP results). Groundwater underlying the existing exposed stockpile does not show indications of impacts related to leaching of stockpile materials over the preceding 20 year period that the stockpile has been in place. Consequently, a leachate collection system, and landfill gas collection system would not be proposed for this landfill. The need for a bottom liner will be evaluated in the EIS. The proposed depth of the landfill would not extend to depths within 10 feet of the seasonal high level of ground water; a hydraulic gradient control system would not be proposed for the landfill. Run-on/runoff control of surface water will be managed through construction of appropriate grades and water-retention structures. The landfill is not anticipated to be “active” (other than during creation) and discharge permits for runoff from the landfill are not anticipated to be required. Final closure design will consist of a multi-media cap (geomembrane and soil) that will prevent erosion, exposure of the waste, and minimize infiltration of precipitation through the waste.

Plan of Operation – Since the sole purpose of the landfill will be to contain the specific material located at the Site, and the duration of operations at the landfill will be limited to the brief period of time necessary to transfer the material, a brief Plan of Operation will be prepared to address these activities.

Groundwater Monitoring – The area proposed for emplacement of the stockpile material is located over the Spokane Valley-Rathdrum Prairie aquifer (see Section 2.4.5). Groundwater monitoring wells will be installed in the vicinity of the landfill to ensure that the landfill is stable and the underlying groundwater not impacted. The post-closure monitoring period will be determined based on groundwater data and landfill performance.

Closure Plan – A Closure Plan will be submitted with the permit request that describes the planned closure construction activities, cap construction, and any controls and/or financial assurance required.

Post-closure Plan – A Post-closure Plan describing the long-term maintenance and monitoring activities for the landfill will be prepared. For the purpose of this Feasibility Study, a maintenance and monitoring period of 15 years has been used.

Financial Assurance – UPRR will establish a financial assurance mechanism that meets the requirements of WAC 173-350-600 which demonstrates possession of sufficient assets to guarantee the closure and post-closure cost estimates over the life of the landfill (estimated to be 15 years to demonstrate stability and no further need for post-closure care). If needed, other PLPs would be responsible for establishing their own financial assurance mechanisms to meet these requirements.

4.6.2 Remedial Alternative 3 – Removal of Stockpile Material to Off-Site Authorized Commercial Landfill

Numerous landfills considered for this alternative are served by rail and therefore represent some cost savings in direct transportation costs. However, due to the configuration of rail at the Site, rail cars would have to be loaded from the “wye track” area north of the Site. This would require construction of a temporary rail crossing and transporting the stockpile material across the tracks to the loading area, adding significant cost. An estimated 10 rail gondolas (100 cubic yards each) could be staged/changed

out daily for loading (1,000 cubic yards/day), requiring 70 loading days to remove the stockpile material. Gondolas would be sent in strings of 50 or 60 to the landfills. Loading and gondola switching would have to be coordinated with mainline rail traffic and switching with the adjacent Kemira facility. Dust management may be required for this transportation option.

Waste Management Graham Road Landfill – The Graham Road Landfill is located five miles east of Spokane and represents the closest option for landfill disposal. Disposal at this location would require transport by traditional semi-tractor trailer. Each truck can haul an estimated volume of 30 cubic yards, requiring 2,333 truck loads to remove the material. Based on 50 loads per day (10 trucks, 5 turns/day), removal of the waste material from the Site would require 50 days. The landfill indicates that this material would be useful to them as daily cover for municipal solid waste at the landfill.

Waste Management Columbia Road Landfill – The Columbia Ridge Landfill is located in Arlington, Oregon and is served by rail. Offloading of rail gondolas is performed by elevated backhoes, requiring that gondolas not have internal bracing (may limit gondola capacity).

ECDC Environmental Inc. - The ECDC landfill in Utah is permitted to accept waste from aluminum production operations and is well integrated into the national railroad system. The ECDC facility provides gondola cars for waste transport and provides dispatching and logistical support for transportation. ECDC utilizes a gondola dump for emptying gondolas and can receive material in high sided/braced gondola cars.

4.7 Evaluation of Alternatives

The alternatives for addressing the stockpile and soils containing stockpile material have been evaluated within the framework of the MTCA requirements, as described below:

The remedial alternative selected for the Site must meet the threshold requirements provided in WAC 173-340-360(2)(a) as follows:

- Protect human health and the environment;
- Comply with cleanup standards (and waste regulations, as applicable);
- Comply with applicable state and federal laws; and
- Provide for compliance monitoring (as applicable).

The selected remedial alternative must also meet other requirements as provided in WAC 173-340-360(2)(b):

- Use permanent solutions to the maximum extent practicable;
- Provide for a reasonable restoration time frame; and
- Consider public concerns.

The following evaluation criteria are provided by MTCA for comparison of remedial alternatives:

- Protectiveness;
- Permanence;
- Cost;
- Long-term effectiveness;
- Management of short term risk;
- Technical and administrative implementability; and
- Consideration of public concerns.

Evaluation of the alternatives has been summarized on Table 8 and includes a quantitative and qualitative assessment. The evaluation compares each of the potential remedial alternatives to the MTCA threshold requirements and evaluation criteria.

The criteria described above are used to determine whether the costs for each cleanup alternative are disproportionate relative to the benefit of the alternative (disproportionate cost analysis). Costs are considered disproportionate if the incremental degree of benefit provided by the more costly alternative is less than the degree of benefit provided by other low-cost alternatives. In accordance with WAC 173-340-360(e)(ii)(c), when the degree of benefit between alternatives is equal, Ecology selects the alternative with the lowest cost.

Cost estimates for the implementation of each alternative have been developed and are based on capping or disposal of approximately 57,000 cubic yards of stockpile material, and an additional 10,000 cubic yards of over-excavated material from below the stockpile and surrounding areas. Detailed cost estimates for the alternatives are presented in Appendix F. The costs are based on the labor, material, and engineering requirements necessary to implement the alternatives. The cost estimates are budgetary estimates for the purpose of comparing the alternatives.

The costs estimated for Alternative 1 (in-situ capping) and Alternative 2 (relocation and capping on adjacent property) are of essentially the same magnitude, \$713,000 and \$970,000, respectively. The cost for Alternative 3 (disposal at an authorized commercial landfill) is estimated to be \$2,700,000 to \$5,000,000. The incremental benefit of the landfill disposal option is not significantly greater than the benefit derived from the capping options; therefore, the costs for Alternative 3 are considered disproportionate using the current assumptions.

4.8 Selection of Preferred Alternative

The stockpile is currently stable and does not represent an immediate threat to human health or the environment as demonstrated by the results of the RI (i.e., no groundwater impacts, low potential for leaching). The remedy selection process considers the RAO, the nature of the material, the physical constraints of the Site, MTCA, solid waste and dangerous waste criteria, and the costs of the potential remedy.

Removal of stockpile material from all areas of the Site outside the main stockpile, including the WSDOT and Parks properties as indicated on Figure 6, is considered a component of any remedial alternative and is expected to be implemented regardless of the final disposition of the main stockpile. Removal of stockpile material from the ground surface represents a permanent cleanup action that meets the RAO and threshold requirements for the environmental media outside of the main stockpile. If industrial cleanup level standards are implemented on the Site, environmental covenants and relevant institutional controls will be established. The ability to implement industrial land use cleanup levels on properties not owned by UPRR will be dependent on the landowner's willingness to restrict future land uses and record the requisite environmental covenants. All three of the proposed alternatives would meet the MTCA criteria.

In-situ capping of the stockpile material is a viable option, notwithstanding the engineering issues related to the limited space available. This option is the most cost effective and would face the least amount of regulatory hurdles to implement. The viability of this option will be somewhat dependent on the ability to use the current stockpile footprint for creation of the capped stockpile (i.e., the capped area not limited to UPRR property). Implementation of this alternative allows for the exemptions provided under RCW Section 70.105D.090 (see Section 4.2.4). Compliance with SEPA would still be required.

Relocation of the stockpile material and capping with a multimedia cap (Remedial Alternative 2) represents a viable remedial action for the Site. This alternative meets the RAO and threshold criteria, and is more favorable based on disproportionate cost analysis versus the off-site landfill disposal option. Implementation of this alternative represents a permanent solution and will restore the Site property to productive use. Installation of a Limited Purpose Landfill, implementation of institutional controls, and on-going monitoring of the landfill (groundwater monitoring, physical inspection, cap maintenance) will be necessary to implement this alternative.

Disposal of the stockpile material at a landfill provides more permanence but at a significantly higher cost, approximately three to eight times more than the capping options. Considering the nature of the stockpile material and the minimal environmental impacts observed after years of exposure, the costs are disproportionate and substantial (i.e., considering the capital and environmental costs such as fuel consumption, hydrocarbon emissions, and landfill space). Therefore, off-site disposal of the stockpile material at a commercial landfill is not recommended as a preferred alternative.

In-situ capping of the stockpile and relocation/capping of the stockpile are recommended as potential preferred alternatives.

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TABLES

TABLE 1**GROUNDWATER MEASUREMENTS**ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Well ID	Date	Natural Ground Elevation (ft, MSL)	Top of Casing Elevation (ft, MSL)	Depth to Water (ft, TOC)	Groundwater Elevation (ft, MSL)
October 26, 2010					
MW-1	10/26/2010	2004.76	2004.37	65.1	1939.27
MW-2	10/26/2010	1999.88	2002.04	65.08	1936.96
MW-3	10/26/2010	1985.88	1988.51	52.92	1935.59
December 7, 2010					
MW-1	12/7/2010	2004.76	2004.37	62.72	1941.65
MW-2	12/7/2010	1999.88	2002.04	62.63	1939.41
MW-3	12/7/2010	1985.88	1988.51	53.34	1935.17

Notes:

1. MSL = Mean Sea Level. TOC = Top of Casing.

TABLE 2

SUMMARY OF SOIL ANALYTICAL RESULTS
ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Location ID: Sample Date: Sample Interval (ft bgs): Constituent	Unrestricted Land Use Proposed CUL	Industrial Land Use Proposed CUL	Dross Boring DB-1				Dross Boring DB-2					Soil Boring SB-1			Soil Boring SB-2		
			DB-1	DB-1	DB-1	DB-1	DB-2	DB-2	DB-2	DB-2	DB-2	SB-1	SB-1	SB-1	SB-2	SB-2	SB-2
			10/20/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010	10/21/2010	10/21/2010
			2-3	4-5	8-9	18-19	1-2	5-6	6-7	10-11	20-21	0-1	4-5	14-15	1-2	5-6	15-16
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals																	
Aluminum	21,400	21,400	49,000	70,000	6600J	6,700	45,000	42,000	11,000	8,900	5,500	<5.4	3,700	3,700	21,000	7,800	5,200
Arsenic	10	132	2.2	6.5	6.1J	16	2.7J	3.3	6.4	10	5.8	6.7	6.7J	4.8	7.9	4	8.5
Barium	102	102	67J	47J	39J	38J	240J	170J	59J	37J	42J	170J	36J	23J	120	32	42
Cadmium	4	14	<0.053	<0.077	<0.078	<0.07	<0.1	<0.058	<0.081	<0.068	<0.077	<0.049	<0.065	<0.077	<0.076	<0.065	<0.06
Chromium	42	67	12J	52J	7.3J	7.3J	43J	45J	9.5J	7.3J	17J	86	3.7J	5.1	20	6	9
Copper	50	217	97J	300J	19J	12J	260J	340J	20J	29J	15J	980	8.9	5.4	250	52	15
Lead	50	118	15J	22J	8.1J	6.8J	54J	48J	9.7J	7.2J	9.4J	50J	6.2J	5.6J	18	4.4	6.6
Selenium	0.3	0.3	<0.08	<0.12	<0.12	<0.1	<0.16	<0.087	<0.12	<0.1	<0.12	<0.073	<0.098	<0.12	<0.11	<0.098	<0.09
Silver	2	3.91	0.31J	<0.043	<0.044	<0.0039	0.36J	0.30J	<0.046	<0.038	<0.043	<0.027	<0.037	<0.043	<0.043	<0.037	<0.034
Mercury	0.1	5.5	24J	0.0085J	0.013J	0.0067J	5.7J	9.0J	0.023J	0.0058J	<0.0053	0.43	<0.0053	<0.0053	0.07	0.0053J	<0.0052
Conventionals																	
Chloride	NA	NA	370	29.3	28	72	40.1	78.8	17.7	14.7	14.8	1.06J	0.842J	0.517J	3.44J	2.41J	1.62J
Fluoride	4,324	80,000	82.7	14.1	19.8J	3.09J	309	600	143	78.1	9.22J	273	6.95J	1.96J	19J	30.5J	8.09J
Nitrate-Nitrogen	115,315	2,133,333	129	101	94.4	25.1	0.763J	<0.014	<0.0115	<0.0116	2.18	6.35	1.26J	0.413J	<0.0118	11.6	3.44
Nitrite-Nitrogen	7,207	133,333	<0.0206	<0.0172	<0.0167	<0.0165	<0.0203	<0.0203	<0.0168	<0.0168	<0.0166	<0.0169	<0.0168	<0.0165	<0.0172	<0.0168	<0.0162
Sulfate	NA	NA	9370	1100	1260	776	10500	15000	4490	3040	1450	162	33.7	17.9J	1380	4450	367

Location ID: Sample Date: Sample Interval (ft bgs): Constituent	Soil Boring SB-3			SB-4	Soil Boring SB-5			SB-6	SB-7	SB-8	Monitoring Well MW-2			Monitoring Well MW-3		
	SB-3	SB-3	SB-3	SB-4	SB-5	SB-5	SB-5	SB-6	SB-7	SB-8	MW-2	MW-2	MW-2	MW-3	MW-3	MW-3
	10/21/2010	10/21/2010	10/21/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010	12/8/2010	12/8/2010	12/8/2010	10/20/2010	10/20/2010	10/20/2010	10/21/2010	10/21/2010	10/21/2010
	0-1	4-5	14-15	0-1	0-1	4-5	14-15	0-1	0-1	0-1	8-9	12-13	22-23	0-1	4-5	14-15
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals																
Aluminum	14,000	9,000	4,900	10,000	52,000	6,000	4,100	8,990	49,700	18,000	12,000	5,400J	2,100	25,000	10,000	5,900
Arsenic	6.9	8.0	4.2	9.9	3.5	10	11	10.2J	4.14J	8.59J	5.7	3.7	1.9J	6.9	5.1	7.5
Barium	150	77	34	57J	130J	36J	41J	52J	69.6J	59.7J	98J	29J	9.5J	160	41	58
Cadmium	<0.085	<0.063	<0.072	<0.075	<0.075	<0.071	<0.05	<0.0215	<0.0214	<0.0218	<0.083	<0.089	<0.073	<0.071	<0.07	<0.071
Chromium	34	11	6.9	11	83J	6.6J	5.9	7.34	33	16.3	10J	6.0J	2.2J	18	11	8.6
Copper	44	23	8.8	47	570J	16J	11	64.9	219	129	33J	14J	5.5J	110	15	14
Lead	40	9.2	5.9	15J	40J	9.9J	11J	8.56	10.1	16.5	12J	6.2J	3.1J	31	15	6.5
Selenium	<0.13	<0.095	<0.11	<0.11	<0.11	<0.11	<0.11	<0.075	<0.323	<0.322	<0.327	<0.13	<0.13	<0.11	<0.11	<0.11
Silver	<0.048	<0.036	<0.041	<0.042	0.054J	<0.04	<0.028	<0.291	<0.289	<0.294	<0.047	<0.05	0.11J	<0.04	<0.04	<0.04
Mercury	0.054	0.0069J	<0.0052	0.011J	5.2	<0.0053	<0.0053	0.0652J	0.0334J	0.0829J	0.12	<0.0057	<0.017	0.098J	<0.0053	<0.0053
Conventionals																
Chloride	1.36J	0.912J	1.35J	1.37J	2.38J	1.02J	3.8J	0.59J	<0.59	0.66J	1130	326	196	2.31J	0.515J	1.79J
Fluoride	15J	26.0J	1.14J	4.10J	7.69J	19.6	6.19J	2.6	44	15	26	17.7	2.31J	16.8	0.617J	1.47J
Nitrate-Nitrogen	1.78J	<0.0111	0.416J	0.947J	10.2	<0.0112	0.543J	<0.21	0.66	<0.2	50.3	20.2	4.72	1.62J	0.412J	<0.0116
Nitrite-Nitrogen	<0.0168	<0.0162	<0.0166	<0.0168	<0.0173	<0.0163	<0.0174	2.9J	3.6J	4.2J	<0.0184	<0.0177	0.629J	<0.0185	<0.0165	<0.0168
Sulfate	6.39J	15.0J	13.6J	4.52J	648	1300	67	1.9J	3.8	2.9	904	293	342	9.03J	3.50J	6.84J

Notes:

1. Samples collected from the stockpile are indicated by shaded cells.
2. Proposed cleanup levels calculated using MTCA Method B or C Standard Equations.
3. Concentrations exceeding the proposed cleanup level for unrestricted land use are indicated by **bold/italics/underlined** text.
4. Concentrations exceeding the proposed cleanup level for industrial land use are indicated by highlighted cells.
5. < = Compound not detected at indicated detection limit. J = Estimated value. NA = Not applicable/available.

TABLE 3

SUMMARY OF DROSS RESULTS

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Location ID:	DB-1 (Grey)	DB-2 (Grey)	DB-2 (Grey)	Grey Dross	Tan Dross
Sample Date:	10/20/2010	10/20/2010	10/20/2010	10/25/2010	10/25/2010
Sample Interval (ft bgs):	2-3*	1-2*	5-6*	Surface	Surface
Constituent	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
<i>Metals</i>					
Aluminum	49,000	45000	42000	58000	<9.9
Arsenic	2.2	2.7J	3.3	3.2J	7.4
Barium	67	240	170	140	94
Cadmium	<0.053	<0.1	<0.058	<0.1	<0.089
Chromium	12	43	45	32	210
Copper	97	260	340	200	1700
Lead	15	54	48	53	44
Selenium	<0.08	<0.16	<0.087	<0.15	<0.13
Silver	0.31J	0.36J	0.30J	0.17J	0.11J
Mercury	24	5.7	9	4.6	0.38
Potassium	NA	NA	NA	830J	6300
Sodium	NA	NA	NA	4100	9800
<i>Conventionals</i>					
Chloride	370	40.1	78.8	76.1J	8650
Fluoride	82.7	309	600	1050	112J
Nitrate-Nitrogen	129	0.763J	<0.014	0.525J	914
Nitrite-Nitrogen	<0.0206	<0.0203	<0.0203	NA	NA
Sulfate	9370	10500	15000	30000	6160

Notes:

1. Sample locations shown on Figure 3.
2. NA = Not analyzed. * = Depth within stockpile.

TABLE 4

SUMMARY OF BACKGROUND SAMPLE RESULTS

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Location ID: Sample Date: Sample Interval (ft bgs):	Representative Background Concentration	Background BG-1			Background BG-2			Background BG-3			Background BG-4
		BG-1	BG-1	BG-1	BG-2	BG-2	BG-2	BG-3	BG-3	BG-3	BG-4
		10/21/2010 0-1	10/21/2010 4-5	10/21/2010 14-15	10/21/2010 0-1	10/21/2010 4-5	10/21/2010 14-15	10/21/2010 0-1	10/21/2010 4-5	10/21/2010 14-15	10/21/2010 0-1
Constituent	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
<i>Metals</i>											
Aluminum	18664	6800	12000	9900	16000	18000	10000	12000	17000	6600	12000
Arsenic	8.57	3.9	3.2	6.2	6.8	4.8	5.1	7	5.6	9	6.8
Barium	134.13	66	94	77	140	110	54	84	100	38	84
Cadmium	Not Calculated	<0.056	<0.064	<0.063	<0.07	<0.073	<0.069	<0.073	<0.066	<0.075	<0.077
Chromium	13.45	6.9	10	13	13	14	11	11	14	7.7	11
Copper	38.22	11	11	23	18	13	37	19	18	47	20
Lead	13.17	9.6	9.3	8.7	13	12	10	11	11	7.8	13
Selenium	Not Calculated	<0.085	<0.096	0.34J	<0.11	<0.11	<0.1	<0.11	<0.099	<0.13	<0.12
Silver	Not Calculated	<0.032	<0.036	<0.036	<0.039	<0.041	<0.039	<0.041	<0.037	<0.042	<0.043
Mercury	Not Calculated	0.015J	0.0064J	<0.0054	0.02J	0.011J	0.0055J	0.014J	0.0065J	<0.016	0.011J
<i>Conventionals</i>											
Chloride	Not Calculated	0.411J	0.415J	0.927J	0.786J	0.433J	1.38J	1.16J	1.49J	1.38J	0.429J
Fluoride	Not Calculated	2.16J	4.78J	0.721J	2.92J	5.84J	0.744J	2.43J	1.60J	0.638J	1.29J
Nitrate-Nitrogen	Not Calculated	1.95J	1.04J	0.515J	2.02J	1.08J	0.532J	1.27J	<0.0117	<0.0117	0.857J
Nitrite-Nitrogen	Not Calculated	0.308J	<0.0166	<0.0165	0.449J	<0.0173	<0.017	0.528J	<0.017	<0.017	<0.0171
Sulfate	Not Calculated	9.24J	6.75J	4.43J	5.84J	4.44J	5.95J	4.54J	4.05J	3.94J	4.50J

1. Background values represent area background concentrations, see Figure 3 for sample locations.
2. Representative site specific background values calculated using the MTCastat97 Excel spreadsheet.

TABLE 5

SUMMARY OF GROUNDWATER RESULTS

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Location ID: Sample Date: Screen Interval (ft bgs):	MTCA Method B Eqn 720-1	ARARs Federal MCLs	ARARs State MCLs	Applicable Cleanup Level	Upgradient		Midgradient		Downgradient	
					MW-1 10/26/2010 48.4-73.4	MW-1 12/7/2010 48.4-73.4	MW-2 10/26/2010 54-79	MW-2 12/7/2010 54-79	MW-3 10/26/2010 39-64	MW-3 12/7/2010 39-64
					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Metals										
Aluminum	NC	--	--	--	0.66J	<0.31	<0.31	<0.31	<0.31	<0.31
Arsenic	0.0048	0.01	--	0.0048	<0.00024	<0.00024	<0.00024	<0.00024	<0.00024	<0.00024
Barium	3.2	2	1	1	0.035	0.025	0.024	0.025	0.023	0.02
Cadmium	0.016	0.005	0.01	0.005	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014
Calcium	NC	--	--	--	33	34	32	32	34	34
Chromium	24	0.1	0.05	0.05	<0.011	0.0029J	<0.0084	0.0025J	<0.0063	0.0026J
Copper	0.64	1	1	1	<0.0033	<0.0045	<0.0033	<0.0045	<0.0033	<0.0045
Lead	NC	0.015	0.05	0.015	0.0059	<0.00017	<0.00017	<0.00017	<0.00032	0.00030J
Magnesium	NC	--	--	--	14	14	14	14	14	14
Potassium	NC	--	--	--	1.9J	1.8J	1.9J	2.0J	2.5J	2.3J
Selenium	0.08	0.05	0.01	0.01	<0.00034	<0.00062J	<0.00034	<0.00034	<0.00034	<0.00076J
Silver	0.08	--	0.05	0.05	<0.00015	<0.00015	<0.00015	<0.00015	<0.00015	<0.00015
Sodium	NC	--	--	--	3.2	2.9	3.2	2.9	3.2	2.9
Mercury	0.0048	0.002	0.002	0.002	<0.000041	0.000051J	<0.000041	0.000050J	<0.000041	0.000046J
Conventionals										
Chloride	NC	--	250	250	2.16	2.62	2.26	2.06	2.21	2.61
Fluoride	0.96	4	4	0.96	<0.5	<0.2	<0.5	<0.2	<0.5	<0.2
Sulfate	NC	--	250	250	13.3	13.4	13.6	12.9	15.2	14
Ammonia	NC	--	--	--	<1	<0.337	<1	0.672J	<1	0.448J
Nitrate	25.6	10	10	10	0.94	0.94	0.96	0.92	0.97	0.99
Nitrite	2	1	--	1	<0.2	<0.09	<0.2	<0.09	<0.2	<0.09
Nitrogen, total	NC	--	--	--	<0.8	<0.324	<0.8	<0.324	<0.8	<0.324
Alkalinity	NC	--	--	--	142	134	137	129	135	135

- Notes:
- Monitoring well locations shown on Figure 3.
 - Federal MCLs from National Primary Drinking Water Regulations
 - State MCLs from WAC 173-200-040 Table 1.
 - Applicable Cleanup Level is the most stringent of the Method B calculation, or federal or state MCLs. Highlighted value indicates source of selected cleanup level.
 - = criteria not provided. < = compound not detected at indicated detection level. J = estimated value. NC = Value not calculated.
 - Compounds for which no applicable cleanup level were established are not considered Indicator Hazardous Substances (WAC 173-340-703). RfD values are not published for these compounds and development of a Method B cleanup level was not possible.
 - Calcium, magnesium, potassium, and sodium levels are consistent with the naturally occurring concentrations found in the local groundwater (Spokane County Water Resources 2010 Quarterly Groundwater Monitoring Results).
 - With the exception of sample MW-2 collected 10/26/2010, samples collected for metals analysis were filtered in the field using a disposable 10 micron filter due to turbidity.

TABLE 6

CALCULATION OF METHOD B AND METHOD C CLEANUP LEVELS

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Constituent	rFd	rFd Source	Standard Method B Potable Ground Water Cleanup Levels Eqn 720-1 (mg/L)	Standard Method B Soil Cleanup Levels Eqn 740-4 (mg/kg)	Standard Method C Soil Cleanup Levels Eqn 745-4 (mg/kg)
<i>Metals</i>					
Aluminum	NA	NA	NC	NC	NC
Arsenic	0.0003	IRIS	0.0048	21.6	400
Barium	0.2	IRIS	3.2	14,414	266,667
Cadmium	0.001	IRIS	0.016	72.1	1,333
Chromium	1.5	IRIS	24	108,108	2,000,000
Copper	0.04	CLARC	0.64	2,882.9	53,333
Lead	NA	NA	NC	NC	NC
Selenium	0.005	IRIS	0.08	360	6,667
Silver	0.005	IRIS	0.08	360	6,667
Mercury	0.0003	IRIS	0.0048	21.6	400
<i>Conventionals</i>					
Chloride	NA	NA	NC	NC	NC
Fluoride	0.06	IRIS	0.96	4,324	80,000
Nitrate-Nitrogen	1.6	IRIS	25.6	115,315	2,133,333
Nitrite-Nitrogen	0.1	IRIS	1.6	7,207	133,333
Sulfate	NA	NA	NC	NC	NC

1. IRIS = rFd obtained from the US EPA Integrated Risk Information Systems (IRIS) database.
2. CLARC = rFd obtained from Department of Ecology Cleanup Levels and Risk Calculation (CLARC) database.
2. NA = Not available/not applicable. NC = Not calculated.

TABLE 7

PRELIMINARY SOIL CLEANUP LEVELS: UNRESTRICTED LAND USE

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Constituent	MTCA Method B Standard Cleanup Level (Direct Contact and Ingestion, Eqn 740-4) mg/kg	Concentration Protective of Terrestrial Ecological Receptors Plants ² mg/kg	Concentration Protective of Terrestrial Ecological Receptors Soil Biota ² mg/kg	Concentration Protective of Terrestrial Ecological Receptors Wildlife ² mg/kg	Preliminary Cleanup Level ⁶ mg/kg	Published Natural Background Values ³ mg/kg	Proposed Cleanup level mg/kg
<i>Metals</i>							
Aluminum	NC	50 (sol al)	None	None	50 (sol al)	21,400	21,400
Arsenic	21.6	10	60	132	10	9	10
Barium	14,414	500	330 ⁴	102	102	None	102
Cadmium	72.1	4	20	14	4	1	4
Chromium	108,108	42	42	67	42	18	42
Copper	2,883	100	50	217	50	22	50
Lead	250 ¹	50	500	118	50	15	50
Selenium	360	1	70	0.3	0.3	None	0.3
Silver	360	2	20 ⁴	3.91 ⁴	2	None	2
Mercury	21.6	0.3	0.1	5.5	0.1	0.02	0.1
<i>Conventionals</i>							
Chloride	NC	None	None	None	NA	None	NA
Fluoride	4,324	None	None	None	4,324	None	4,324
Nitrate-Nitrogen	115,315	None	None	None	115,315	None	115,315
Nitrite-Nitrogen	7,207	None	None	None	7,207	None	7,207
Sulfate	NC	None	None	None	NA	None	NA

1. MTCA Method A Soil Cleanup Levels for Unrestricted Land Use (WAC 173-340, Table 740-1).
2. MTCA Ecological Indicator Soil Concentrations for Protection of Terrestrial Plants and Animals (Table 749-3).
3. Natural Background Metals Concentrations in Washington State (Ecology, 1994).
4. Concentration determined as part of terrestrial ecological evaluation, see Eco section of report for details and references.
5. Highlighted values indicate basis for proposed cleanup level.
6. Most stringent value of Human Health and Ecological Receptor cleanup levels.

TABLE 8

PRELIMINARY SOIL CLEANUP LEVELS: INDUSTRIAL LAND USE

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Constituent	MTCA Method C Standard Cleanup Level (Direct Contact and Ingestion, Eqn 745-4) mg/kg	Concentration Protective of Terrestrial Ecological Receptors Wildlife² mg/kg	Preliminary Cleanup Level⁶ mg/kg	Published Natural Background Values³ mg/kg	Proposed Cleanup Level mg/kg
<i>Metals</i>					
Aluminum	NC	None	None	21,400	21,400
Arsenic	400	132	132	9	132
Barium	266,667	102	102	None	102
Cadmium	1,333	14	14	1	14
Chromium	2,000,000	67	67	18	67
Copper	53,333	217	217	22	217
Lead	250 ¹	118	118	15	118
Selenium	6,667	0.3	0.3	None	0.3
Silver	6,667	3.91 ⁴	3.91 ⁴	None	3.91 ⁴
Mercury	400	5.5	5.5	0.02	5.5
<i>Conventionals</i>					
Chloride	NC	None	NA	None	NA
Fluoride	80,000	None	80,000	None	80,000
Nitrate-Nitrogen	2,133,333	None	2,133,333	None	2,133,333
Nitrite-Nitrogen	133,333	None	133,333	None	133,333
Sulfate	NC	None	NA	None	NA

1. MTCA Method A Soil Cleanup Levels for Unrestricted Land Use (WAC 173-340, Table 740-1).
2. MTCA Ecological Indicator Soil Concentrations for Protection of Terrestrial Plants and Animals (Table 749-3).
3. Natural Background Metals Concentrations in Washington State (Ecology, 1994).
4. Concentration determined as part of terrestrial ecological evaluation, see Eco section of report for details and references.
5. Highlighted values indicate basis for proposed cleanup level.
6. Most stringent value of Human Health and Ecological Receptor cleanup levels.

TABLE 9

SUMMARY OF TCLP RESULTS

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Location ID: Sample Date: Sample Interval (ft):	DB-1 10/20/2010 2-3*	DB-1 10/20/2010 2-3*	DB-2 10/20/2010 5-6*	DB-2 10/20/2010 5-6*	Maximum Concentration for Toxicity Characteristic
Constituent	mg/kg	mg/L	mg/kg	mg/L	mg/L
Metals					
	<i>Total</i>	<i>TCLP</i>	<i>Total</i>	<i>TCLP</i>	
Aluminum	49000	25	42000	58	NL
Arsenic	2.2	<0.0047	3.3	0.0058J	5
Barium	67J	0.044	170J	0.08	100
Cadmium	<0.053	<0.0015	<0.058	0.0015J	1
Chromium	12J	0.0062J	45J	0.024J	5
Copper	97J	0.22	340J	3.8	NL
Lead	15J	0.012J	48J	0.017J	5
Selenium	<0.08	<0.002	<0.087	0.0094J	1
Silver	0.31J	0.1	0.30J	0.16	5
Mercury	24J	<0.0033	9.0J	<0.0028	0.2
Conventionals					
Chloride	370	NA	78.8	NA	NL
Fluoride	82.7	NA	600	NA	NL
Nitrate-Nitrogen	129	NA	<0.014	NA	NL
Nitrite-Nitrogen	<0.0206	NA	<0.0203	NA	NL
Sulfate	9370	NA	15000	NA	NL

Notes:

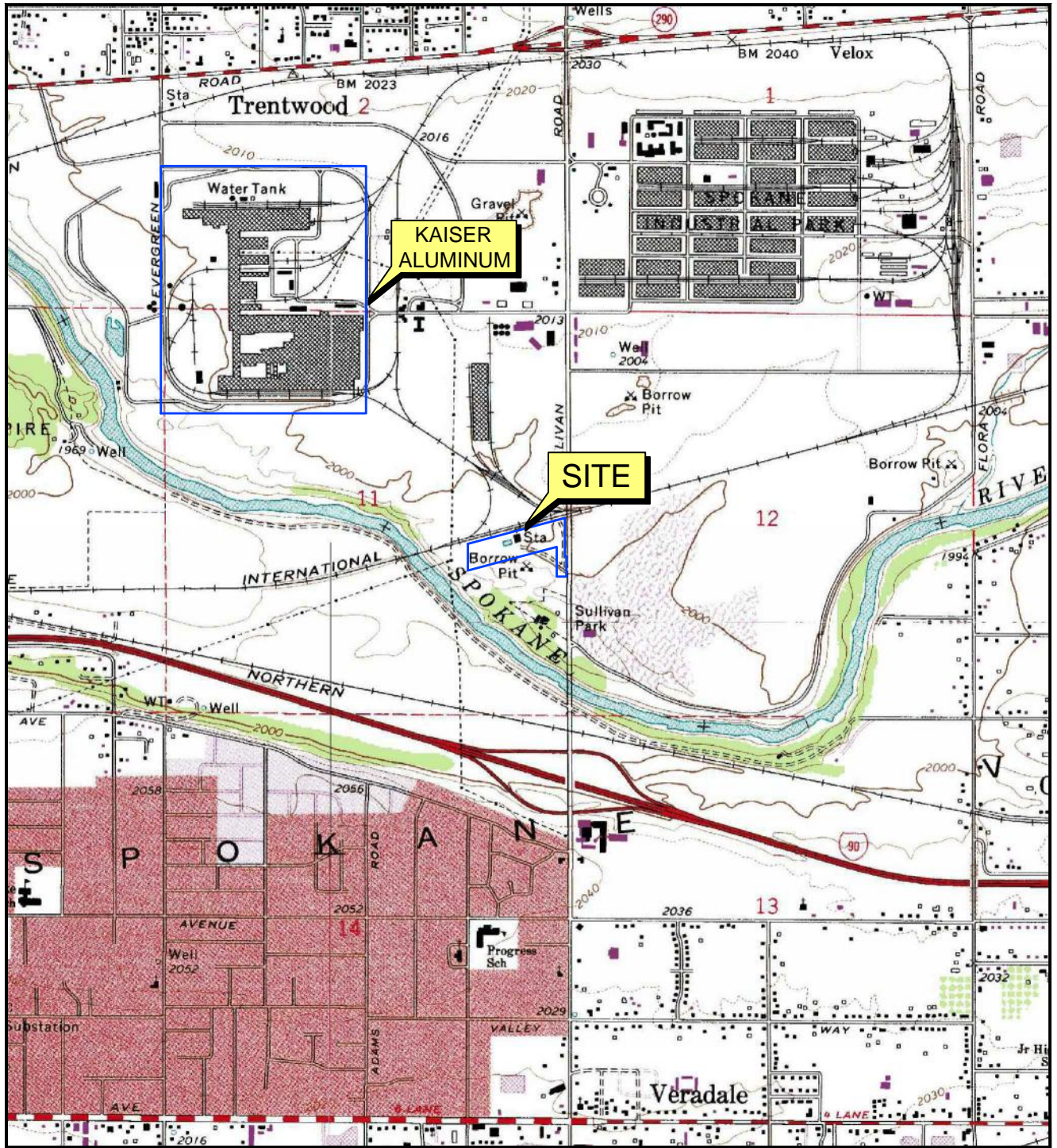
1. Sample locations shown on Figure 3.
2. NA = Not analyzed. * = Depth within stockpile. NL = Not listed.
3. Maximum TCLP values from RCRA and Ecology waste regulations.

TABLE 10
DETAILED EVALUATION OF ALTERNATIVES

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Alternatives	Alternative 1 In-situ capping of stockpile	Alternative 2 Construction of Limited Purpose Landfill on adjacent property	Alternative 3 Removal of stockpile material to off-site landfill facility			
Description	Consolidated material will be capped at the existing stockpile location using multimedia cap.	Stockpile material will be placed in a Limited Purpose Landfill established on the adjacent UPRR property and capped with a multimedia cap.	Stockpile material will be sent to landfill for disposal. May be shipped via truck or rail, depending on landfill.			
Estimated Cost (includes 20 yrs O&M)	\$881,699	\$1,385,975	\$3M - \$4.3M			
MTCA Threshold Criteria						
Protect Human Health and the Environment	Yes, potential contamination and source area removed or contained					
Comply with Cleanup Standards	Yes, potential contamination and source area removed or contained					
Comply with Applicable State and Federal Laws	Yes, potential contamination and source area removed or contained					
Provide for Compliance Monitoring	Yes	Yes	Not Applicable			
Permanent Solution	Yes	Yes	Yes			
Reasonable Restoration Time Frame	Yes	Yes	Yes			
Consider Public Concerns	Yes	Yes	Yes			
Disproportionate Cost Analysis - Relative Benefits Ranking (1 -10 scale)		Score	Score	Score		
Protectiveness	Alternative achieves RAOs for protectiveness.	9	Alternative achieves RAOs for protectiveness.	9	Alternative achieves highest level of protectiveness.	10
Permanence	Alternative represents permanent reduction of exposure to source material through isolation/containment.	8	Alternative represents permanent reduction of exposure to source material through isolation/containment.	8	This alternative represents the greatest permanence because it removes the source material from the Site.	10
Cost	Less expensive than Limited Purpose Landfill or off-site landfill disposal option.	10	Less expensive than off-site landfill disposal option.	8	Most expensive option.	3
Long-term Effectiveness	Capping of stockpile material and institutional controls would be used to prevent future exposure. Long-term effectiveness is dependent on maintenance of cap.	8	Capping of stockpile material and institutional controls would be used to prevent future exposure. Long-term effectiveness is dependent on maintenance of cap.	8	Stockpile material would be permanently removed from the Site. This alternative represents the highest level of long-term effectiveness.	9
Management of Short Term Risk	This alternative represents the lowest level of short-term risk since most of the material would be left in place for capping and not require extensive excavation activities.	9	This alternative has moderate short-term risks associated with relocation of the stockpile material across active rail lines.	8	This alternative requires excavation, transport to loading areas, and over-the-road or rail transportation to a landfill facility. This alternative has the highest level of short-term risk due to the amount of construction and transportation activities required.	3
Technical Implementability	Small construction area creates steep slopes for cap but engineering issues are manageable.	4	Implementation of this alternative will require completion of an Environmental Impact Statement, obtaining necessary permits for landfill construction, and approval of the landfill siting/design. Construction, operation, and long-term maintenance requirements are more prescribed for this option.	7	Moderately difficult to implement using trucks or rail for transport to off-site landfill.	5
Consideration of Public Concerns	Least desirable option for aesthetics due to size and appearance of cap in close proximity to public use area.	5	Public concern over aquifer protection may be an issue with this alternative. This option minimizes the visible impact of the cap and the location would be in a more isolated setting.	9	Most preferable aesthetically, would have greater environmental impacts associated with transport and landfill disposal.	8
Relative Benefits Average Score	Alternative 1	7.6	Alternative 2	8.1	Alternative 3	6.9
Disproportionate Cost Analysis						
Estimated Alternative Cost	\$881,699		\$1,385,975		\$3M - \$4.3M	
Costs Proportional to Incremental Benefits	Yes		Yes		No	
Practicability of Alternative	Least Practicable		Most Practicable		Practicable	
Permanent Remedy	Yes		Yes		Yes	
Final Alternative Selection	2nd		1st		3rd	

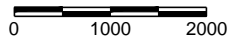
FIGURES



QUADRANGLE LOCATION



Scale in Feet



Source:
Base map from <http://www.terragotech.com>, Greenacres, WA
U.S.G.S. 7.5 minute quadrangle, 1986.



UNION PACIFIC RAILROAD CO.

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Figure 1

SITE LOCATION MAP

PROJECT: 3171

BY: AJD

REVISIONS

DATE: DEC., 2011

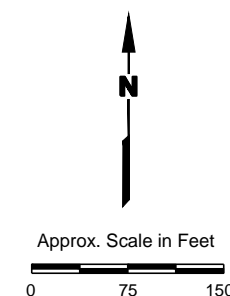
CHECKED: MKW

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS



EXPLANATION

- Approximate UPRR Property Boundary (South Parcel)
- - - - Extent of Stockpile



Source of photo: www.spokanecity.org/services/gis/data, imagery date 2007.

UNION PACIFIC RAILROAD CO.		
ALUMINUM RECYCLING TRENTWOOD SITE VERADALE, WASHINGTON		
Figure 2 SITE PLAN		
PROJECT: 3171	BY: AJD	REVISIONS
DATE: DEC., 2011	CHECKED: MKW	
PASTOR, BEHLING & WHEELER, LLC CONSULTING ENGINEERS AND SCIENTISTS		



EXPLANATION

- Approximate UPRR Property Boundary (South Parcel)
- - - - Extent of Stockpile
- ⊕ RI/FS Groundwater Monitoring Well Location
- ⊗ Existing Monitoring Well Location
- Soil Boring Location
- ▲ Background Soil Sample Location



Approx. Scale in Feet
 0 75 150

Source of photo: www.spokanecity.org/services/gis/data, imagery date 2007.

UNION PACIFIC RAILROAD CO.
 ALUMINUM RECYCLING TRENTWOOD SITE
 VERDALE, WASHINGTON

Figure 3
SAMPLE LOCATION MAP

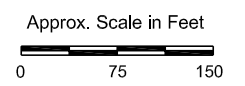
PROJECT: 3171	BY: ZGK	REVISIONS
DATE: JULY, 2011	CHECKED: MKW	

PASTOR, BEHLING & WHEELER, LLC
 CONSULTING ENGINEERS AND SCIENTISTS



EXPLANATION

- Approximate UPRR Property Boundary (South Parcel)
- - - Extent of Stockpile
- ⊕ RI/FS Groundwater Monitoring Well Location
- ⊗ Existing Monitoring Well Location
- (1939.27) Groundwater Elevation (Feet Above Local Datum) Measured 10/26/11
- - - 1939 Groundwater Elevation Contour (Feet Above Local Datum) C.I. = 1 Ft
- ← Inferred Direction of Groundwater Flow



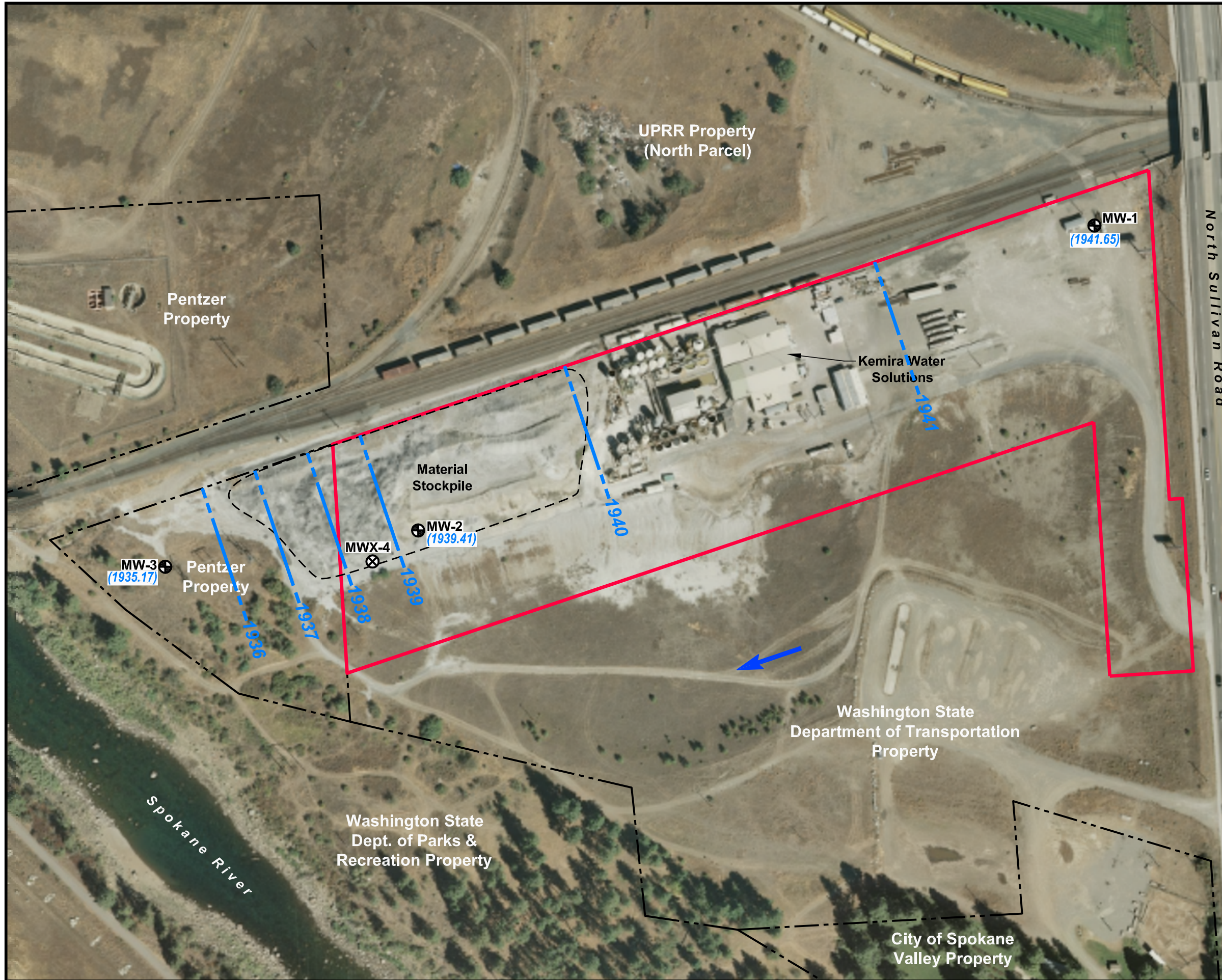
Source of photo: www.spokanecity.org/services/gis/data, imagery date 2007.

UNION PACIFIC RAILROAD CO.
ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Figure 4
**POTENTIOMETRIC SURFACE MAP
OCTOBER 26, 2010**

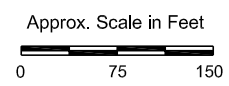
PROJECT: 3171	BY: ZGK	REVISIONS
DATE: JULY, 2011	CHECKED: MKW	

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EXPLANATION

- Approximate UPRR Property Boundary (South Parcel)
- - - Extent of Stockpile
- ⊕ RI/FS Groundwater Monitoring Well Location
- ⊗ Existing Monitoring Well Location
- (1941.65) Groundwater Elevation (Feet Above Local Datum) Measured 10/26/11
- 1941- Groundwater Elevation Contour (Feet Above Local Datum) C.I. = 1 Ft
- ← Inferred Direction of Groundwater Flow



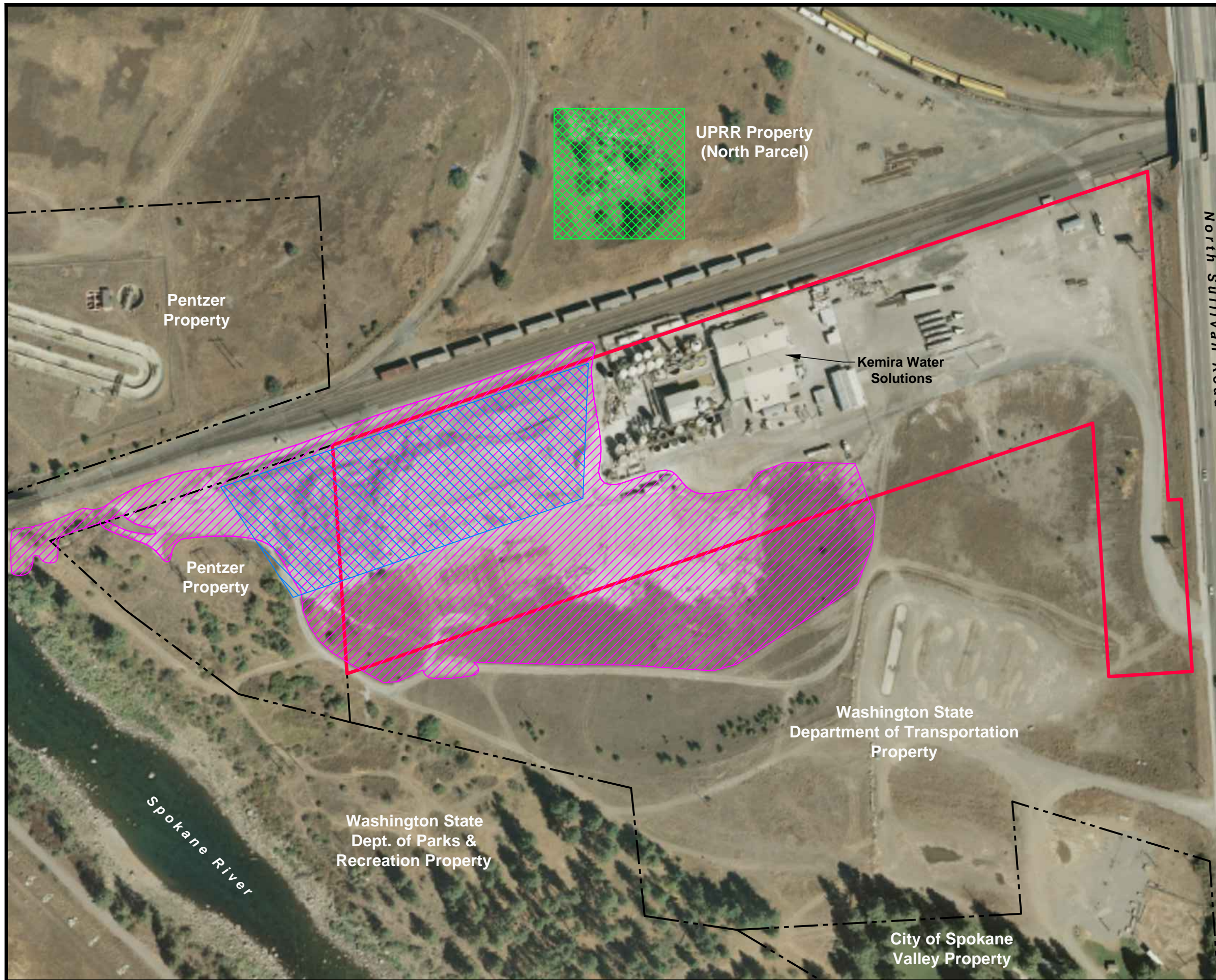
Source of photo: www.spokanecity.org/services/gis/data, imagery date 2007.

UNION PACIFIC RAILROAD CO.
ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON





Figure 5
**POTENTIOMETRIC SURFACE MAP
DECEMBER 7, 2010**

PROJECT: 3171	BY: ZGK	REVISIONS
DATE: JULY, 2011	CHECKED: MKW	

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EXPLANATION

-  Approximate UPRR Property Boundary (South Parcel)
-  Excavation Area
-  Remedial Alternative 1 - In-Situ Capping of Stockpile
-  Remedial Alternative 2 - Relocation and Capping on Adjacent UPRR Property in Limited Purpose Landfill

Approximate Area of In-Situ Cap = 103,890 sq./ft.



Approx. Scale in Feet
 0 75 150

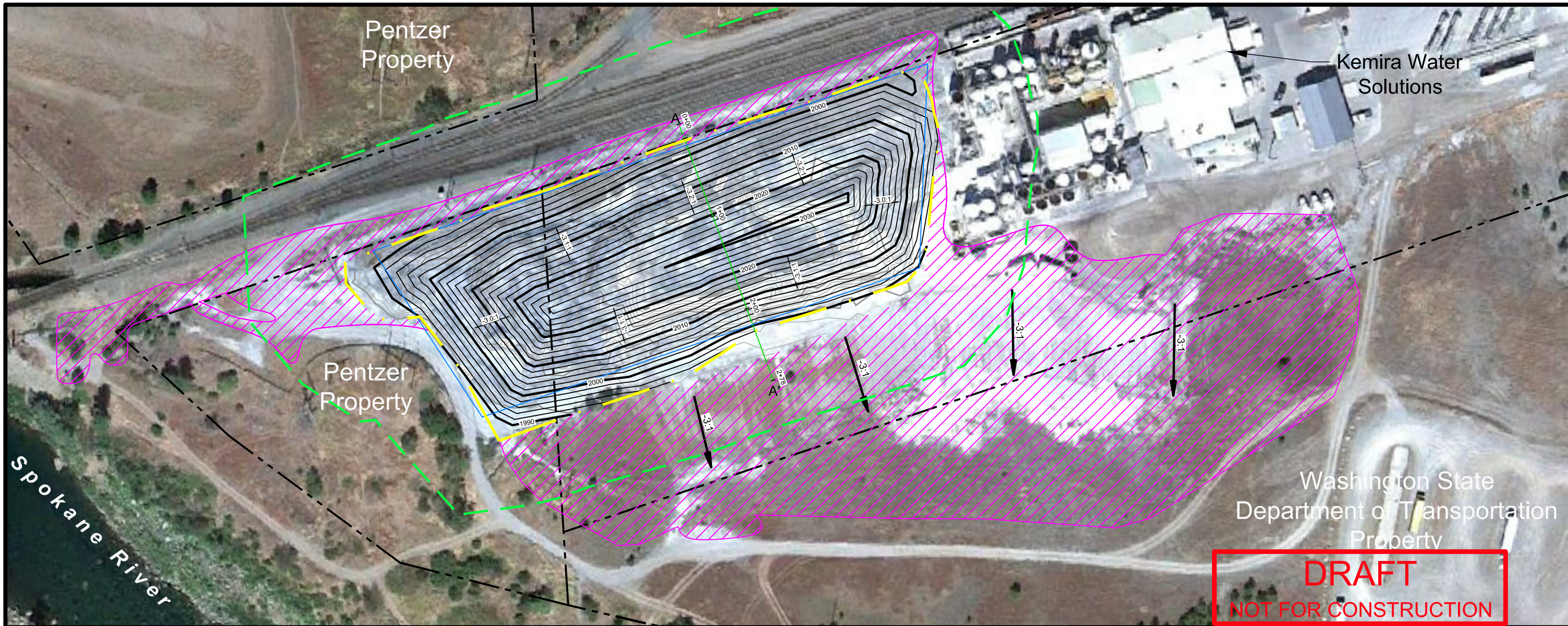
Source of photo: www.spokanecity.org/services/gis/data, imagery date 2007.

 **UNION PACIFIC RAILROAD CO.**
 ALUMINUM RECYCLING TRENTWOOD SITE
 VERADALE, WASHINGTON

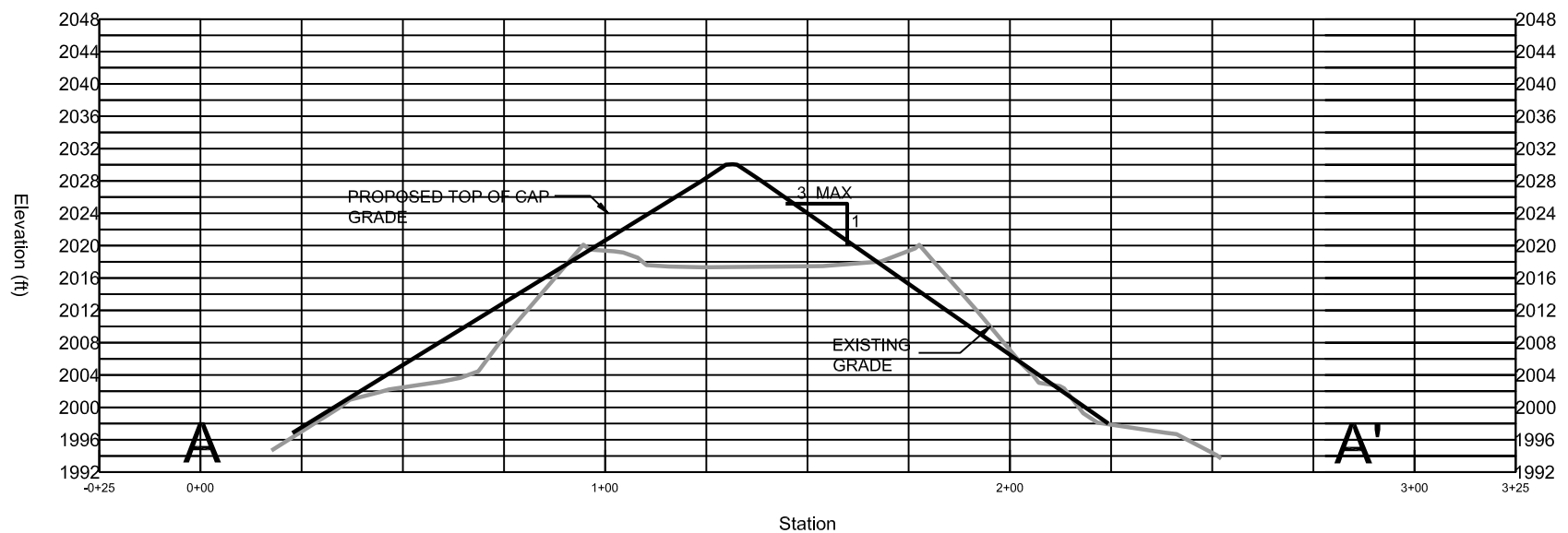
Figure 6
PROPOSED REMEDIAL ALTERNATIVES

PROJECT: 3171	BY: AJD	REVISIONS
DATE: JAN., 2012	CHECKED: MKW	

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 CONSULTING ENGINEERS AND SCIENTISTS

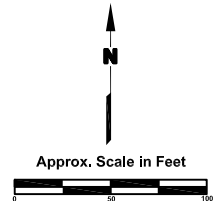


Cross Section A - A'

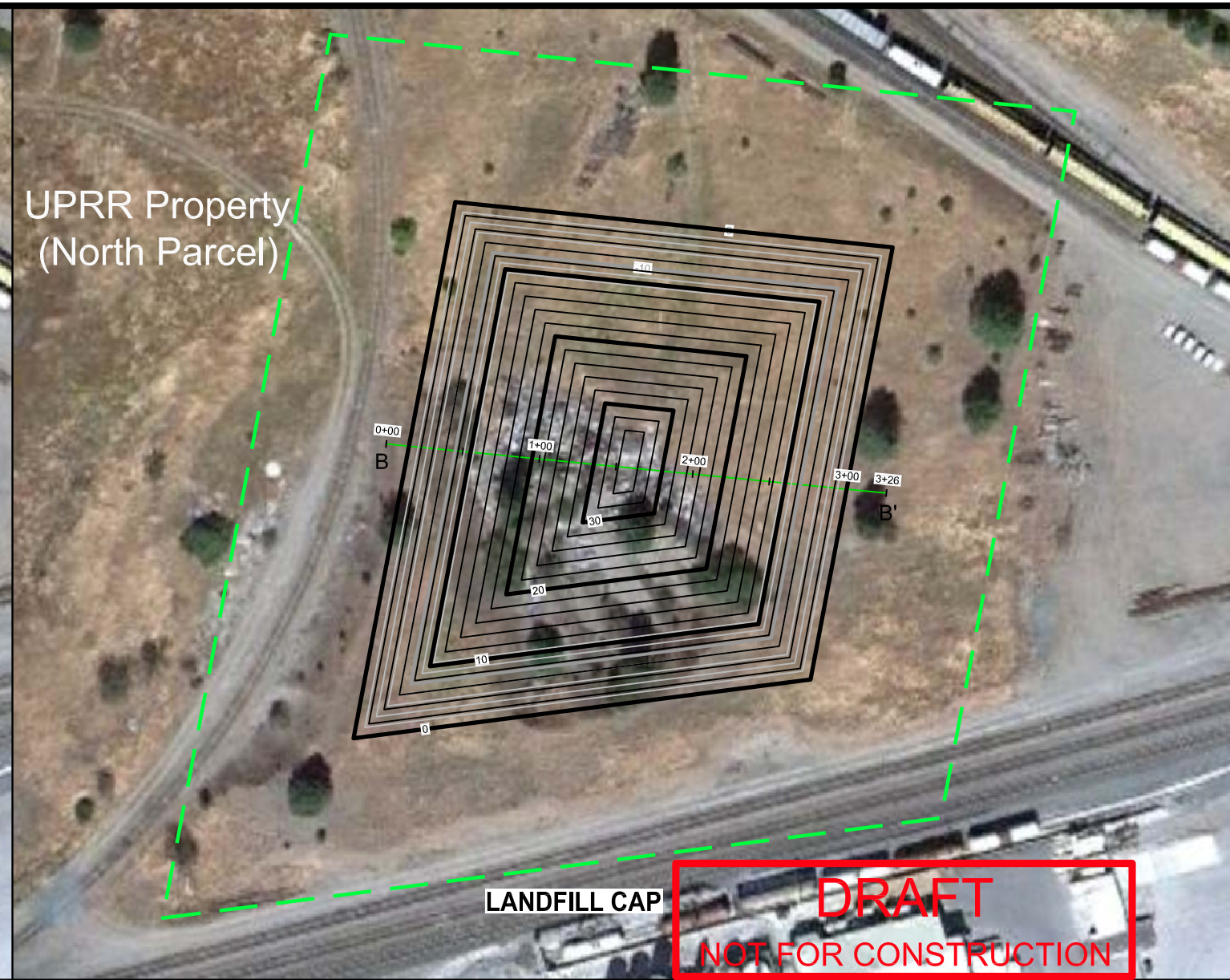


- AREA TO BE EXCAVATED TO 1 FT
- EXTENT OF CURRENT STOCKPILE
- 10 FT - MAJOR CONTOUR - CAP
- 2 FT - MINOR CONTOUR - CAP
- EXTENT OF CAP
- PROPERTY LINE
- 10 FT - MAJOR CONTOUR - EXISTING STOCKPILE
- 2 FT - MINOR CONTOUR - EXISTING STOCKPILE
- A - A' CROSS SECTION PATH
- 2:1 SURFACE SLOPE
- 100 FT SET BACK

NOTES: TOTAL SURFACE AREA OF IN-SITU CAP IS APPROXIMATELY 121,000 SQUARE FEET.
 TOTAL CAPACITY OF IN-SITU CAP IS APPROXIMATELY 70,000 CUBIC YARDS.
 SEE FIGURE 9 FOR CAP DETAILS.
 Source of Photo: Google earth, imagery date Aug., 2011
 Source of Survey: USKH, Daniel T. Proszek, date Oct., 2010



UNION PACIFIC RAILROAD CO.		
ALUMINUM RECYCLING TRENTWOOD SITE VERADALE, WASHINGTON		
Figure 7 REMEDIAL ALTERNATIVE 1 - IN-SITU CAP (UPRR AND PENTZNER PROPERTY)		
PROJECT: 3171	BY: MKS	REVISIONS
DATE: MAR., 2012	CHECKED: TNN	
PASTOR, BEHLING & WHEELER, LLC CONSULTING ENGINEERS AND SCIENTISTS		



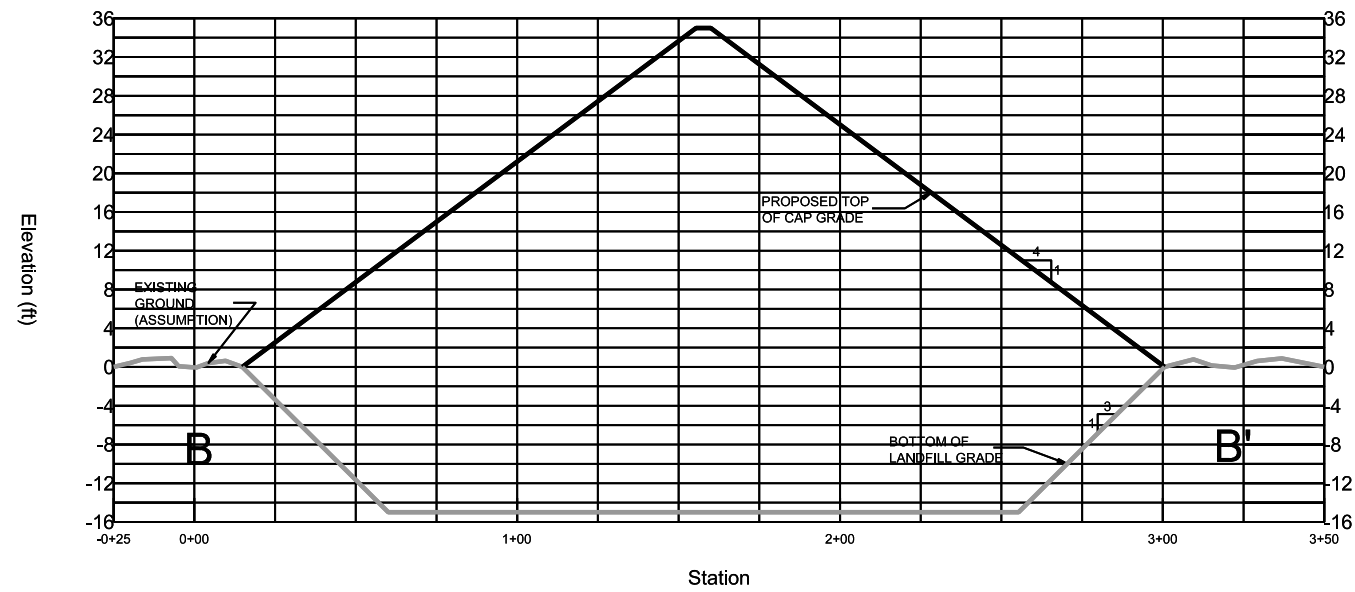
UPRR Property
(North Parcel)

LANDFILL EXCAVATION

LANDFILL CAP

DRAFT
NOT FOR CONSTRUCTION

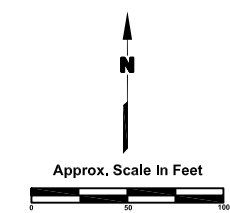
Cross Section B - B'



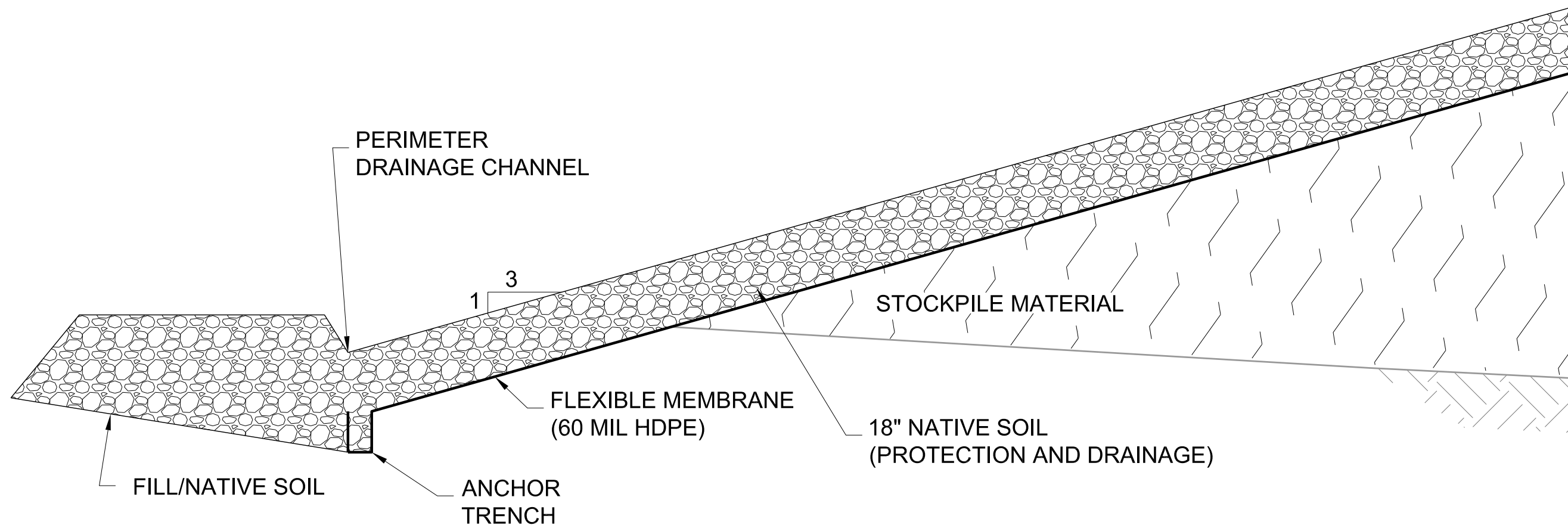
- 0 — 10 FT - MAJOR CONTOUR - LANDFILL
- 2 — 2 FT - MINOR CONTOUR - LANDFILL
- B — B' CROSS SECTION PATH
- 10 — 10 FT - MAJOR CONTOUR - CAP
- 2 — 2 FT - MINOR CONTOUR - CAP
- - - 100 FT SETBACK

NOTES: LANDFILL AND CAP DESIGN ASSUME THE EXISTING GROUND IS RELATIVELY FLAT.
EXCAVATION OF EXISTING GROUND WILL BE NECESSARY FOR CONSTRUCTION OF LANDFILL.
TOTAL SURFACE AREA OF LANDFILL CAP IS APPROXIMATELY 94,000 SQUARE FEET.
TOTAL CAPACITY OF LANDFILL AND CAP IS APPROXIMATELY 76,000 CUBIC YARDS.
SEE FIGURE 9 FOR CAP DETAILS.

Source of Photo: Google earth, imagery date Aug., 2011



UNION PACIFIC RAILROAD CO.		
ALUMINUM RECYCLING TRENTWOOD SITE VERADALE, WASHINGTON		
Figure 8 REMEDIAL ALTERNATIVE 2 - CONSTRUCTION OF LIMITED PURPOSE LANDFILL AND CAP		
PROJECT: 3171	BY: MKS	REVISIONS
DATE: MAR., 2012	CHECKED: TNN	
PASTOR, BEHLING & WHEELER, LLC CONSULTING ENGINEERS AND SCIENTISTS		



ALTERNATIVE 1 AND 2 - IN-SITU CAP (UPRR AND PENTZER PROPERTY)/LIMITED PURPOSE LANDFILL

MULTIMEDIA CAP (NOT TO SCALE)

DRAFT
NOT FOR CONSTRUCTION

UNION PACIFIC RAILROAD CO.		
ALUMINUM RECYCLING TRENTWOOD SITE VERADALE, WASHINGTON Figure 9		
REMEDIAL ALTERNATIVES CAP DESIGN DETAIL		
PROJECT: 3171	BY: MKS	REVISIONS
DATE: MAR., 2012	CHECKED: TNN	
PASTOR, BEHLING & WHEELER, LLC CONSULTING ENGINEERS AND SCIENTISTS		

APPENDICES

APPENDIX A

Boring Logs and Well Construction Diagrams




Union Pacific Railroad

Log of Boring: MW-1

Aluminum Recycling - Trentwood Site 2317 North Sullivan Road Veradale, Washington	Completion Date:	10/22/2010	Drilling Method:	Sonic Drill
	Drilling Company:	Env. West Exploration	Borehole Diameter (in.):	6
PBW Project No. 3171	Driller:	James Cantrell	Total Depth (ft):	87
	Driller's License:	2936	Northing:	10647.95
	Field Supervisor:	Kevin Dworsky	Easting:	21134.4
	Sampling Method:	4" x 10' Hollow Barrel	Ground Elev. (ft AMSL):	2004.76

Depth (ft)	Well Materials	USCS	Lithologic Description
0		FILL	(0 - 1) Road material, asphalt, sandy gravel base, sharp boundary
5		GP	(1 - 37) SANDY GRAVEL, GP, mix of cobbles and pebbles, medium to fine grain sand, some coarse sand and silt, dark grey to tan gravel, tan sand, loose, very soft consistency, subangular to round grains, no plasticity, gradual boundary
10			
15			
20		GP	
25			
30			
35			
40			(37 - 67) GRAVELLY SAND, SP, with few sandy gravel layers - mix of coarse to fine sand, some silt, mix of some cobbles and abundant pebbles, tan sand, dark grey to tan gravel, loose, very soft consistency, subangular to round grains, no plasticity, gradual boundary
45			
50			
55			
60		SP	
65			
70			(67 - 87) SAND, SP, coarse to medium grain sand, some pebbles, dark grey to tan, loose, very soft consistency, subangular grains, no plasticity, wet, 77-87: no recovery
75			
80			
85			

 Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446	Notes: Water used during sonic drilling.											
	<table border="0"> <tr> <td><u>Annular Materials</u></td> <td><u>Well Materials</u></td> <td><u>TOC Elevation (ft)</u></td> </tr> <tr> <td>(0 - 1.0) Concrete</td> <td>(0 - 48.4) Casing, 2" Sch 40 FJT PVC</td> <td>2004.37</td> </tr> <tr> <td>(1.0 - 45.0) 3/8" Hole Plug Bentonite Chips</td> <td>(48.4 - 73.4) Screen, 2" Sch 40 FIT PVC,</td> <td></td> </tr> <tr> <td>(45.0 - 76.0) 10/20 Colorado Silica Sand</td> <td>0.01 slot</td> <td></td> </tr> </table>	<u>Annular Materials</u>	<u>Well Materials</u>	<u>TOC Elevation (ft)</u>	(0 - 1.0) Concrete	(0 - 48.4) Casing, 2" Sch 40 FJT PVC	2004.37	(1.0 - 45.0) 3/8" Hole Plug Bentonite Chips	(48.4 - 73.4) Screen, 2" Sch 40 FIT PVC,		(45.0 - 76.0) 10/20 Colorado Silica Sand	0.01 slot
<u>Annular Materials</u>	<u>Well Materials</u>	<u>TOC Elevation (ft)</u>										
(0 - 1.0) Concrete	(0 - 48.4) Casing, 2" Sch 40 FJT PVC	2004.37										
(1.0 - 45.0) 3/8" Hole Plug Bentonite Chips	(48.4 - 73.4) Screen, 2" Sch 40 FIT PVC,											
(45.0 - 76.0) 10/20 Colorado Silica Sand	0.01 slot											



Union Pacific Railroad

Log of Boring: MW-2

Aluminum Recycling - Trentwood Site 2317 North Sullivan Road Veradale, Washington	Completion Date:	10/20/2010	Drilling Method:	Sonic Drill
	Drilling Company:	Env. West Exploration	Borehole Diameter (in.):	6
PBW Project No. 3171	Driller:	James Cantrell	Total Depth (ft):	79
	Driller's License:	2936	Northing:	10180.33
	Field Supervisor:	Kevin Dworsky	Easting:	20097.09
	Sampling Method:	4" x 10' Hollow Barrel	Ground Elev. (ft AMSL):	1999.88

Depth (ft)	Well Materials	USCS	Lithologic Description
0			(0 - 8) Stockpile Material - grey, soft, homogenous, sharp boundary
5		FILL	
10			(8 - 9) SANDY GRAVEL, GP, mix of cobbles and pebbles, medium to fine grain sand, dark grey to tan gravel, dark grey sand, some organic staining, soft consistency, subangular to round grains, low plasticity, gradual boundary
15			(9 - 49) SANDY GRAVEL, GP, mix of cobbles and pebbles, medium to fine grain sand, dark grey to tan gravel, tan sand with some reddish staining, very soft consistency, subangular to round grains, no plasticity, gradual boundary, large boulder at 44'
20			
25			
30			
35			
40		GP	
45			
50			(49 - 69) SANDY GRAVEL, GP, mix of cobbles and pebbles, coarse to fine grain sand with some silt, dark grey to tan gravel, tan sand, soft consistency, subangular to round grains, no plasticity, gradual boundary, wet at 55'
55			
60			
65			
70			(69 - 79) SAND, SP, coarse to medium grain sand, some pebbles, dark grey to tan, loose, very soft consistency, subangular grains, no plasticity, wet
75		SP	

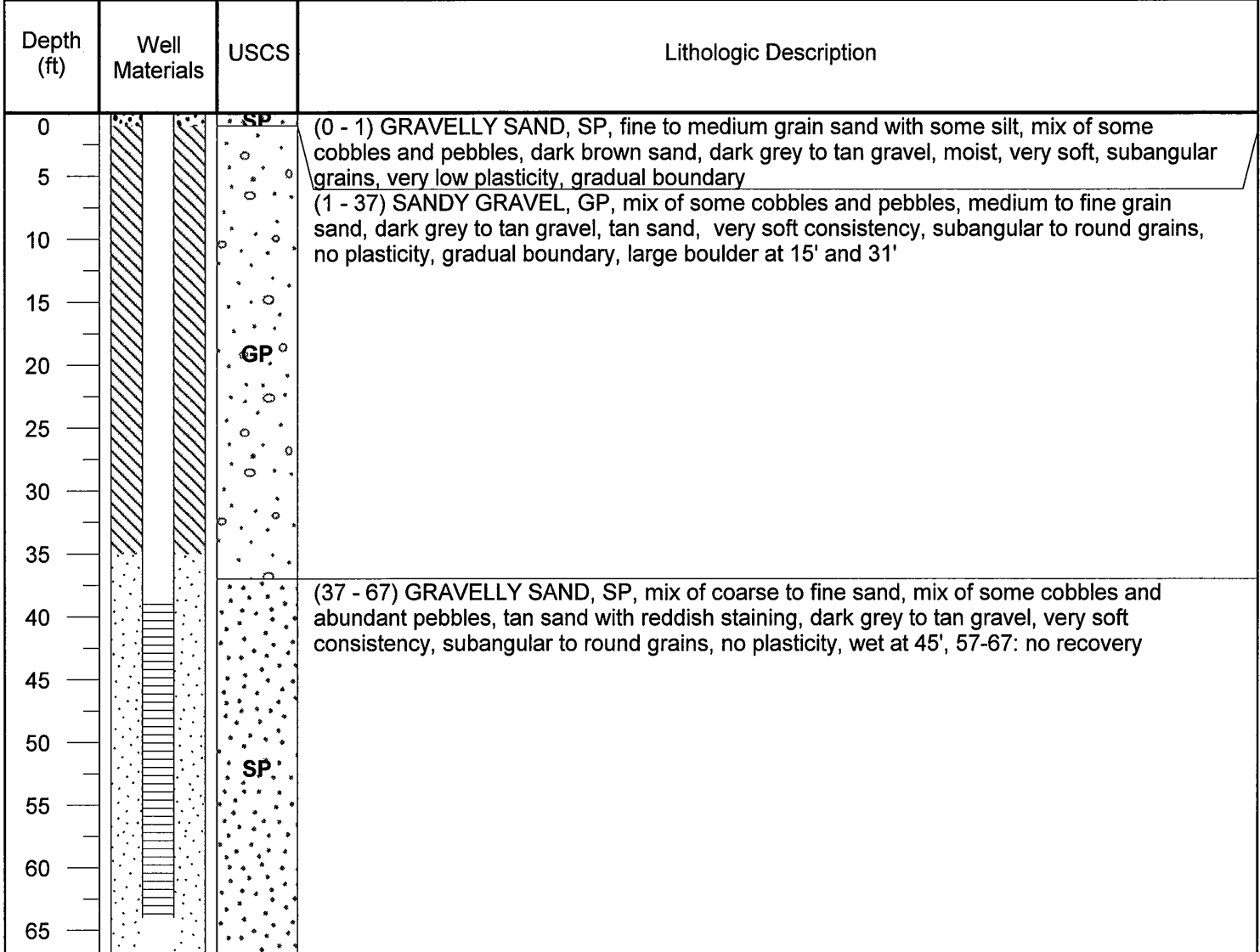
<h2>PBW</h2> <p>Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446</p>	Notes: Water used during sonic drilling. There was no noticable odor.											
	<table border="0"> <tr> <td><u>Annular Materials</u></td> <td><u>Well Materials</u></td> <td><u>TOC Elevation (ft)</u></td> </tr> <tr> <td>(0 - 1.0) Concrete</td> <td>(0 - 54.0) Casing, 2" Sch 40 FJT PVC</td> <td>2002.04</td> </tr> <tr> <td>(1.0 - 51.0) 3/8" Hole Plug Bentonite Chips</td> <td>(54.0 - 79.0) Screen, 2" Sch 40 FJT PVC,</td> <td></td> </tr> <tr> <td>(51.0 - 79.0) 10/20 Colorado Silica Sand</td> <td>0.01 slot</td> <td></td> </tr> </table>	<u>Annular Materials</u>	<u>Well Materials</u>	<u>TOC Elevation (ft)</u>	(0 - 1.0) Concrete	(0 - 54.0) Casing, 2" Sch 40 FJT PVC	2002.04	(1.0 - 51.0) 3/8" Hole Plug Bentonite Chips	(54.0 - 79.0) Screen, 2" Sch 40 FJT PVC,		(51.0 - 79.0) 10/20 Colorado Silica Sand	0.01 slot
<u>Annular Materials</u>	<u>Well Materials</u>	<u>TOC Elevation (ft)</u>										
(0 - 1.0) Concrete	(0 - 54.0) Casing, 2" Sch 40 FJT PVC	2002.04										
(1.0 - 51.0) 3/8" Hole Plug Bentonite Chips	(54.0 - 79.0) Screen, 2" Sch 40 FJT PVC,											
(51.0 - 79.0) 10/20 Colorado Silica Sand	0.01 slot											




Union Pacific Railroad

Log of Boring: MW-3

Aluminum Recycling - Trentwood Site 2317 North Sullivan Road Veradale, Washington	Completion Date:	10/21/2010	Drilling Method:	Sonic Drill
	Drilling Company:	Env. West Exploration	Borehole Diameter (in.):	6
PBW Project No. 3171	Driller:	James Cantrell	Total Depth (ft):	67
	Driller's License:	2936	Northing:	10124.65
	Field Supervisor:	Kevin Dworsky	Easting:	19709.21
	Sampling Method:	4" x 10' Hollow Barrel	Ground Elev. (ft AMSL):	1985.88



 Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446	Notes: Water used during sonic drilling.											
	<table border="0"> <tr> <td><u>Annular Materials</u></td> <td><u>Well Materials</u></td> <td><u>TOC Elevation (ft)</u></td> </tr> <tr> <td>(0 - 1.0) Concrete</td> <td>(0 - 39.0) Casing, 2" Sch 40 FJT PVC</td> <td>1988.51</td> </tr> <tr> <td>(1.0 - 35.0) 3/8" Hole Plug Bentonite Chips</td> <td>(39.0 - 64.0) Screen, 2" Sch 40 FJT PVC,</td> <td></td> </tr> <tr> <td>(35.0 - 67.0) 10/20 Colorado Silica Sand</td> <td>0.01 slot</td> <td></td> </tr> </table>	<u>Annular Materials</u>	<u>Well Materials</u>	<u>TOC Elevation (ft)</u>	(0 - 1.0) Concrete	(0 - 39.0) Casing, 2" Sch 40 FJT PVC	1988.51	(1.0 - 35.0) 3/8" Hole Plug Bentonite Chips	(39.0 - 64.0) Screen, 2" Sch 40 FJT PVC,		(35.0 - 67.0) 10/20 Colorado Silica Sand	0.01 slot
<u>Annular Materials</u>	<u>Well Materials</u>	<u>TOC Elevation (ft)</u>										
(0 - 1.0) Concrete	(0 - 39.0) Casing, 2" Sch 40 FJT PVC	1988.51										
(1.0 - 35.0) 3/8" Hole Plug Bentonite Chips	(39.0 - 64.0) Screen, 2" Sch 40 FJT PVC,											
(35.0 - 67.0) 10/20 Colorado Silica Sand	0.01 slot											



Union Pacific Railroad

Log of Boring: BG-1

Aluminum Recycling - Trentwood Site 2317 North Sullivan Road Veradale, Washington	Completion Date:	10/21/2010	Drilling Method:	Sonic Drill
	Drilling Company:	Env. West Exploration	Borehole Diameter (in.):	4
PBW Project No. 3171	Driller:	James Cantrell	Total Depth (ft):	15
	Driller's License:	2936	Northing:	10886.83
	Field Supervisor:	Kevin Dworsky	Easting:	20169.6
	Sampling Method:	4" x 10' Hollow Barrel	Ground Elev. (ft AMSL):	1995.12

Depth (ft)	USCS	Lithologic Description
0	SP	(0 - 1.5) GRAVELLY SAND, SP, some medium to fine grain sand with some silt, some pebbles, dark brown sand, dark grey to tan gravel, abundant organic material, moist, very soft consistency, subangular grains, very low plasticity, gradual boundary
1		
2	GP	(1.5 - 15) SANDY GRAVEL, GP, mix of some cobbles and pebbles, medium to fine grain sand with some silt, dark grey to tan gravel, tan sand, moist, very soft consistency, subangular grains, no plasticity
3		
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13		
14		
15		

PBW
 Pastor, Behling & Wheeler, LLC
 2201 Double Creek Dr., Suite 4004
 Round Rock, TX 78664
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Notes:
 No water used during sonic drilling
 Borehole plugged with 3/8" bentonite chips upon completion.



Union Pacific Railroad

Log of Boring: BG-2

Aluminum Recycling - Trentwood Site 2317 North Sullivan Road Veradale, Washington	Completion Date:	10/21/2010	Drilling Method:	Sonic Drill
	Drilling Company:	Env. West Exploration	Borehole Diameter (in.):	4
PBW Project No. 3171	Driller:	James Cantrell	Total Depth (ft):	15
	Driller's License:	2936	Northing:	10894.31
	Field Supervisor:	Kevin Dworsky	Easting:	20166.4
	Sampling Method:	4" x 10' Hollow Barrel	Ground Elev. (ft AMSL):	1995.58

Depth (ft)	USCS	Lithologic Description
0 - 3	SP	(0 - 3) GRAVELLY SAND, SP, coarse to fine grain sand with some silt, some pebbles, dark brown sand, dark grey to tan gravel, abundant organic material, moist, very soft consistency, subangular to round grains, very low plasticity, gradual boundary
3 - 15	GP	(3 - 15) SANDY GRAVEL, GP, mix of cobbles and pebbles, medium to fine grain sand with some silt, dark grey to tan gravel, tan sand, dry, very soft consistency, subangular to round grains, no plasticity

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Notes:
 No water used during sonic drilling
 Borehole plugged with 3/8" bentonite chips upon completion.



Union Pacific Railroad

Log of Boring: BG-3

Aluminum Recycling - Trentwood Site 2317 North Sullivan Road Veradale, Washington	Completion Date:	10/21/2010	Drilling Method:	Sonic Drill
	Drilling Company:	Env. West Exploration	Borehole Diameter (in.):	4
	Driller:	James Cantrell	Total Depth (ft):	15
	Driller's License:	2936	Northing:	10905.69
	Field Supervisor:	Kevin Dworsky	Easting:	20161.08
PBW Project No. 3171	Sampling Method:	4" x 10' Hollow Barrel	Ground Elev. (ft AMSL):	1995.38

Depth (ft)	USCS	Lithologic Description
0 - 3	SP	(0 - 3) GRAVELLY SAND, SP, coarse to fine grain sand with some silt, some pebbles, dark brown sand, dark grey to tan gravel, abundant organic material, moist, very soft consistency, subangular to round grains, no plasticity, gradual boundary
3 - 15	GP	(3 - 15) SANDY GRAVEL, GP, mix of cobbles and pebbles, medium to fine grain sand with some silt, dark grey to tan gravel, tan sand, loose, dry, very soft consistency, subangular grains, no plasticity

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Notes:
 No water used during sonic drilling
 Borehole plugged with 3/8" bentonite chips upon completion.



Union Pacific Railroad

Log of Boring: DB-1

Aluminum Recycling - Trentwood Site 2317 North Sullivan Road Veradale, Washington	Completion Date:	10/20/2010	Drilling Method:	Sonic Drill
	Drilling Company:	Env. West Exploration	Borehole Diameter (in.):	4
	Driller:	James Cantrell	Total Depth (ft):	19
	Driller's License:	2936	Northing:	101.68.10
	Field Supervisor:	Kevin Dworsky	Easting:	20063.08
PBW Project No. 3171	Sampling Method:	4" x 10' Hollow Barrel	Ground Elev. (ft AMSL):	1998.36

Depth (ft)	USCS	Lithologic Description
0	FILL	(0 - 4) Stockpile Material/Dross, grey, soft, sharp boundary
1		
2		
3		
4	GP	(4 - 19) SANDY GRAVEL, GP, mix of cobbles and pebbles, medium to fine grain sand, dark grey to tan gravel, tan sand, dry, very soft consistency, subangular to round grains, no plasticity
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8		
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11		
12		
13		
14		
15		
16		
17		
18		
19		

<p>PBW</p> <p>Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446</p>	<p>Notes: No water used during sonic drilling. There was no noticable odor. Borehole plugged with 3/8" bentonite chips upon completion.</p>
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Union Pacific Railroad

Log of Boring: DB-2

Aluminum Recycling - Trentwood Site 2317 North Sullivan Road Veradale, Washington	Completion Date:	10/20/2010	Drilling Method:	Sonic Drill
	Drilling Company:	Env. West Exploration	Borehole Diameter (in.):	4
PBW Project No. 3171	Driller:	James Cantrell	Total Depth (ft):	21
	Driller's License:	2936	Northing:	10203.19
	Field Supervisor:	Kevin Dworsky	Easting:	19901.27
	Sampling Method:	4" x 10' Hollow Barrel	Ground Elev. (ft AMSL):	1994.88

Depth (ft)	USCS	Lithologic Description
0	FILL	(0 - 6) Stockpile Material/Dross grey, dry from 0 - 2', moist from 2' - 6', sharp boundary
1		
2		
3		
4		
5		
6	GP	(6 - 6.5) SANDY GRAVEL, GP, mix of cobbles and pebbles, medium to fine grain sand, dark grey to tan gravel, dark brown, moist, soft consistency, subangular to round grains, no plasticity, gradual boundary
7		(6.5 - 21) SANDY GRAVEL, GP, mix of cobbles and pebbles, medium to fine grain sand, dark grey to tan gravel, tan sand, dry, very soft consistency, subangular to round grains, no plasticity
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14		
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21		

<p>PBW</p> <p>Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446</p>	<p>Notes: No water used during sonic drilling. There was no noticable odor. Borehole plugged with 3/8" bentonite chips upon completion.</p>
--	---



Union Pacific Railroad

Log of Boring: SB-1

Aluminum Recycling - Trentwood Site 2317 North Sullivan Road Veradale, Washington	Completion Date:	10/20/2010	Drilling Method:	Sonic Drill
	Drilling Company:	Env. West Exploration	Borehole Diameter (in.):	4
PBW Project No. 3171	Driller:	James Cantrell	Total Depth (ft):	15
	Driller's License:	2936	Northing:	10146.23
	Field Supervisor:	Kevin Dworsky	Easting:	20399.62
	Sampling Method:	4" x 10' Hollow Barrel	Ground Elev. (ft AMSL):	1967.27

Depth (ft)	USCS	Lithologic Description
0	FILL	(0 - 0.5) Stockpile Material/Dross, grey, soft, moist, sharp boundary
1		(0.5 - 2) SANDY GRAVEL, GP, mix of cobbles and pebbles, medium to fine grain sand, dark grey to tan gravel, dark brown san, moist, soft consistency, subangular to round grains, no plasticity, gradual boundary
2		(2 - 15) SANDY GRAVEL, GP, mix of cobbles and pebbles, medium to fine grain sand, grey to tan gravel, tan sand, dry, very soft consistency, subangular to round grains, no plasticity, boulder at 11'
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12		
13		
14		
15		

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Notes:
 Water used from 11.0' - 15.0' during sonic drilling
 Borehole plugged with 3/8" bentonite chips upon completion.



Union Pacific Railroad

Log of Boring: SB-2

Aluminum Recycling - Trentwood Site 2317 North Sullivan Road Veradale, Washington	Completion Date:	10/21/2010	Drilling Method:	Sonic Drill
	Drilling Company:	Env. West Exploration	Borehole Diameter (in.):	4
PBW Project No. 3171	Driller:	James Cantrell	Total Depth (ft):	16
	Driller's License:	2936	Northing:	10235.63
	Field Supervisor:	Kevin Dworsky	Easting:	19793.69
	Sampling Method:	4" x 10' Hollow Barrel	Ground Elev. (ft AMSL):	1988.07

Depth (ft)	USCS	Lithologic Description
0	FILL	(0 - 1) Stockpile Material/Dross, grey, soft, moist, sharp boundary
1		(1 - 2) Topsoil (sandy gravel) - mix of some cobble and pebbles, some medium to fine grain sand, dark grey to tan gravel, dark brown sand, moist, very soft consistency, subangular grains, no plasticity, gradual boundary
2		
3		(2 - 16) SANDY GRAVEL, GP, mix of cobbles and pebbles, medium to fine grain sand, grey to tan gravel, tan sand with some reddish staining, dry, very soft consistency, subangular to round grains, no plasticity
4		
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9	GP	
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11		
12		
13		
14		
15		
16		

<p>PBW</p> <p>Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446</p>	<p>Notes: No water used during sonic drilling Borehole plugged with 3/8" bentonite chips upon completion.</p>
--	---



Union Pacific Railroad

Log of Boring: SB-3

Aluminum Recycling - Trentwood Site 2317 North Sullivan Road Veradale, Washington	Completion Date:	10/21/2010	Drilling Method:	Sonic Drill
	Drilling Company:	Env. West Exploration	Borehole Diameter (in.):	4
PBW Project No. 3171	Driller:	James Cantrell	Total Depth (ft):	15
	Driller's License:	2936	Northing:	10165.7
	Field Supervisor:	Kevin Dworsky	Easting:	19642.87
	Sampling Method:	4" x 10' Hollow Barrel	Ground Elev. (ft AMSL):	1984.87

Depth (ft)	USCS	Lithologic Description
0	GP	(0 - 1.5) SANDY GRAVEL, GP, mix of cobble and some pebbles, fine grain sand with some silt, dark grey to tan gravel, dark brown sand, some organic material, moist, very soft consistency, subangular to round grains, no plasticity, gradual boundary
1		(1.5 - 15) SANDY GRAVEL, GP, mix of cobbles and pebbles, coarse to fine grain sand, dark grey to tan gravel, tan sand, dry, soft consistency, subangular to round grains, no plasticity
2	GP	
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15		

PBW
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Notes:
 No water used during sonic drilling
 Borehole plugged with 3/8" bentonite chips upon completion.



Union Pacific Railroad

Log of Boring: SB-4

Aluminum Recycling - Trentwood Site 2317 North Sullivan Road Veradale, Washington	Completion Date:	10/20/2010	Drilling Method:	NA
	Drilling Company:	Env. West Exploration	Borehole Diameter (in.):	NA
	Driller:	James Cantrell	Total Depth (ft):	1
PBW Project No. 3171	Driller's License:	2936	Northing:	10156.81
	Field Supervisor:	Kevin Dworsky	Easting:	19476.38
	Sampling Method:	By hand with trowel	Ground Elev. (ft AMSL):	1955.07

Depth (ft)	USCS	Lithologic Description
0 — 1		(0 - 1) GRAVELLY SAND, SP, some medium to fine grain sand with some silt, some pebbles, dark brown sand, dark grey to tan gravel, abundant organic material, moist, very soft consistency, subangular grains, very low plasticity

<p>PBW Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446</p>	<p>Notes: Hand dug with trowel</p>
--	--



Union Pacific Railroad

Log of Boring: SB-5

Aluminum Recycling - Trentwood Site 2317 North Sullivan Road Veradale, Washington	Completion Date:	10/20/2010	Drilling Method:	Sonic Drill
	Drilling Company:	Env. West Exploration	Borehole Diameter (in.):	4
PBW Project No. 3171	Driller:	James Cantrell	Total Depth (ft):	15
	Driller's License:	2936	Northing:	10077.39
	Field Supervisor:	Kevin Dworsky	Easting:	20212.58
	Sampling Method:	4" x 10' Hollow Barrel	Ground Elev. (ft AMSL):	1964.16

Depth (ft)	USCS	Lithologic Description
0	FILL	(0 - 0.3) Stockpile Material/Dross, grey, soft, moist, sharp boundary
1		(0.3 - 2) SANDY GRAVEL, GP, mix of cobbles and pebbles, medium to fine grain sand, dark grey to tan gravel, tan to dark brown, moist, soft consistency, subangular to round grains, low plasticity, gradual boundary
2		(2 - 15) SANDY GRAVEL, GP, mix of cobbles and pebbles, medium to fine grain sand, dark grey to tan gravel, tan sand, dry, very soft consistency, subangular to round grains, no plasticity, boulders at 10' and 12'
3		
4		
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6		
7		
8	GP	
9		
10		
11		
12		
13		
14		
15		

PBW
Pastor, Behling & Wheeler, LLC
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 Round Rock, TX 78664
 Tel (512) 671-3434 Fax (512) 671-3446

Notes:
 No water used during sonic drilling
 Borehole plugged with 3/8" bentonite chips upon completion.



Union Pacific Railroad

Log of Boring: SB-6

Aluminum Recycling - Trentwood Site 2317 North Sullivan Road Veradale, Washington	Completion Date:	12/8/2010	Drilling Method:	NA
	Drilling Company:	Env. West Exploration	Borehole Diameter (in.):	NA
	Driller:	James Cantrell	Total Depth (ft):	1
	Driller's License:	2936	Northing:	47.676831
PBW Project No. 3171	Field Supervisor:	Kevin Dworsky	Easting:	-117.200657
	Sampling Method:	By hand with trowel	Ground Elev. (ft AMSL):	NA

Depth (ft)	USCS	Lithologic Description
0 — 1		(0 - 1) GRAVELLY SAND, SP, some medium to fine grain sand with some silt, some pebbles, dark brown sand, dark grey to tan gravel, abundant organic material, moist, very soft consistency, subangular grains, very low plasticity

<h2>PBW</h2> <p>Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446</p>	<p>Notes: Hand dug with trowel</p>
--	--



Union Pacific Railroad

Log of Boring: SB-7

Aluminum Recycling - Trentwood Site 2317 North Sullivan Road Veradale, Washington	Completion Date:	12/8/2010	Drilling Method:	NA
	Drilling Company:	Env. West Exploration	Borehole Diameter (in.):	NA
PBW Project No. 3171	Driller:	James Cantrell	Total Depth (ft):	1
	Driller's License:	2936	Northing:	47.676795
	Field Supervisor:	Kevin Dworsky	Easting:	-117.199901
	Sampling Method:	By hand with trowel	Ground Elev. (ft AMSL):	NA

Depth (ft)	USCS	Lithologic Description
0		(0 - 1) GRAVELLY SAND, SP, some medium to fine grain sand with some silt, some pebbles, dark brown sand, dark grey to tan gravel, abundant organic material, moist, very soft consistency, subangular grains, very low plasticity
1		

<p style="font-size: 2em; font-weight: bold; margin: 0;">PBW</p> <p>Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446</p>	<p>Notes: Hand dug with trowel</p>
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Union Pacific Railroad

Log of Boring: SB-8

Aluminum Recycling - Trentwood Site 2317 North Sullivan Road Veradale, Washington	Completion Date:	12/8/2010	Drilling Method:	NA
	Drilling Company:	Env. West Exploration	Borehole Diameter (in.):	NA
PBW Project No. 3171	Driller:	James Cantrell	Total Depth (ft):	1
	Driller's License:	2936	Northing:	47.677138
	Field Supervisor:	Kevin Dworsky	Easting:	-117.199142
	Sampling Method:	By hand with trowel	Ground Elev. (ft AMSL):	NA

Depth (ft)	USCS	Lithologic Description
0		(0 - 1) GRAVELLY SAND, SP, some medium to fine grain sand with some silt, some pebbles, dark brown sand, dark grey to tan gravel, abundant organic material, moist, very soft consistency, subangular grains, very low plasticity
1		

<p>PBW</p> <p>Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446</p>	<p>Notes: Hand dug with trowel</p>
--	--

APPENDIX B

Receptor Survey Results

**TABLE B-1
RECEPTOR SURVEY RESULTS**

QUADRANT	LAND USE	SENSITIVE RECEPTORS	TOPOGRAPHY AND DRAINAGE	SURFACE WATER BODIES	DRAINAGE DITCHES	WATER WELLS OR CISTERNS	WATER METERS	WATER TANKS OR PUMP HOUSES	WINDMILLS	OTHER
Northeast (NE)	Industrial <ul style="list-style-type: none"> • UPRR property including part of dross stockpile • Kemira Water Solutions Inc. plant • UPRR rail line • UPRR undeveloped industrial property 	None identified	<ul style="list-style-type: none"> • General slope toward Spokane River • Steep slopes on dross stockpile • Relatively flat otherwise with the exception of the elevated area on UPRR property to the north of Kemira/rail line and associated hole in ground • UPRR rail slightly elevated above surrounding property 	None observed	None observed	None observed	Assumed that Kemira has a water meter but not located	None observed	None observed	There is occasional trespasser traffic in this quadrant.
Southeast (SE)	Industrial <ul style="list-style-type: none"> • UPRR property including part of dross stockpile • Kemira Water Solutions Inc. plant • UPRR undeveloped industrial property Undeveloped <ul style="list-style-type: none"> • Open space owned by State of Washington 	None identified	<ul style="list-style-type: none"> • General slope toward Spokane River • Steep slope south of dross stockpile and Kemira plant down to plateau • Relatively flat over most of rest of area 	None observed	None observed	None observed	None observed	None observed	None observed	There is occasional trespasser traffic in this quadrant.
Southwest (SW)	Industrial <ul style="list-style-type: none"> • UPRR property including part of dross stockpile • UPRR undeveloped industrial property • Undeveloped industrial property owned by others Undeveloped <ul style="list-style-type: none"> • Open space owned by State of Washington • Spokane River 	None identified	<ul style="list-style-type: none"> • Steep slope south of dross stockpile • Relatively flat over most of rest of area • Steep slope from within approximately 100 feet of river to river bank 	Spokane River	None observed	None observed. A three-foot diameter well/pit constructed of corrugated pipe of unknown origin was observed in the SW quadrant. It is currently filled with dirt and debris to within two feet of land surface.	None observed	None observed	None observed	There is occasional trespasser traffic in this quadrant.
Northwest (NW)	Industrial <ul style="list-style-type: none"> • UPRR property including part of dross stockpile • Undeveloped industrial property owned by others 	None identified	<ul style="list-style-type: none"> • Steep slope south of dross stockpile • Relatively flat over most of rest of area • Steep slope from within approximately 100 feet of river to river bank 	Spokane River	None observed	A water well was present on the property just north of the dross stockpile but was plugged and abandoned in October 2010 (witnessed by PBW)	None observed	None observed	None observed	There is occasional trespasser traffic in this quadrant.



Water Well Report™

Tuesday, May 25, 2010

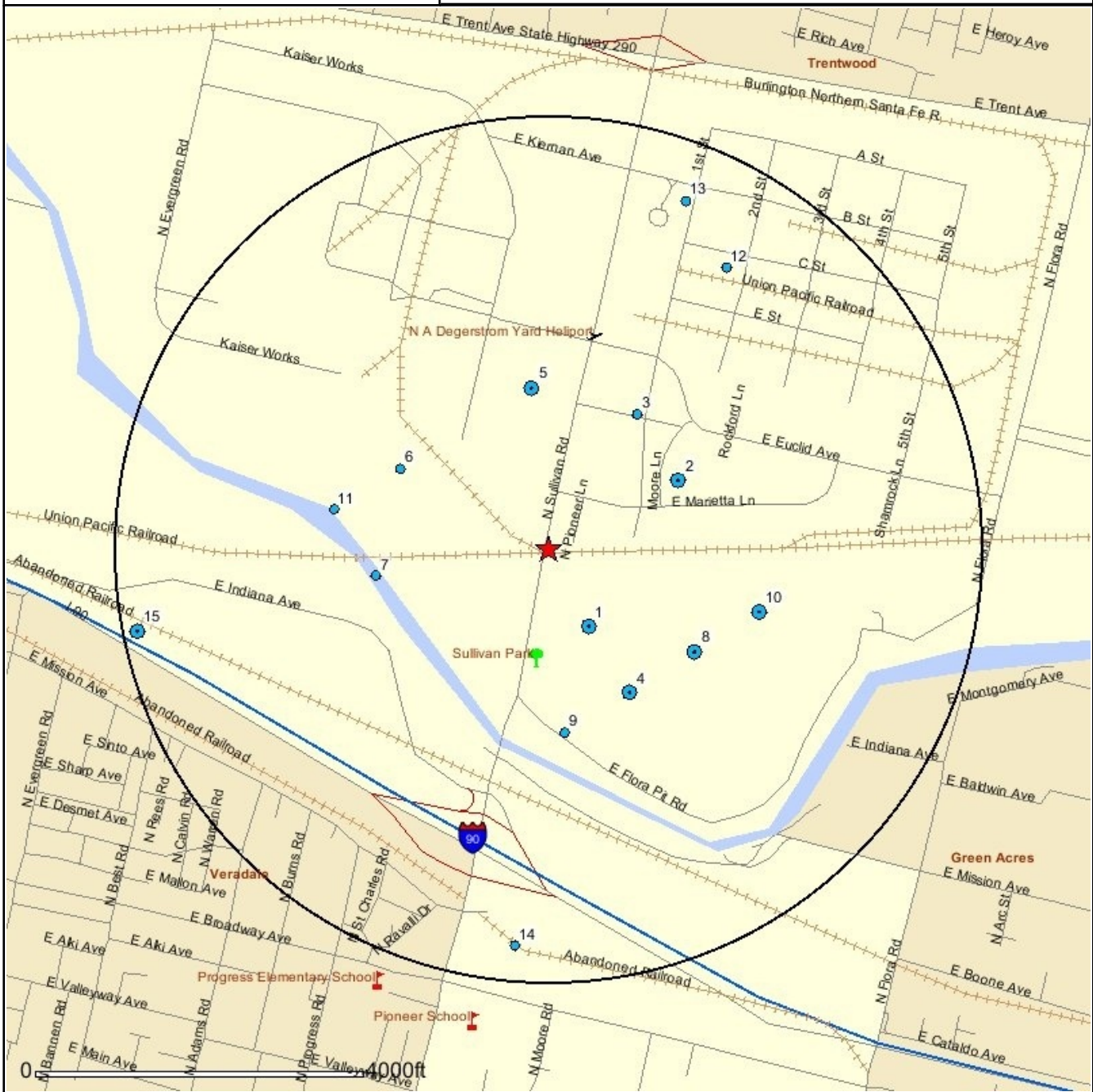
CLIENT

PASTOR, BEHLING & WHEELER, L.L.C.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

SITE

Aluminum Recycling Trentwood Site
2317 Sullivan Rd.
Spokane, WA 99216
PO #: 3171
ES #: 65785
BISMap #: 052510-2586

1601 Rio Grande Suite 500 Austin, Texas 78701
PH 512.478.0059 FAX 512.478.1433 E-mail banks@banksinfo.com



★ Site	🌳 Park	🏠 County
● Well	🎓 School	🗺 State
⊙ Cluster	⚰ Cemetary	🏙 Urban Area
🛣 Limited Access Hwy	🏢 Building	🌿 Open Space
🛣 Primary Highway	🚂 Railroad	🎓 Educational/Religious
🛣 Secondary Highway	⛪ Church	💧 Water Bodies
🛣 Roads	🛤 Trail	🏠 Multihousehold
🏥 Hospital	🌉 Bridge	🏢 Military
✈ Airport	🗼 Tower	🏢 Custodial Facility

One inch = 0.39 miles

Aluminum Recycling Trentwood Site

Banks Environmental Data
 1601 Rio Grande Suite 500 Austin, Texas 78701
 PH 512-478-0059 FAX 512-478-1433



E-Mail: banks@banksinfo.com



Water Well ReportTM

DETAILS

Map #	State ID	Owner of Well	Type of Well	Depth Drilled	Completion Date	Longitude	Latitude	Driller's Log
1	153855	INLAND ASPHALT - C/O WALT HEDDLUND	Water	120	5/19/1977	-117.19399	47.67698	View
1	159449	THE WASHINGTON WATER POWER CO.	Water	0	7/12/1986	-117.19399	47.67698	View
2	158982	SPOKANE INDUSTRIAL PARK	Water	117		-117.19139	47.68238	View
2	158988	SPOKANE INDUSTRIAL PARK, INC.	Water	117		-117.19139	47.68238	View
3	330566	SPOKANE INDUSTRIAL PARK	Water	117	3/18/2002	-117.19409	47.6842	View
4	150409	CENTRAL PRE - MIX	Water	160	12/29/1980	-117.1913	47.67516	View
4	150416	CENTRAL PREMIX	Water	140	12/5/1979	-117.1913	47.67516	View
5	150837	COMINCO AMERICAN INCORPORATION	Water	150		-117.19945	47.68423	View
5	150838	COMINCO AMERICAN, INC.	Water	130	11/3/1987	-117.19945	47.68423	View
5	292797	COMINCO PRODUCTS, INC.	Water	115		-117.19945	47.68423	View
6	155285	KAISER ALUMINUM TRENTWOOD WORKS	Water	120	10/16/1979	-117.20479	47.68062	View
7	158981	SPOKANE INDUSTRIAL PARK	Water	138	5/4/1971	-117.20475	47.67699	View
8	149175		Water	121	8/11/1970	-117.18866	47.67696	View
8	150415	CENTRAL PREMIX	Water	97	7/30/1978	-117.18866	47.67696	View
8	150417	CENTRAL PREMIX	Water	111	1/31/1994	-117.18866	47.67696	View
8	162427	CENTRAL PREMIX	Water	127		-117.18866	47.67696	View
9	157164	OCMLARE FARMS, INC.	Water	200	9/5/1987	-117.19394	47.67336	View
10	150410	CENTRAL PRE - MIX CONCRETE CO.	Water	78		-117.18602	47.67875	View
10	150413	CENTRAL PRE MIX CONCRETE CO.	Water	119	2/19/1985	-117.18602	47.67875	View
11	159430	THE HILLYARD PROCESSING, WASHINGTON	Water	125	1/12/1966	-117.20749	47.67881	View
12	158986	SPOKANE INDUSTRIAL PARK, INC.	Water	120		-117.19148	47.68963	View
13	158987	SPOKANE INDUSTRIAL PARK, INC.	Water	0		-117.19418	47.69146	View
14	157586	PONDEROSA DRILLING & DEVELOPMENT, INC.	Water	81	9/29/1984	-117.1939	47.6661	View
15	293233	U. S. BUREAU OF RECLAMATION	Water	0		-117.21551	47.67336	View
15	293234	U. S. BUREAU OF RECLAMATION	Water	0		-117.21551	47.67336	View
15	293235	U. S. BUREAU OF RECLAMATION	Water	0		-117.21551	47.67336	View

1601 Rio Grande Suite 500 Austin, Texas 78701
 PH 512.478.0059 FAX 512.478.1433 E-mail banks@banksinfo.com

WATER WELL REPORT

STATE OF WASHINGTON

GROUND BED HOLE

Application No.

Permit No.

(1) OWNER: Name The Washington Water Power Co. Address P.O. Box 3727, Spokane, WA 99220

LOCATION OF WELL: County SPOKANE NW 1/4 SW 1/4 Sec. 12 T. 25 N., R. 44E W.M.
 ing and distance from section or subdivision corner Trant Ave. and Dollar Road

(3) PROPOSED USE: Domestic Industrial Municipal
 Irrigation Test Well Other

(4) TYPE OF WORK: Owner's number of well (if more than one)
 New well Method: Dug Bored
 Deepened Cable Driven
 Reconditioned Rotary Jetted

(5) DIMENSIONS: Diameter of well 10 inches.
 Drilled 457 ft. Depth of completed well ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 10" Diam. from 0 ft. to 55 ft.
 Threaded " Diam. from ft. to ft.
 Welded " Diam. from ft. to ft.

Perforations: Yes No
 Type of perforator used
 SIZE of perforations in. by in.
 perforations from ft. to ft.
 perforations from ft. to ft.
 perforations from ft. to ft.

Screens: Yes No
 Manufacturer's Name
 Type Model No
 Diam. Slot size from ft. to ft.
 Diam. Slot size from ft. to ft.

Gravel packed: Yes No Size of gravel:
 Gravel placed from ft. to ft.

Surface seal: Yes No To what depth? 18 ft.
 Material used in seal Bentonite
 Did any strata contain unusable water? Yes No
 Type of water? Depth of strata
 Method of sealing strata off

(7) PUMP: Manufacturer's Name
 Type: H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ft.
 Static level 50 ft. below top of well Date 7/12/86
 Artesian pressure lbs. per square inch Date

Artesian water is controlled by
 (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
 Was a pump test made? Yes No If yes, by whom?

Yield:	gal./min. with	ft. drawdown after	hrs.
"	"	"	"
"	"	"	"

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

ate of test

Barrier test gal./min. with ft. drawdown after hrs.
 Artesian flow g.p.m. Date

Temperature of water Was a chemical analysis made? Yes No
 C/24/86

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Sand & Gravel w/ large boulders	0	45
Sand & Gravel w/ boulders & cobble & water	45	125
Sand & Gravel, coarse	125	318
Sand, cemented & Sandstone	318	453
Granite, hard	453	457
NOTE: THIS IS A GROUND BED HOLE NOT A WATER WELL		
200' of 6" PVC suspended from top of 10" casing		
8 probes put down at various depths and hole filled and sealed		
10" Drive shoe utilized		
JUL 23 1986		

Work started 7/07, 1986. Completed 7/12, 1986.

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME PONDEROSA DRILLING & DEVELOPMENT INC.
 (Person, firm, or corporation) (Type or print)

Address E. 6010 Broadway, Spokane WA 99212

[Signed] W. Joseph Glose Jr. (Well Driller)

License No. 1040 Date July 12, 1986

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Well #3

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION
Cert. 11197 DIVISION OF WATER RESOURCES
Perp. 10029, Cert. 7131
WELL LOG

Record by Driller
Source Driller's record

Location: State of WASHINGTON
County Spokane
Area
Map

1/4 NW 1/4 sec. 12. 25 N, R. 44 E W.

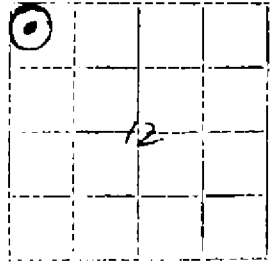


Diagram of Section

Drilling Co. A. A. Durand
Address Walla Walla, WA

Method of Drilling cable Date _____, 19____
Owner Spokane Industrial Park

Address N. 3808 Sullivan Road, Spokane, WA

Land surface, datum _____ ft. ^{above}
_{below}
SWL: 67'10" Date Sept. 10, 1980 Dims: 10" x 117"

CORRELATION	MATERIAL	From (feet)	To (feet)
-------------	----------	-------------	-----------

(Transcribe driller's terminology literally but paraphrase as necessary, in parentheses, if material water-bearing, so state and record static level if reported. Give depths in feet below land-surface datum unless otherwise indicated. Correlate with stratigraphic column, if feasible. Following log of materials, list all casings, perforations, screens, etc.)

CORRELATION	MATERIAL	From (feet)	To (feet)
	<u>Industrial use</u>		
	<u>gravel</u>	<u>0</u>	<u>117</u>
	<u>Casing: 10" from 0' to</u>	<u>117'</u>	
	<u>Pump: Peerless deep well turbine</u>	<u>7</u>	

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

110904

WATER WELL REPORT

Start Card No. W160316
 Unique Well I.D. # AGG620
 Water Right Permit No.

STATE OF WASHINGTON

(1) OWNER: Name **SPOKANE INDUSTRIAL PARK** Address **3808 N. SULLIVAN RD. SPOKANE, WA 99216-**
 (2) LOCATION OF WELL: County **SPOKANE** - NW 1/4 NW 1/4 Sec 12 T 25 N., R 44E WM
 (2a) STREET ADDRESS OF WELL (or nearest address) **SPOKANE INDUSTRIAL PARK, SPOKANE**

(3) PROPOSED USE: **INDUSTRIAL**

(10) WELL LOG

(4) TYPE OF WORK: Owner's Number of well
 (If more than one)
RECONDITIONED Method:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change in formation.

(5) DIMENSIONS: Diameter of well **10** inches
 Drilled **117.5** ft. Depth of completed well **117.4** ft.

MATERIAL FROM TO

(6) CONSTRUCTION DETAILS:
 Casing installed: " Dia. from ft. to ft.
 " Dia. from ft. to ft.
 " Dia. from ft. to ft.

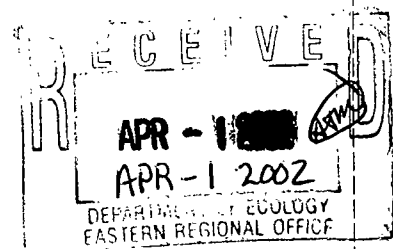
3/8" SCREEN WAS PLACED INSIDE EXISTING PERFORATED 10" STEEL CASING WHICH WAS DEGRADING.

Perforations: **NO**
 Type of perforator used
 SIZE of perforations in. by in.
 perforations from ft. to ft.
 perforations from ft. to ft.
 perforations from ft. to ft.

Screens: **YES**
 Manufacturer's Name **HOUSTON**
 Type **STAINLESS** Model No.
 Diam. **8** slot size **38** from **110.4** ft. to **117.4** ft.
 Diam. slot size from ft. to ft.

Gravel packed: **NO** Size of gravel
 Gravel placed from ft. to ft.

Surface seal: **NO** To what depth? ft.
 Material used in seal
 Did any strata contain unusable water? **NO**
 Type of water? Depth of strata ft.
 Method of sealing strata off



(7) PUMP: Manufacturer's Name
 Type H.P.

Work started 03/18/02 Completed 03/18/02

(8) WATER LEVELS: Land-surface elevation above mean sea level ... ft.
 Static level ft. below top of well Date **03/18/02**
 Artesian Pressure lbs. per square inch Date
 Artesian water controlled by

(9) WELL TESTS: Drawdown is amount water level is lowered below static level.
 Was a pump test made? **NO** If yes, by whom?
 Yield: gal./min with ft. drawdown after hrs.

WELL CONSTRUCTOR CERTIFICATION:
 I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Recovery data
 Time Water Level Time Water Level Time Water Level

NAME **FOGLE PUMP & SUPPLY, INC.**
 (Person, firm, or corporation) (Type or print)

ADDRESS **POB 1450, AIRWAY HTS. WA.**

Date of test / /
 Bailer test gal/min. ft. drawdown after hrs.
 Air test gal/min. w/ stem set at ft. for hrs.
 Artesian flow g.p.m. Date
 Temperature of water Was a chemical analysis made? **NO**

[SIGNED] *Martin Jensen/AK* License No. 1933

Contractor's
 Registration No. **FOGLEPS095L4** Date **03/22/02**

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report. I Report.

File Original and First Copy with
 Department of Ecology
 Second Copy — Owner's Copy
 Third Copy — Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Application No. _____
 Permit **3-21441**

(1) **OWNER:** Name Central Premix Address P. O. Box 3366, T.A., Spokane, WA. 99220
LOCATION OF WELL: County Spokane SW 1/4 Sec. 12 T. 25N. N. R. 44E W.M.
 _____ and distance from section or subdivision corner _____

(3) **PROPOSED USE:** Domestic Industrial Municipal
 Irrigation Test Well Other

(4) **TYPE OF WORK:** Owner's number of well _____ (if more than one)
 Method: Dug Bored
 Deepened Cable Driven
 Reconditioned Rotary Jetted

(5) **DIMENSIONS:** Diameter of well 8" inches.
 Drilled 140' ft. Depth of completed well 140' ft.

(6) **CONSTRUCTION DETAILS:**
 Casing installed: 8" Diam. from +2 ft. to 139' ft.
 Threaded " Diam. from _____ ft. to _____ ft.
 Welded " Diam. from _____ ft. to _____ ft.

Perforations: Yes No
 Type of perforator used _____
 SIZE of perforations _____ in. by _____ in.
 _____ perforations from _____ ft. to _____ ft.
 _____ perforations from _____ ft. to _____ ft.
 _____ perforations from _____ ft. to _____ ft.

Screens: Yes No
 Manufacturer's Name _____
 Type _____ Model No. _____
 Diam. _____ Slot size _____ from _____ ft. to _____ ft.
 Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel: _____
 Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes No To what depth? 18' ft.
 Material used in seal Bentonite
 Did any strata contain unusable water? Yes No
 Type of water? _____ Depth of strata _____
 Method of sealing strata off _____

(7) **PUMP:** Manufacturer's Name _____
 Type: _____ H.P. _____

(8) **WATER LEVELS:** Land-surface elevation _____ above mean sea level.
 Static level 60' ft. below top of well Date 2/5/79
 Artesian pressure _____ lbs. per square inch Date _____
 Artesian water is controlled by _____ (Cap, valve, etc.)

(9) **WELL TESTS:** Drawdown is amount water level is lowered below static level
 Was a pump test made? Yes No If yes, by whom? _____
 Yield: 250GPM gal./min. with _____ ft. drawdown after _____ hrs.
 " Estimated Airlift " " " " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____
 Pump test _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Artesian flow _____ g.p.m. Date _____
 Temperature of water _____ Was a chemical analysis made? Yes No

(10) **WELL LOG:**
 Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Sand, Gravel, Boulders	0	25
Sand & Gravel	25	55
Sand, Gravel W/Water	55	140

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 DEC 12 1979
 DEPARTMENT OF ECOLOGY
 SPOKANE REGIONAL OFFICE

141' - 8" Casing
1 8" Drive Shoe
1 Surface Seal @ 18'
NO PVC

Work started December 4, 1979 Completed December 5, 1979

WELL DRILLER'S STATEMENT:
 This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Ponderosa Drilling & Development, Inc.
 (Person, firm, or corporation) (Type or print)

Address 6010 E. Broadway, Spokane, WA. 99206

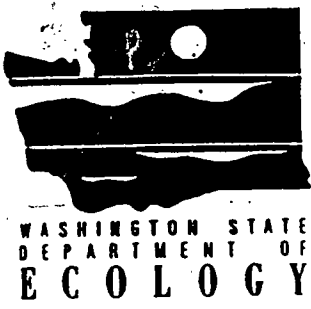
[Signed] Joseph L. Booth
 (Driller)

License No. #0564 Date December 7, 1979

12/12/79

(USE ADDITIONAL SHEETS IF NECESSARY)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report. I Report.



Well Tagging Form

Unique Well Tag No: AHC 195

RECORD VERIFICATION (check one)

- Well Report available (please attach this form to the well report and submit it to the Ecology Regional Office near you)
- Verification inconclusive PWS 06164 SOURCE 01
- Well Report not available

WELL OWNERSHIP, IF DIFFERENT FROM WELL REPORT

First Name: Central Premix- Last Name: _____
Sullivan Rd.
 Street Address: _____
 City: _____ State: _____

LOCATION OF WELL, IF DIFFERENT FROM WELL REPORT

Well Address: _____
 City: _____ County: Spokane
 T. _____ N. R. _____ W.M. Sec. _____ 1/4 of the _____

FOR AGENCY USE ONLY

Latitude 47° 40' 29.346"
 Longitude 117° 11' 34.101"

- GPS
- Topographic Map
- Survey
- Computer generated
- Digital Altimeter
- Topographic Map
- Other _____

Elevation at land surface _____ feet/meters (circle one)

Additional information, if available:

- Location marked on topographic map (please attach)
- Location marked on air photo (please attach)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report. I Report.

FOR AGENCY USE ONLY

WELL CHARACTERISTICS

Physical Description of well (size of casing, type of well, housing, etc.)

8" Casing 12" above ground

Location of Well identification Tag:

on well cap

Was supplemental tag needed for ease of identifying well?

Yes

No

If yes, where was tag placed?

D	C	B	A
E	F	G	H
M	L	K	J
N	P	Q	R

Scale 1:24,000 (1"=2,000')

Indicate the location of the well within the Section by drawing a dot at that point.

SECTION _____

COMMENTS:

FOR ECOLOGY WATER RESOURCES PROGRAM ONLY

Water Right # _____

Date Issued _____

Circle One:

Application

Permit

Certificate

Claim

Exempt

WATER WELL REPORT

STATE OF WASHINGTON

Application No. G3-21634

Permit No. G3-21634P

(1) OWNER: Name COMINGO AMERICAN INCORPORATED Address Building 101, Spokane Ind'l Park, Spokan
 (2) LOCATION OF WELL: County Spokane NE 1/4 NE 1/4 Sec 11 T 25 N, R 44 W M
ing and distance from section or subdivision corner 626 Feet South & 437 Feet West from NE Cor. Sec. 11

(3) PROPOSED USE: Domestic Industrial Municipal
 Irrigation Test Well Other

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
 New well Method: Dug Bored
 Deepened Cable Driven
 Reconditioned Rotary Jetted

(5) DIMENSIONS: Diameter of well 18 inches.
 Drilled 150 ft. Depth of completed well 150 ft.

(6) CONSTRUCTION DETAILS:
 Casing installed: 18 " Diam. from 0 ft. to 150 ft.
 Threaded " Diam. from _____ ft. to _____ ft.
 Welded 18 " Diam. from 0 ft. to 150 ft.

Perforations: Yes No
 Type of perforator used _____
 SIZE of perforations _____ in. by _____ in.
 _____ perforations from _____ ft. to _____ ft.
 _____ perforations from _____ ft. to _____ ft.
 _____ perforations from _____ ft. to _____ ft.

Screens: Yes No
 Manufacturer's Name Edward E. Johnson, Inc.
 Type Stainless Steel Model No. _____
 Diam. 18 " Slot size #200 from 120 ft. to 140 ft.
 Diam. 18 " Slot size #130 from 140 ft. to 143 ft.
18 " Slot size #110 from 143 ft. to 150 ft.

Gravel packed: Yes No Size of gravel: _____
 Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes No To what depth? 24 ft.
 Material used in seal concrete
 Did any strata contain unusable water? Yes No
 Type of water? _____ Depth of strata _____
 Method of sealing strata off _____

(7) PUMP: Manufacturer's Name Aurora
 Type: Vertical Turbine H.P. 50

(8) WATER LEVELS: Land-surface elevation 2009 ft.
 Static level 67.8 ft. below top of well Date 3/27/74
 Artesian pressure None lbs. per square inch Date _____
 Artesian water is controlled by _____
 (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level Holman
 Was a pump test made? Yes No If yes, by whom? Drilling Co
 Yield: 3511 gal./min. with 5.1 ft. drawdown after 1/2 hrs.
 " 3511 " 5.3 " 1/2 "
 " 3511 " 5.3 " 2 "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
0	69.5				
50sec.	67.8				

Date of test March 27, 1974
 Baller test _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Artesian flow None g.p.m. Date _____
 Temperature of water _____ Was a chemical analysis made? Yes No

(10) WELL LOG:
 Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Sand and Gravel	0	15
Boulder	15	19
Coarse Gravel 4"+	19	27
Gravel	27	31
Sand & Gravel	31	143
Coarse Sand	143	150

RECEIVED

MARCH 29 1974

DEPT. OF ECOLOGY

STATE OF WASHINGTON

3500

11

TAD

Work started _____, 19____. Completed _____, 19____.

WELL DRILLER'S STATEMENT:
 This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Holman Drilling Corporation
 (Person, firm, or corporation) (Type or print)

Address E. 3410 Ninth Ave. Spokane, Wa. 99202

[Signed] Ronald E. Holman
 (Well Driller)

License No. 189 Date August 13, 1974

9/5/74 *[Signature]*
 USE ADDITIONAL SHEETS IF NECESSARY

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Dep. The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

File Original and First Copy with Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Application No. **G3-26701**
Permit No. **G3-267001**

(1) OWNER: Name **COMINCO AMERICAN, INC.** Address **E. 15128 EUCLID SPOKANE WA. 99216**
LOCATION OF WELL: County **SPOKANE** N.E. 1/4 NE 1/4 Sec 11 T. 25 N. R. 14 E. W. M.
Location and distance from section or subdivision corner **626' South & 437' West From THE NE CORNER OF SEC. 11**

(3) PROPOSED USE: Domestic Industrial Municipal
Irrigation Test Well Other

(4) TYPE OF WORK: Owner's number of well (if more than one) **2**
New well Method: Dug Bored
Deepened Cable Driven
Reconditioned Rotary Jetted

(5) DIMENSIONS: Diameter of well **10** inches.
Drilled **130** ft. Depth of completed well **130** ft.

(6) CONSTRUCTION DETAILS:
Casing installed: **10"** Diam. from **+ 1 1/2** ft. to **115 1/2** ft.
Threaded " Diam. from " ft. to " ft.
Welded " Diam. from " ft. to " ft.

Perforations: Yes No
Type of perforator used.....
SIZE of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: Yes No
Manufacturer's Name **COOK**
Type **STAINLESS STEEL** Model No.....
Diam. **10"** Slot size **70** from **114** ft. to **130** ft.
Diam. Slot size from ft. to ft.

Gravel packed: Yes No Size of gravel:
Gravel placed from ft. to ft.

Surface seal: Yes No To what depth? **18** ft.
Material used in seal **BENTONITE**
Did any strata contain unusable water? Yes No
Type of water? Depth of strata.....
Method of sealing strata off.....

(7) PUMP: Manufacturer's Name **JACUZZI**
Type **SUB 2936X-6** HP. **25**

(8) WATER LEVELS: Land-surface elevation above mean sea level..... ft.
Static level **78'** ft. below top of well Date **9/3/87**
Artesian pressure lbs. per square inch Date.....
Artesian water is controlled by..... (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level.
Was a pump test made? Yes No If yes, by whom? **AAA Pump Serv**
Yield: **350** gal./min. with **0** ft. drawdown after **2** hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test **11/3/87**
Bailer test: **50** gal./min. with **0** ft. drawdown after **2** hrs.
Artesian flow g.p.m. Date **9/3/87**
Temperature of water..... Was a chemical analysis made? Yes No

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
GRAVEL, SAND, & SILT (GRAY)	0	8'
BOLDER'S & GRAVEL (GRAY)	8'	19'
GRAVEL & SAND (GRAY)	19'	60'
BOLDER'S & GRAVEL (GRAY)	60'	67'
GRAVEL & COBBLES (GRAY)	67'	78'
GRAVEL, COBBLES & SAND	78'	130'
AQUIFER (GRAY)		

RECEIVED

NOV - 9 1987

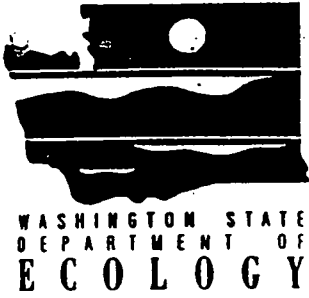
DEPARTMENT OF ECOLOGY
SPOKANE REGIONAL OFFICE

Work started **AUG. 14, 1987** Completed **Nov. 3, 1987**

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
NAME **AAA PUMP SERVICE INC.**
(Person, firm, or corporation) (Type or print)
Address **S. 17 Willow SPOKANE WA. 99206**
[Signed] **James H. Flanigan**
(Well Driller)
License No. **0133** Date **Nov. 3, 1987**

11/9/87

The Department of Ecology does NOT warrant the Data and/or the Information on this Well Report.



Well Tagging Form

Unique Well Tag No: AHC 199

RECORD VERIFICATION (check one)

- Well Report available (please attach this form to the well report and submit it to the Ecology Regional Office near you)
- Verification inconclusive PWS 14313 SOURCE 02
- Well Report not available

WELL OWNERSHIP, IF DIFFERENT FROM WELL REPORT

First Name: Johnson Matthey Electronics INC Last Name: _____
 Street Address: now Honeywell Electronic Materials
 City: _____ State: _____

LOCATION OF WELL, IF DIFFERENT FROM WELL REPORT

Well Address: _____
 City: _____ County: Spokane
 T. _____ N. R. _____ W.M. Sec. _____ 1/4 of the _____

FOR AGENCY USE ONLY

Latitude 47° 41 . 03. 100 "
 Longitude 117° 11 . 54. 851 "

- GPS
- Topographic Map
- Survey
- Computer generated

Elevation at land surface _____ feet/meters (circle one)

Additional information, if available:

- Digital Altimeter
- Topographic Map
- Other _____

- Location marked on topographic map (please attach)
- Location marked on air photo (please attach)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WELL CHARACTERISTICS

Physical Description of well (size of casing, type of well, housing, etc.)

10" casing 18' above ground

Location of Well identification Tag:

on elec. conduit at well head

Was supplemental tag needed for ease of identifying well?

Yes

No

If yes, where was tag placed?

D	C	B	A
E	F	G	H
M	L	K	J
N	P	Q	R

Scale 1:24,000 (1"=2,000')

Indicate the location of the well within the Section by drawing a dot at that point.

SECTION _____

COMMENTS:

FOR ECOLOGY WATER RESOURCES PROGRAM ONLY

Water Right # _____

Date Issued _____

Circle One:

Application

Permit

Certificate

Claim

Exempt

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION
AND DEVELOPMENT

WELL LOG

No. Appl. 4309

Date Sept. 20, 19 56

Record by Well driller

Source driller's record

Location: State of WASHINGTON

County Spokane

Area

Map

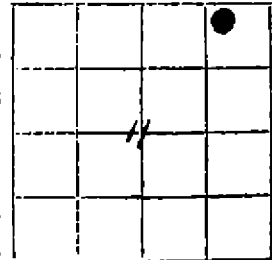


Diagram of Section

NW 1/4 NE 1/4 NE 1/4 sec. 11 T. 25 N. R. 44 E.

Drilling c Oliver F. Zinkgraf

Address Spokane, Wash.

Method of Drilling Date Sept. 19 56

Owner Cominco Products Inc.

Address Spokane, Wash.

Land surface, datum ft above
below

CORRE- LATION	MATERIAL	THICKNESS (feet)	DEPTH (feet)
	Top soil	2	2
	Nigger heads, boulders gravel	20	22
	Sand, gravel, few boulders	18	40
	Sand, gravel, boulders	20	60
	" " few boulders	55	115
	Diam. 115'x10"		
	SWL: 74 ft.		
	DD: 1 ft.		
	Yield: 200 g.p.m.		
	Water Temp. 56° F.		
	Type & size of pump: deep well turbine 8"		
	Type & size of engine: vertical shaft 25 h.p.		

Turn up

(over)

Sheet of sheets

WELL LOG.—Continued

No. /

COMBINATION	MATERIAL	THICKNESS (feet)	DEPTH (feet)
	Depth forward	———	
	CASING: 10" diam. std. blk. pipe from 1 to 115 ft.		
	10" steel drive shoe welded to bottom section.		
	PERFORATIONS: 20 perforations per ft. 3/3"x2"		
		From 80 to 83 ft	
"	"	"	85 to 93 ft
"	"	"	97 to 102 ft
"	"	"	104 to 108 ft

S. F. No. 7448-12-54-3M. 40108.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WATER WELL REPORT

STATE OF WASHINGTON

Application No. _____

Permit No. _____

(1) **OWNER:** Name Kaiser Aluminum Trentwood Works Address P.O. Box 15108 Spokane, Wash. 99215

LOCATION OF WELL: County Spokane SW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec 11 T. 25 N. R. 44 W.M.

bearing and distance from section or subdivision corner

(3) **PROPOSED USE:** Domestic Industrial Municipal
Irrigation Test Well Other monitor

(4) **TYPE OF WORK:** Owner's number of well (if more than one): _____
New well Method: Dug Bored
Deepened Cable Driven
Reconditioned Rotary Jetted

(5) **DIMENSIONS:** Diameter of well 6 inches.
Drilled 120 ft Depth of completed well 120 ft.

(6) **CONSTRUCTION DETAILS:**
Casing installed: 6 " Diam. from +1 ft. to 121 ft.
Threaded " Diam. from _____ ft. to _____ ft.
Welded " Diam. from _____ ft. to _____ ft.

Perforations: Yes No
Type of perforator used mill knife
SIZE of perforations $\frac{1}{4}$ in. by 3 in.
20 perforations from 75 ft. to 85 ft.
20 perforations from 95 ft. to 105 ft.
10 perforations from 115 ft. to 120 ft.

Screens: Yes No
Manufacturer's Name _____ Model No _____
Type _____ Diam _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes No To what depth? 18 ft.
Material used in seal: ~~expanded~~ cement.
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) **PUMP:** Manufacturer's Name _____
Type: _____ HP

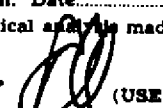
(8) **WATER LEVELS:** Land-surface elevation 2000 ft. above mean sea level.
Static level 85 ft. below top of well Date _____
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) **WELL TESTS:** Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom? _____
Yield: gal./min. with _____ ft. drawdown after _____ hrs.

Time	Water Level	Time	Water Level	Time	Water Level

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Date of test _____
Yield test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water $^{\circ}$ Cold _____ Was a chemical analysis made? Yes No

11/8/79  (USE ADDITIONAL SHEETS IF NECESSARY)

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
gravel & soil	0	3
black ash material	3	5
gravel & large bolders	5	23
gravel course	23	62
gravel & sand	62	77
gravel (water)	77	90
gravel clay mixed	90	105
course gravel	105	120

RECEIVED

NOV 2 1979

DEPARTMENT OF ECOLOGY
SPOKANE REGIONAL OFFICE


Work started 10/13/ 19 79 Completed 10/16/ 19 79

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME American Drilling & Development, Inc.
(Person, firm, or corporation) (Type or print)

Address P.O. Box 14977 Spokane, Washington 99214

[Signed]  (Well Driller)

License No. 0322 Date 10/26/ 19 79

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

File Original and First Copy with the Division of Water Resources
Second Copy - Owner's Copy
Third Copy - Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

WRC
10215

G3 20118
Application No.
G3 22023
Permit No.

(1) OWNER: Name S.P. Korman Industries, Inc. Address Spokane, Wash 99206

(2) LOCATION OF WELL: County S.P. Korman
10 ft. S., 310 ft. West of NW 1/4 SE 1/4 Sec. 11, T25 N, R44 E, W.M.
Quarter of Sec. 11, TWP 25N R 44E, Willamette Meridian

(3) PROPOSED USE: Domestic Industrial Municipal
Irrigation Test Well Other

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
New well Method: Dug Bored
Deepened Cable Driven
Reconditioned Rotary Jetted

(5) DIMENSIONS: Diameter of well 8 inches.
Drilled 138 ft. Depth of completed well 138 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 139" Diam. from 1.1 ft. to 138 ft.
Threaded " Diam. from _____ ft. to _____ ft.
Welded " Diam. from _____ ft. to _____ ft.

Perforations: Yes No
Type of perforator used Mills Knife
SIZE of perforations 3/8 in. by 2 1/2 in.
60 perforations from 131 ft. to 137 ft.

Screens: Yes No
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes No To what depth? _____ ft.
Material used in seal Benzol
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name Reola
Type: Submersible H.P. 2

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static lev: 50 ft. below top of well Date _____
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom? _____
Yield: gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

le of test _____
B. test 60 gal./min. with 0 ft. drawdown after 4 hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Top Soil & Large Gravel	0	2
Silt & Large Gravel	2	34
Silt & Small Gravel	34	56
One large Boulder	26	29
2 1/2 bed Clean Sand & Gravel	59	68
washed silt	68	130
2 1/2 bed Clean Sand & Gravel	130	138

Handwritten notes:
90
80
110

RECEIVED

JAN 16 1974

DEPARTMENT OF ECOLOGY
SPOKANE REGIONAL OFFICE

Work started April 22, 1971 Completed 7/24, 1971

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME E.H. Holman Drilling Co.
(Person, firm, or corporation) (Type or print)

Address 601 S. Pines Rd Spokane, Wn.

[Signed] J. S. Holman
(Well Driller)

License No. 225-02-8220 Date Feb 17, 1972

Handwritten: 1/21/74

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

File Original and First Copy with
Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Application No.

Permit No. W3 21441

(1) OWNER: Name C. Miller

Address NE 1/4 Sec 18, T 25 N., R. 44 E. M

(2) LOCATION OF WELL: County Spokane

NE 1/4 Sec 18, T 25 N., R. 44 E. M

PROPOSED USE: Domestic Industrial Municipal
Irrigation Test Well Other

(10) WELL LOG:

Formation Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
2" SAND, CLAY, silt	0	43
fine to medium	43	77
1/2" sand, coarse gravel	77	131

1600 gpm
640 gpm
90 gpm
Industrial

(4) TYPE OF WORK: Owner's number of well (if more than one)
New well Method: Dug Bored
Deepened Cable Driven
Reconditioned Rotary Jetted

(5) DIMENSIONS: Diameter of well 8 inches
Drilled 131 ft Depth of completed well 131 ft

(6) CONSTRUCTION DETAILS:
Casing installed: 8 " Diam. from +1 ft. to 130 ft.
Threaded " Diam. from " ft. to " ft.
Welded " Diam. from " ft. to " ft.

Perforations: Yes No
Type of perforator used knife
SIZE of perforations 4 in. by 2-3 in.
100 perforations from 10 ft. to 119 ft.
perforations from " ft. to " ft.
perforations from " ft. to " ft.

Screens: Yes No
Manufacturer's Name _____ Model No _____
Type _____ Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes No To what depth? 194 ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation 2010 ft. above mean sea level.
Static level 55 ft. below top of well Date 8-11-76
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom? _____
Yield: 127 gal./min. with _____ ft. drawdown after _____ hrs.
" 200 " " " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Rate of test _____
Borehole test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

Work started 8-4 1976, Completed 8-11 1976

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
NAME Algeria Drilling, Inc. (Type or print)
(Person, firm, or corporation)
Address Box 637, Hayden, Idaho
[Signed] Thomas L. Turner (Well Driller)
License No. 2276 Date 8-11, 1976

10/6/78

WATER WELL REPORT

Start Card No. W025036
REFERENCE #G3-21441C

STATE OF WASHINGTON

Water Right Permit No. _____

OWNER: Name CENTRAL PREMIX Address PO BOX 3366 SPOKANE WA 99220

LOCATION OF WELL: County Spokane NE & SW 1/4 Sec 12 T. 25N. R. 44E W.M.

STREET ADDRESS OF WELL (or nearest address) Central Premix Sullivan Rde

PROPOSED USE: Domestic Industrial Municipal
 Irrigation Test Well Other
 DeWater

TYPE OF WORK: Owner's number of well (if more than one)
 Abandoned New well Method: Dug Bored
 Deepened Cable Driven
 Reconditioned Rotary Jetted

DIMENSIONS: Diameter of well 12 inches.
 Drilled 111 feet. Depth of completed well 111 ft.

CONSTRUCTION DETAILS:
 Casing installed: 12 Diam. from +2 ft. to 81 ft.
 Welded Diam. from _____ ft. to _____ ft.
 Liner installed Threaded Diam. from _____ ft. to _____ ft.
 Perforations: Yes No
 Type of perforator used _____
 SIZE of perforations _____ in. by _____ in.
 _____ perforations from _____ ft. to _____ ft.
 _____ perforations from _____ ft. to _____ ft.
 _____ perforations from _____ ft. to _____ ft.

Screens: Yes No
 Manufacturer's Name Cook
 Type Telescope Model No. _____
 Diam. 12" Slot size 100 from 81 ft. to 111 ft.
 Diam. _____ Slot size _____ from _____ ft. to _____ ft.
 Gravel packed: Yes No Size of gravel _____
 Gravel placed from _____ ft. to _____ ft.
 Surface seal: Yes No To what depth? 19 ft.
 Material used in seal Bestonite
 Did any strata contain unusable water? Yes No
 Type of water? _____ Depth of strata _____
 Method of sealing strata off _____

PUMP: Manufacturer's Name _____
 Type: _____ H.P. _____

WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
 Static level 38 ft. below top of well Date 1-31-94
 Artesian pressure _____ lbs. per square inch Date _____
 Artesian water is controlled by _____ (Cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level
 Was a pump test made? Yes No If yes, by whom? _____
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 " " " " " "
 " " " " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test No.
 Bailor test _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Airstest _____ gal./min. with stem set at _____ ft. for _____ hrs.
 Artesian flow _____ g.p.m. Date _____
 Temperature of water _____ Was a chemical analysis made? Yes No

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

MATERIAL	FROM	TO
Gravel Sand & Cobbles	0	25
Gravel & Sand	25	35
Sand & Gravel	35	50
Gravel	50	75
Gravel & Sand	75	88
Sand & Gravel	88	98
Sand	98	111
- 9		

Work started 1-11-94 Completed 1-31-94

WELL CONSTRUCTOR CERTIFICATION:
 I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME H2O WELL SERVICE INC
 (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)
 Address 582 W HAYDEN AVE HAYDEN LAKE ID 83835
 (Signed) Carl Guts License No. 0393
 (WELL DRILLER)
 Contractor's Reg. No. H20WEST101DW Date 02/07/94
 No. H20WEST101DW Date _____, 19____
 (USE ADDITIONAL SHEETS IF NECESSARY)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WATER WELL REPORT

State of Washington

Tax No. _____

Unique Well Tag No. ACY-190 W091141

Water Right Permit No. _____

OWNER:

Name: Central Premix Complete Address: PO BOX 3366 SPOKANE WA 99220-3366

2) LOCATION OF WELL: County SPOKANE NE 1/4 SW 1/4 Sec 12 T 25N N R 44E WM

2a) STREET ADDRESS OF WELL (if known) Sullivan Rd.

3) PROPOSED USE: DeWater Domestic Test Well Industrial Municipal
 Irrigation Other

4) TYPE OF WORK: Owner's number of well (if more than one) 8"
 Decommission New well METHOD: Dug Bored
 Deepened Cable Driven
 Reconditioned Rotary Jetted

5) DIMENSIONS: Diameter of well 10" / 8" inches.
 Drilled 127' feet. Depth of completed well 127' feet.

6) CONSTRUCTION DETAILS:
 Casing installed 8" Diam. from +2 ft. to 127 ft.
 Liner installed _____ ft. to _____ ft.
 Perforations: Yes No
 Type of perforator used _____
 Screens: Yes No
 Manufacturer's name _____
 Type 8" Tele Model No. 70
 Diam. _____ Slot size _____ from 112 ft. to 127 ft.
 Diam. _____ Slot size _____ from _____ ft. to _____ ft.
 Seal used: Yes No
 Gravel placed from _____ ft. to 20 ft.
 Surface seal: Yes No To what depth? _____ ft.
 Material used in seal 20 bags Bentonite
 Did any strata contain unusable water? Yes No
 Type of water? _____ Depth of strata _____
 Method of sealing strata off _____

7) WATER LEVELS: Land surface elevation above mean sea level _____ ft.
 Static level 80' ft. below top of well Date _____
 Artesian pressure _____ lbs. per square inch Date _____
 Artesian water is controlled by _____
 (cap, valve, etc.)

8) WELL TESTS: Was a pump test made? Yes No
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Bailor test _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Airstest 100+ gal./min. with stem set at _____ ft. for 1.5 hrs.
 Artesian flow _____ g.p.m. Date _____
 Temperature of water _____ Was a chemical analysis made? No Yes

WELL CONSTRUCTION CERTIFICATION:

I constructed/supervised and accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

(Please print or type)

DRILLING COMPANY H2O WELL SERVICE 1-800-772-4901

Address 582 W Hayden Ave. Hayden Lake Id 83835

Michael Halterman License No. 2325

DRILLER NAME _____

SIGNATURE *Michael Halterman*

TRAINEE NAME & LICENSE # _____

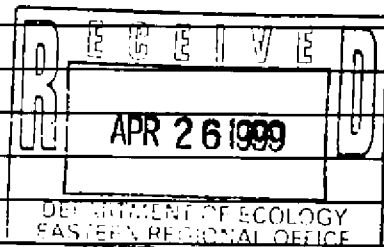
Contractor's Registration No. H2OWESI101DW

Date 4/7/99

10) WELL LOG OR DECOMMISSION PROCEDURE DESCRIPTION

Formation: Described by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. Clearly note water bearing zones and hydraulic characteristics

MATERIAL	From	To
<u>12" Sand, Gravels, Boulders</u>	<u>0</u>	<u>20'</u>
<u>8" Sand, Gravels, Boulders</u>	<u>20'</u>	<u>80'</u>
<u>8" Sand Gravels Large</u>	<u>80</u>	<u>127'</u>
<u>At 80' 100+ GPM</u>		



DRILLER'S COMMENTS (WORK STARTED):

Decommission: Perforated Casing Removed Casing

Amount of sealant used _____

Type of sealant used (Attach add'l sheet if necessary) _____

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WATER WELL REPORT

STATE OF WASHINGTON

Application No.
Permit No.

(1) OWNER: Name OCLARE FARMS, INC. Address Box 123 VALLEYFORD WA. 99036
LOCATION OF WELL: County SPOKANE - SW 1/4 SW 1/4 Sec. 12 T. 25 N. R. 14 W.M.
Bearing and distance from section or subdivision corner

(3) PROPOSED USE: Domestic Industrial Municipal
Irrigation Test Well Other

(4) TYPE OF WORK: Owner's number of well (if more than one)
New well Method: Dug Bored
Deepened Cable Driven
Reconditioned Rotary Jetted

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 200 ft. Depth of completed well 200 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6" Diam. from 41 ft. to 99 ft.
Threaded " Diam. from ft. to ft.
Welded " Diam. from ft. to ft.

Perforations: Yes No
Type of perforator used.....
SIZE of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: Yes No
Manufacturer's Name.....
Type..... Model No.....
Diam. Slot size from ft. to ft.
Diam. Slot size from ft. to ft.

Gravel packed: Yes No Size of gravel:
Gravel placed from ft. to ft.

Surface seal: Yes No To what depth? 20+ ft.
Material used in seal.....
Did any strata contain unusable water? Yes No
Type of water?..... Depth of strata.....
Method of sealing strata off.....

(7) PUMP: Manufacturer's Name.....
Type: H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ft.
Static level 97 ft. below top of well Date.....
Artesian pressure lbs. per square inch Date.....
Artesian water is controlled by..... (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom?.....
Yield: gal./min. with ft. drawdown after hrs.
APPROX. 100 GPM BY AIR TEST " " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date.....
Temperature of water Was a chemical analysis made? Yes No

(10) WELL LOG:
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
TOP SOIL	0	1
BRN. CLAY - FIRM w/HARD LAYERS	1	65
BASALT - MED. FRACT. AREAS - WATER 1-2 GPM	65	92
BASALT - HARD	92	120
BASALT - MED. FRACT. AREAS & CLAY SEAMS	120	200
WATER 120' & 130' @ 36 GPM		
150' - 160' @ 40 GPM		
170' - 180' @ 80 GPM		
180' - 200' @ 100 GPM		

WELL IS LINED w/ 4" PVC

RECEIVED

OCT 9 1987

DEPARTMENT OF ECOLOGY
SPOKANE REGIONAL OFFICE

Work started 9/2 1987 Completed 9/3 1987

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME J.J. Drilling, Inc.
(Person, firm, or corporation) (Type or print)

Address S. 5613 Link Rd. GREENACRES WA.

[Signed] Benson J. Carter
(Well Driller)

License No. 1278 Date 9/3, 1987

10/9/87

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

File Original and First Copy with Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Application No

Permit No G3-21441-P

(1) OWNER: Name Central Pre-Mix Concrete Co. Address TA Box 3366, Spokane, WA 99220

(2) LOCATION OF WELL: County Spokane Section 12 T. 25 N. R. 44 W M
ing and distance from section or subdivision corner 350+ So. of NE corner of SW $\frac{1}{4}$ of Sec. 12

(3) PROPOSED USE: Domestic Industrial Municipal
Irrigation Test Well Other

(4) TYPE OF WORK: Owner's number of well (if more than one) #1
New well Method: Dug Bored
Deepened Cable Driven
Reconditioned Rotary Jetted

(5) DIMENSIONS: See attachment
Diameter of well 36 inches.
Drilled _____ ft. Depth of completed well 78 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 36 " Diam. from 0 ft. to 24 ft.
Threaded 24 " Diam. from 24 ft. to 63 ft.
Welded 30 " Diam. from 63 ft. to 78 ft.

Perforations: Yes No
Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.

Screens: Yes No
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Unknown
Yes No To what depth? _____ ft.
Material used in seal _____
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name Johnson
Type: turbine HP 60

(8) WATER LEVELS: Land-surface elevation above mean sea level 2,000 ft.
Static level 60 ft. below top of well Date 2/5/76
Artesian pressure N/A lbs. per square inch Date _____
Artesian water is controlled by _____
(Cap, valve, etc.)

(9) WELL TESTS: N/A Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom? _____
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

1 _____ of test
Baller test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
See attached drawing. The history of this well is unknown. It was installed before the company acquired the property. It was hand dug and was installed maybe 40 years ago.		

RECEIVED

MAY 10 1979

DEPARTMENT OF ECOLOGY
SPOKANE REGIONAL OFFICE

Work started _____, 19____. Completed _____, 19____.

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME N/A
(Person, firm, or corporation) (Type or print)

Address _____

[Signed] _____
(Well Driller)

License No. _____ Date _____, 19____.

5/15/79

WATER WELL REPORT

Application No

STATE OF WASHINGTON

Permit No

(1) OWNER: Name CENTRAL PREMIX CONCRETE Co. Address P.O. Box 3366 Spokane WA 99220
LOCATION OF WELL: County SPOKANE, N. BRDY Gov. LOTS Sec. 12 T. 25 N., R. 4E W.M.
Beginning and distance from section or subdivision corner NORTH BOUNDARY GRVIM LOTS 22W

(3) PROPOSED USE: Domestic Industrial Municipal
Irrigation Test Well Other

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
New well Method: Dug Bored
Deepened Cable Driven
Reconditioned Rotary Jetted

(5) DIMENSIONS: Diameter of well 8 inches.
Drilled 119 ft. Depth of completed well 119 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 8" Diam. from +1 ft. to 100 ft.
Threaded " Diam. from _____ ft. to _____ ft.
Welded " Diam. from _____ ft. to _____ ft.

Perforations: Yes No
Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

Screens: Yes No
Manufacturer's Name: JOHNSON
Type: STAINLESS STEEL Model No. _____
Diam. 8 Slot size 60 from 97-6 ft. to 109 ft.
Diam. 8 Slot size 50 from 109 ft. to 119 ft.

Gravel packed: Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes No To what depth? 18 ft.
Material used in seal: BENTONITE
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P.

(8) WATER LEVELS: Land-surface elevation 2013 ft. above mean sea level.
Static level 53 ft. below top of well Date 2/20/85
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level.
Was a pump test made? Yes No If yes, by whom? MANNING CO.
Yield: 300 gal./min. with 0 ft. drawdown after 2 hrs.
" " " " " " "
" " " " " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test 3/20/85
Pump test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes No
3/25/85

(10) WELL LOG: Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
<u>GRAVELY SAND (GRAY)</u>	<u>0</u>	<u>53'</u>
<u>GRAVELY SAND AQUIFER (GRAY)</u>	<u>53'</u>	<u>103'</u>
<u>SAND + GRAVEL AQUIFER (GRAY)</u>	<u>103'</u>	<u>119'</u>

RECEIVED

MAR 23 1985

DEPARTMENT OF ECOLOGY
SPOKANE REGIONAL OFFICE

Work started 2/8 1985 Completed 2/19 1985

WELL DRILLER'S STATEMENT: This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME FLANIGAN AND FLANIGAN
(Person, firm, or corporation) (Type or print)
Address P.O. Box 320 PAITH DR. M ID 83858
[Signed] James H. Flanigan
(Well Driller)
License No. 0133 Date 2/19/85

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

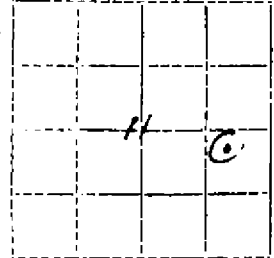
The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION
DIVISION OF WATER RESOURCES

WELL LOG

Appli. #7886

Record by Driller
Source Driller's Record



Location: State of WASHINGTON
County Spokane
Area
Map

Gov't Lot 8 sec 11 T. 25 N. R. 44 E.

Drilling Co. Zinkgraf Well Drilling
Address 1606 East Sharp

Method of Drilling Cable Date Jan. 12, 19 66

Owner The Hillyard Processing Company
Address Box 6055, Spokane, Washington

Land surface, datum ft. above
SWL: 60' Date Jan. 12, 19 66 Dims 10" x 125'

CON- LATION	MATERIAL	From (feet)	To (feet)
----------------	----------	----------------	--------------

(Transcribe driller's terminology literally but paraphrase as necessary, in parentheses. If material water-bearing, so state and record static level if reported. Give depths in feet below land-surface datum unless otherwise indicated. Correlate with stratigraphic column, if feasible. Following log of materials, list all casings, perforations, screens, etc.)

	Municipal supply		
	Gravel w/occasional boulders	0	43
	Gravel, 3/4" up to 3"	43	52
	Boulders, large	52	56
	Rocks, large	56	61
	Mixture - pea gravel up to		
	5" round	61	75
	Sand, coarse	75	82
	Gravel, 3/4"	82	86
	Sand, coarse, & gravel	86	103
	Gravel, 3/4" up to 3" round	103	125
	Casing: 10" from 0-125'		
	Perforated from 106-115'		
	Also from 106-120'		
	Pump: 40 h.p. turbine		
	Peerless		

Turn up

Sheet.....of.....sheets

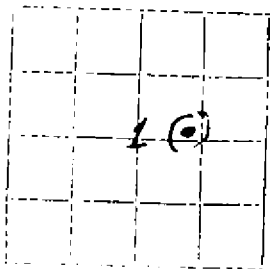
The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

Well # 2 -

STATE OF WASHINGTON
 DEPARTMENT OF CONSERVATION
 DIVISION OF WATER RESOURCES

Appl. 11196
 Per 10028, Cert 7130
WELL LOG

Record by..... A. A. Durand
 Source..... Driller record



Location: State of WASHINGTON
 County..... Spokane
 Area.....
 Map.....

..... 1/4 SW, sec. 1, T. 25N. R. 44 E.
 Drilling Co. A. A. Durand

Address..... Walla Walla, WA
 Method of Drilling..... cable Date....., 19.....

Owner..... Spokane Industrial Park, Inc.
 Address..... N. 3808 Sullican Road, Spokane, W

Land surface, datum..... ft. ^{above} / _{below}
 SWL: UK Date Sept 10, 1970 Dims.: 16" x 120"

CORRE- LATION	MATERIAL	From (feet)	To (feet)
	Industrial		
	gravel	0	120
	Casing: 16" from 0' to 120'		
	Surface seal: concrete grout		to 20'
	Oump: Pomona deep well turbin		100

Turn up Sheet..... of sheets

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

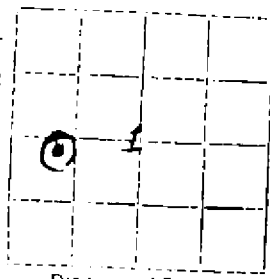
Well # 1

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION
DIVISION OF WATER RESOURCES

Appl. 11195
Per. 10027 Cert. 7129

WELL LOG

Record by Driller
Source Driller's record



Location: State of WASHINGTON

County Spokane

Area

Map

NW 1/4 SW 1/4 sec. 1 T. 25 N. R. 44 E. W.

Diagram of Section

Drilling Co. A. A. Durand

Address Walla Walla, WA

Method of Drilling cable Date _____, 19____

Owner Spokane Industrial Park, Inc.

Address N. 3808 Sullivan Road, Spokane, WA

Land surface, datum _____ ft. above
_____ ft. below

SWL: 76'2" Date Sept. 10, 1970 Dims:

CORRE-LATION	MATERIAL	From (feet)	To (feet)
--------------	----------	-------------	-----------

(Transcribe driller's terminology literally but paraphrase as necessary, in parentheses. If material water-bearing, so state and record static level if reported. Give depths in feet below land-surface datum unless otherwise indicated. Correlate with stratigraphic column, if feasible. Following log of materials, list all casings, perforations, screens, etc.)

	Industrial use		
	gravel	0	160
	Casing: 12" from 0' to 160'		
	Surface Seal: concrete grout to 20'		
	Pump: Pomona deep well turbine 50 hp		

Turn up

Sheet _____ of _____ sheets

WATER WELL REPORT

Application No _____

STATE OF WASHINGTON

Permit No _____

(1) OWNER: Name **PONDEROSA DRILLING & DEVELOPMENT INC.** Address **E. 6010 Broadway, Spokane, WA 99212**

LOCATION OF WELL: County **Spokane** SW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 13 T. 25 N. R. 44 E W.M.

E _____ and distance from section or subdivision corner _____

(3) PROPOSED USE: Domestic Industrial Municipal
 Irrigation Test Well Other

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
 New well Method: Dug Bored
 Deepened Cable Driven
 Reconditioned Rotary Jetted

(5) DIMENSIONS: Diameter of well 6 inches.
 Drilled 81 ft. Depth of completed well 81 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6 " Diam. from 0 ft. to 79 ft.
 Threaded " Diam. from _____ ft. to _____ ft.
 Welded " Diam. from _____ ft. to _____ ft.

Perforations: Yes No
 Type of perforator used _____
 SIZE of perforations _____ in. by _____ in.
 _____ perforations from _____ ft. to _____ ft.
 _____ perforations from _____ ft. to _____ ft.
 _____ perforations from _____ ft. to _____ ft.

Screens: Yes No
 Manufacturer's Name _____
 Type _____ Model No. _____
 Diam _____ Slot size _____ from _____ ft. to _____ ft.
 Diam _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel: _____
 Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes No To what depth? 18 ft.
 Material used in seal bentonite
 Did any strata contain unusable water? Yes No
 Type of water? _____ Depth of strata _____
 Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
 Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation 2040 ft.
 Static level 55 ft. below top of well Date 9/29/84
 Artesian pressure _____ lbs. per square inch Date _____
 Artesian water is controlled by _____
 (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
 Was a pump test made? Yes No If yes, by whom? _____
 Yield: 53.5 gal./min. with _____ ft. drawdown after _____ hrs.
 ESTIMATED AIRLIFT " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Rate of test _____
 Bailor test _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Artesian flow _____ g.p.m. Date _____
 Temperature of water _____ Was a chemical analysis made? Yes No

10/18/84 [Signature]

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Sand & Gravel; Cobble & Boulders	0	55
Sand & Gravel w/water	55	81

NO PVC Liner Installed

6" Drive shoe installed

RECEIVED

OCT 18 1984

DEPARTMENT OF ECOLOGY
 SPOKANE REGIONAL OFFICE

Work started 9/28/ 1984 Completed 9/29/ 1984

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME **PONDEROSA DRILLING & DEVELOPMENT INC.**
 (Person, firm, or corporation) (Type or print)

Address **E. 6010 Broadway, Spokane, WA 99212**

[Signed] *James M. Doyle*
 James M. Doyle (Well Driller)

License No. 1287 Date 9/29/ 1984

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

STATE OF WASHINGTON
 DEPARTMENT OF CONSERVATION
 AND DEVELOPMENT Appl. #7171

Well 1-B

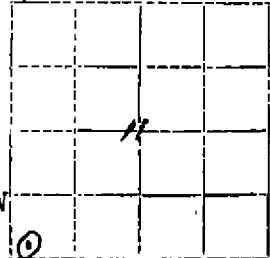
No. Permit #6784

WELL LOG

Date April 15, 1965

Record by Driller

Source Driller's Record



Location: State of WASHINGTON

County Spokane

Area N 67°32' E, 248.5' from SW

Map corner, Sec. 11

SW 1/4 SW 1/4 sec. 11 T25 N, R44 E, W

Drilling Co. Holman Drilling Corporation

Address 3410 E. 9th Ave., Spokane, Washington

Method of Drilling Cable Date July 27, 1964

Owner U.S. Bureau of Reclamation

Address Box 937, Boise, Idaho

Land surface, datum ft. above below

CORRELATION	MATERIAL	THICKNESS (feet)	DEPTH (feet)
-------------	----------	------------------	--------------

(Transcribe driller's terminology literally but paraphrase as necessary, in parentheses. If material water-bearing, so state and record static level if reported. Give depths in feet below land-surface datum unless otherwise indicated. Correlate with stratigraphic column, if feasible. Following log of materials, list all casings, perforations, screens, etc.)

	Domestic, irrigation, industrial and municipal well		
	Gravel 1/2 to 1 1/2"	0	27
	Gravel 1/2 to 1" with clay	27	51
	Gravel 1" to 1 1/2"	51	83
	Sand & gravel 1/2 to 1"	83	103
	Gravel 1 to 2" with clay	103	119
	Gravel 1 to 1"	119	155
	Gravel 1/2 to 1"	155	162
	Sand and gravel	162	176
	Casing: 20" from 0 to 117'		
	Screened from 117 to 162'		
	Surface sealed with cement grout		
	SWL: 61.3' on July 21, 1964		
	Yields 4500 gpm with 3.7' DD after 20 hours		
	3110 gpm with 2.3' DD after 20 hours		

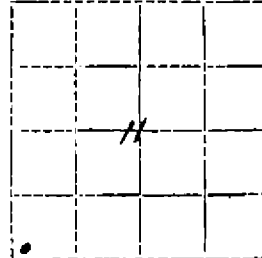
Turn up

Sheet of sheets

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

STATE OF WASHINGTON
 DEPARTMENT OF CONSERVATION
 AND DEVELOPMENT Appl. #6907

Well No. **2** No.
 Date **November 9, 1963**, 19.....
 Record by **Driller**
 Source **Driller's Record**



Location: State of WASHINGTON
 County **Spokane**
 Area
 Map
 SW 1/4 SW 1/4 sec. **11** T. **25** N., R. **14** E., E. **W.** Diagram of Section

Drilling Co. **Holman Drilling Corporation**
 Address **3410 E. 9th Ave., Spokane 31, Wash.**
 Method of Drilling **Cable** Date **May 31**, 19**63**
 Owner **U.S. Bureau of Reclamation**
 Address **Box 927, Boise, Idaho**

Land surface, datum.....ft. above
 below

CORRELATION	MATERIAL	THICKNESS (feet)	DEPTH (feet)
-------------	----------	------------------	--------------

(Transcribe driller's terminology literally but paraphrase as necessary, in parentheses. If material water-bearing, so state and record static level if reported. Give depths in feet below land-surface datum unless otherwise indicated. Correlate with stratigraphic column, if feasible. Following log of materials, list all casings, perforations, screens, etc.)

CORRELATION	MATERIAL	THICKNESS (feet)	DEPTH (feet)
	Municipal, & Irrigation well		
	Gravel and boulders	0	26
	Gravel 1/2" to boulders	26	44
	Gravel 1/2 - 1/4"	44	53
	Gravel 1/2 - 1/4" in clay	53	60
	1/2 - 1/4" clean	60	65
	Gravel & sand 0" - 1/4"	65	74
	Gravel & sand in clay 0" - 1/4"	74	84
	Sand & coarse gravel 0" - 5"	84	100
	Coarse sand & gravel 0" - 6"	100	120
	Sand & gravel 0" - 5"	120	130
	Gravel 1/2" - 3"	130	143
	Sand and gravel	143	151.3

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WELL LOG.—Continued

No. /

CORRE- LATION	MATERIAL	THICKNESS (feet)	DEPTH (feet)
	Depth forward	-----	
	Casing: 20" from 0 to 106'		
	Screened from 106 to 148'		
	Surface sealed with grout SWL: 65.4' on June 18, 1963		
	Yields 2,500 gpm with 3.0' DD after 3 hours Immediate recovery, June 7, 1963		
	Temp: 49°		

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

STATE OF WASHINGTON.
DEPARTMENT OF CONSERVATION
AND DEVELOPMENT

Well 1-A

Appl. #7171
Permit #6784

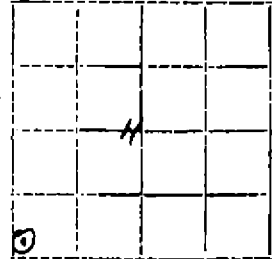
WELL LOG

No.

Date April 15, 1965

Record by Driller

Source Driller's Record



Location: State of WASHINGTON

County Spokane

Area N 72°27' E, 309.2' from SW

Map Corner Sec. 11

SW ¼ SW ¼ sec. 11 T. 25 N., R. 44 E., E. ¼ W.

Diagram of Section

Drilling Co. Holman Drilling Corporation

Address 3410 E. 9th Ave., Spokane, Washington

Method of Drilling Cable Date July 23, 1964

Owner U.S. Bureau of Reclamation

Address Box 937, Boise, Idaho

Land surface, datum ft above below

CON- LATION	MATERIAL	THICKNESS (feet)	DEPTH (feet)
----------------	----------	---------------------	-----------------

(Transcribe driller's terminology literally but paraphrase as necessary, in parentheses. If material water-bearing, so state and record static level if reported. Give depths in feet below land-surface datum unless otherwise indicated. Correlate with stratigraphic column, if feasible. Following log of materials, list all casings, perforations, screens, etc.)

	Domestic, irrigation, industrial and municipal well		
	Gravel 1½" - 2"	0	25
	Gravel 1½" 2"	25	46
	Gravel 2" - 3½"	46	50
	Gravel 1½" 2"	50	58
	Sand and gravel to 3"	58	87
	Coarse sand, brown	87	103
	Gravel and sand to 2"	103	147
	Casing: 16" from 0 to 116'		
	Screened from 116 to 141'		
	Surface sealed with cement grout		
	SWL: 61' on July 24, 1964		
	Yields 1120 gpm with 0.7' DD after 18 hours		
	1570 gpm with 1.0' DD after 18 hours		
	2500 gpm with 1.8' DD after 18 hours		

Turn up

Sheet of sheets



Water Well Report™

DISCLAIMER

Banks Environmental Data Water Well Report™ is prepared from an existing water well database provided by the Washington State Department of Ecology located in Olympia, Washington. With this information, groundwater wells are mapped using a GIS application, ArcMap 9.1.

Banks Environmental Data has performed a thorough and diligent search of all groundwater well information provided and recorded with the Washington State Department of Ecology. All mapped locations are based on information obtained from the WSDE. Although Banks performs quality assurance and quality control on all research projects, we recognize that any inaccuracies of the records and mapped well locations could possibly be traced to the appropriate regulatory authority or the actual driller. It may be possible that some water well schedules and logs have never been submitted to the regulatory authority by the water driller and, thus, may explain the possible unaccountability of privately drilled wells. It is uncertain if the above listing provides 100% of the existing wells within the area of review. Therefore, Banks cannot fully guarantee the accuracy of the data or well location(s) of those maps and records maintained by the Washington regulatory authorities.

APPENDIX C

Analytical Laboratory Reports



Nautilus Environmental, LLC

Dangerous Waste Characterization

Sample IDs: Tan; Gray

Report date: August 31, 2011

Submitted to:

Pastor, Behling and Wheeler
2201 Double Creek Drive
Suite 4004
Round Rock, TX. 78664

Washington Laboratory
5009 Pacific Hwy East
Suite 2
Tacoma, WA 98424

1.0 INTRODUCTION

A dangerous waste characterization using the test organism *Oncorhynchus mykiss* (rainbow trout) was conducted on two samples submitted by Pastor, Behling and Wheeler to Nautilus Environmental. Testing was conducted following the Washington State Department of Ecology Publication 80-12.

2.0 METHODS

The samples, identified as Tan and Gray, were received in the laboratory on August 25, 2011. Upon arrival at the laboratory the samples were inspected and contents verified against information provided on the chain-of-custody form. The samples were stored at 4°C in the dark until use. The test procedure is outlined in Table 1.

Table 1. Summary of Dangerous Waste Characterization Test Conditions

Parameter	Standard Fish Toxicity Test
Test numbers	1108-T035; 1108-T037
Sample IDs	Tan; Gray
Test initiation date; time	8/26/2011; 1000h
Test termination date; time	8/30/2011; 1020h
Endpoint	Mortality at 96-hours
Test chamber	8 L glass tank
Test temperature	12 ± 1°C
Dilution water	Moderately hard synthetic water
Test solution volume	8 L
Test concentrations (mg/L)	100, 0
Number of organisms/ chamber	10
Number of replicates	3
Test organism	<i>Oncorhynchus mykiss</i> (rainbow trout)
Feeding	No feeding during test
Photoperiod	16 hours light/ 8 hours dark
Extraction	Rotary agitation (30 +/- 2 rpm) for 18 hours
Reference Toxicant	Copper sulfate
Deviations	None

The test organisms used in the test are outlined in Table 2. The samples were tested using fish received on August 11, 2011.

Table 2. Test organisms (*Oncorhynchus mykiss*)

Test organism age	53 days post swim-up (hatch date 6/20/2011)
Mean weight	0.59 g
Mean length	35 mm
Ratio of longest to shortest	1.3
Loading	0.74 g/L
Test organism source	Thomas; Anderson, CA

3.0 RESULTS

A summary of results for the dangerous waste characterization conducted on samples Tan and Gray are contained in Table 3. There was no mortality during the test. Based on these results, the samples do not designate as dangerous waste. Copies of the laboratory bench sheets, statistical summaries of reference toxicant tests, and chain-of-custody form are provided in Appendices A through C.

Table 3. Summary of Results

Sample ID	Concentration (mg/L)	Survival (# fish, N=30)	Percent Mortality	Dangerous Waste Designation
Control	0	30	0	NA
Tan	100	30	0	None
Gray	100	30	0	None

4.0 QUALITY ASSURANCE

The most recently completed reference toxicant test was initiated August 3, 2011. The LC₅₀ of 54.9 g/L copper fell within the acceptable range of mean ± two standard deviations of historical test results indicating that the test organisms were of an appropriate degree of sensitivity. The coefficient of variation (CV) for the last 20 tests was 51.8 percent, which is considered good by the Biomonitoring Science Advisory Board.

5.0 REFERENCES

- WDOE. 2008. Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria. Washington State Department of Ecology. Water Quality Program. Publication number: WQ-R-95-80, Revised December 2008.
- WDOE. 2009. Biological Testing Methods 80-12 for the Designation of Dangerous Waste. Washington State Department of Ecology. Hazardous Waste and Toxics Reduction Program. Publication number: 80-12, Revised June 2009.

Appendix A
***Oncorhynchus mykiss* Dangerous Waste Toxicity Test**
Raw Bench Sheets

**Dangerous Waste Toxicity Test
Toxicity Test Data Sheet - Washington Laboratory**

Client: Pastor, Behling & Wheeler Start Date & Time: 8/26/11 1000
 Sample ID: Tan, Gray End Date & Time: 8/30/11 1020
 Test #: 1108-T035, 1108-T037 Test Organism: Oncorhynchus mykiss
 Log In #: T11-078, T11-079 Test Protocol: Washington State Department of Ecology Publ. 80-12

Rep	Conc.	Cont #	Number of Live Organisms				Dissolved Oxygen (mg/L)				pH (units)				Conductivity (umhos/cm)				Temperature (°C)				Percent Survival		
			0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96			
1	Con	6	10	10	10	10	10	10.1	8.8	8.7	7.5	8.1	7.52	7.25	7.22	7.06	7.12	223	226	12.9	12.2	12.0	12.2	12.2	100
2		8	10	10	10	10	10	10.2	8.9	8.8	7.8	8.2	7.58	7.27	7.23	7.07	7.14	220	222						
3		3	10	10	10	10	10	10.0	8.8	8.7	8.0	8.2	7.58	7.29	7.25	7.06	7.14	219	222						
1	T11-078	2	10	10	10	10	10	10.0	8.8	8.2	7.7	8.0	7.57	7.24	7.17	7.07	7.13	221	226	12.5	12.1	12.2	11.6	11.6	100
2	leppan	1	10	10	10	10	10	10.0	8.8	8.1	7.8	7.9	7.56	7.23	7.15	7.06	7.12	222	225						
3		5	10	10	10	10	10	10.1	8.9	8.1	7.7	7.5	7.55	7.22	7.14	7.04	7.05	221	226						
1	T11-079	7	10	10	10	10	10	10.1	8.5	8.2	7.5	8.0	7.53	7.20	7.10	7.02	7.04	223	227	12.8	12.0	12.0	11.6	11.9	100
2	leppan	4	10	10	10	10	10	10.1	8.4	8.1	7.4	7.8	7.52	7.19	7.08	7.00	7.04	224	227						
3		9	10	10	10	10	10	9.9	8.4	8.1	7.5	8.1	7.52	7.19	7.09	6.99	7.04	224	227						
1																									
2																									
3																									
1																									
2																									
3																									
Technician Initials			BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP

Test Volume: 8 L
 Date Received: 8/11/11
 Date of Swim up: 7/4/11
 Animal Source: Thomas Fish
 Date of Hatch: 6/20/11
 Chlorine (mg/L Cl2): 4.0-0.3
 Weights (g): 60 84 84 80
 Lengths (mm): 36 35 39 36 35 38 35 35 33 30
 Length max/min: 1.3
 Loading: 0.14 g/L
 Alk. (nit.) Hard. (nit.) Alk. (fin.) Hard. (fin.)
 Control: 60 84 84 80
 T11-078: 44 84 84 80
 T11-079: 56 80 80 80
 μ = 0.599 Nautilus Environmental
 μ = 35mm Washington Laboratory
 5009 Pacific Hwy. E., Suite 2
 Tacoma, WA 98424
 253-922-4296

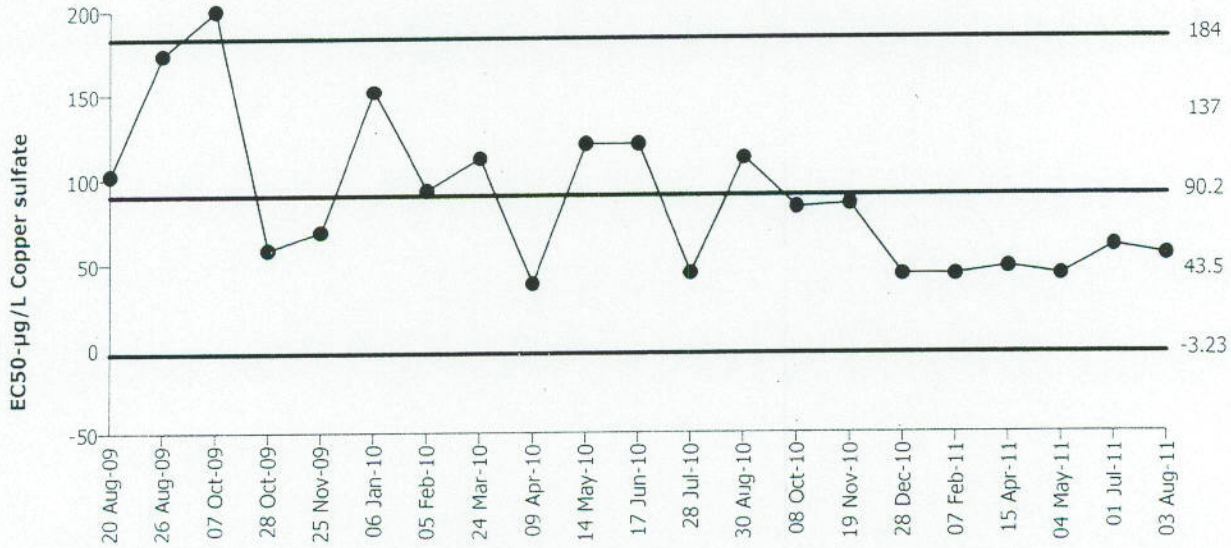
Appendix B
Reference Toxicant Test
Control Chart and Statistical Summary

Acute Fish Survival Test Nautilus Environmental WA

Test Type: Survival (96h) Organism: Oncorhynchus mykiss (Rainbow Tro) Material: Copper sulfate

Protocol: EPA/821/R-02-012 (2002) Endpoint: 96h Survival Rate Source: Reference Toxicant-REF

Acute Fish Survival Test



Mean: 90.15 Count: 20 -1s Warning Limit: 43.46 -2s Action Limit: -3.23
 Sigma: 46.69 CV: 51.80% +1s Warning Limit: 136.8 +2s Action Limit: 183.5

Quality Control Data

Point	Year	Month	Day	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2009	Aug	20	102.3	12.19	0.261			05-8030-4266	01-5058-4696
2			26	174.1	83.96	1.798	(+)		09-2727-3368	06-7907-5630
3		Oct	7	200	109.9	2.353	(+)	(+)	12-4385-6142	01-9848-3701
4			28	58.67	-31.48	-0.6742			10-9355-1118	13-6049-7836
5		Nov	25	69.1	-21.05	-0.4509			08-4396-5039	09-3825-0029
6	2010	Jan	6	151.6	61.42	1.316	(+)		08-7469-3511	03-7447-3742
7		Feb	5	93.3	3.153	0.06754			14-3123-2071	09-6776-0332
8		Mar	24	112.2	22.1	0.4733			16-6209-8500	16-9261-5520
9		Apr	9	38.14	-52.01	-1.114	(-)		14-0755-9433	16-3687-2394
10		May	14	120.3	30.15	0.6458			11-7633-5142	08-9474-9397
11		Jun	17	120.3	30.15	0.6458			01-7733-2105	04-2759-0713
12		Jul	28	44.54	-45.61	-0.9768			03-2079-6520	01-8144-9736
13		Aug	30	112.2	22.1	0.4733			09-6251-6169	08-7893-5017
14		Oct	8	83.12	-7.026	-0.1505			07-5571-1410	00-7613-2446
15		Nov	19	85.07	-5.083	-0.1089			01-4800-7720	08-4469-1924
16		Dec	28	43.53	-46.62	-0.9986			02-3233-7511	05-0033-9712
17	2011	Feb	7	43.28	-46.87	-1.004	(-)		00-0569-4335	07-4575-3932
18		Apr	15	47.74	-42.41	-0.9083			12-8058-2484	10-1921-1493
19		May	4	43.18	-46.97	-1.006	(-)		01-8945-7761	17-3445-5571
20		Jul	1	60.15	-30	-0.6425			17-1456-4727	17-4914-8586
21		Aug	3	54.86	-35.29	-0.7558			08-1688-7279	19-6166-5053

CETIS Summary Report

Report Date: 08 Aug-11 11:13 (p 1 of 1)
 Test Code: RA080311OM | 08-1688-7279

Acute Fish Survival Test **Nautilus Environmental WA**

Batch ID: 00-2714-5273	Test Type: Survival (96h)	Analyst: Meghan Feuk
Start Date: 03 Aug-11 12:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Mod-Hard Synthetic Water
Ending Date: 07 Aug-11 11:30	Species: Oncorhynchus mykiss	Brine:
Duration: 95h	Source: Thomas Fish Co.	Age: 16d

Sample ID: 08-7243-1003	Code: RA080311OM	Client: Reference Toxicant Test
Sample Date: 03 Aug-11 12:00	Material: Copper sulfate	Project:
Receive Date: 03 Aug-11 12:00	Source: Reference Toxicant	
Sample Age: N/A	Station:	

Comparison Summary							
Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
02-8460-4695	96h Survival Rate	25	50	35.36	14.8%		Dunnett's Multiple Comparison Test

Point Estimate Summary							
Analysis ID	Endpoint	Level	µg/L	95% LCL	95% UCL	TU	Method
19-6166-5053	96h Survival Rate	EC50	54.86	46.59	64.61		Trimmed Spearman-Kärber

96h Survival Rate Summary											
Conc-µg/L	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	3	1	1	1	1	1	0	0	0.0%	0.0%
25		3	0.9667	0.9451	0.9882	0.9	1	0.03333	0.05774	5.97%	3.33%
50		3	0.5667	0.5451	0.5882	0.5	0.6	0.03333	0.05774	10.19%	43.33%
100		3	0.03333	0.01177	0.05489	0	0.1	0.03333	0.05774	173.2%	96.67%
200		3	0.1	0.03532	0.1647	0	0.3	0.1	0.1732	173.2%	90.0%
400		3	0	0	0	0	0	0	0		100.0%

36h Survival Rate Detail					
Conc-µg/L	Control Type	Rep 1	Rep 2	Rep 3	
0	Dilution Water	1	1	1	
25		1	0.9	1	
50		0.6	0.5	0.6	
100		0	0.1	0	
200		0	0	0.3	
400		0	0	0	

Appendix C
Chain-of-Custody Form



Nautilus Environmental
 4340 Vandever Avenue
 San Diego, CA 92120
 Phone 858.587.7333
 Fax 858.587.3961

Chain of Custody

Date 8/25/11 Page 1 of 1

Sample Collection By: <u>Mat Wickham</u>		Invoice To:		ANALYSES REQUIRED	
Report to: <u>Tim Nickels</u>		Company: <u>Paster, Reuling + Wheeler LLC</u>		8012 96-hr	
Company: <u>Paster, Reuling + Wheeler LLC</u>		Address: <u>2201 Double Creek Dr. Ste 404</u>		Acute Rainbow	
Address: <u>2201 Double Creek Dr. Ste 404</u>		City/State/Zip: <u>Round Rock, TX 78664</u>		Treat for WA	
City/State/Zip: <u>Round Rock, TX 78664</u>		Contact: <u>Tim Nickels</u>		DANGEROUS (Waste)	
Contact: <u>Tim Nickels</u>		Phone: <u>512-671-3434</u>		TII-078	
Phone: <u>512-671-3434</u>		Email: <u>tim-nickels@PRWLLC.com</u>		TII-079	
Email: <u>tim-nickels@PRWLLC.com</u>		NO. OF CONTAINERS		Receipt Temperature (°C)	
CONTAINER TYPE		MATRIX			
TIME		DATE			
1 Tan		8/23/11 15:40			
2 Gray		8/23/11 15:58			
3					
4					
5					
6					
7					
8					
9					
10					
COMMENTS		RELINQUISHED BY (CLIENT)		RELINQUISHED BY (COURIER)	
Please hold remainder of soil for possible additional analyses		Signature: _____ (Time)		Signature: _____ (Time)	
		Printed Name: <u>Mat Wickham</u> (Date) <u>8/24/11</u>		Printed Name: _____ (Date)	
		Company: <u>PRW</u>		Company: _____	
RECEIVED BY (COURIER)		RECEIVED BY (LABORATORY)			
Signature: _____ (Time)		Signature: <u>Barbara Parsons</u> (Time) <u>0945</u>			
Printed Name: _____ (Date)		Printed Name: <u>Barbara Parsons</u> (Date) <u>8/25/11</u>			
Company: _____		Company: <u>Nautilus</u>			
SPECIAL INSTRUCTIONS/COMMENTS:		Additional costs may be required for sample disposal or storage. Payment net 30 unless otherwise contracted.			
Please hold sample after testing for possible additional analyses.					



MEMORANDUM

TO: Tim Nickels REF. NO.: 058323-2494

FROM: Jeffrey Cloud/bjw/46-NF *Jellyin* DATE: December 14, 2010

C.C.: Jesse Orth, Julie Lidstone E-Mail and Hard Copy if Requested

RE: **Data Quality Assessment and Validation of Reports STJ0119, STJ0130, STJ0141 & STJ0175
RI/FS Investigation
Aluminum Dross II
Trentwood, WA
October 2010**

INTRODUCTION

The following details a quality assessment and validation of the analytical data resulting from the October 2010, collection of soil and groundwater samples in Trentwood, WA. Samples were submitted to Test America Laboratories (TA), in Spokane, WA, and analyzed for the following:

<i>Parameter</i>	<i>Methodology</i>
Metals	SW846 6010B SW846 6020
Mercury	SW846 7470A SW846 7471A
Total Organic Carbon (TOC)	SW846 9060
Anions	EPA 300.0
Density	ASTM D2937
Specific Gravity	ASTM D854
Alkalinity	SM 2320 B
Ammonia-Nitrogen	SM 4500-NH3 C
Total Kjeldahl Nitrogen (TKN)	SM 4500 NC

The analytical results are summarized in Tables 1A and 1B. The QC criteria used to assess the data were established by the methods and with the following guidance documents:

- i) Client Data Quality Objectives (DQOs)
- ii) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", USEPA 540/R-99/008, October 1999
- iii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Review", USEPA 540/R-94/013, February 1994

These guidelines are collectively referred to as "Guidelines" in this memorandum.

SAMPLE QUANTITATION

The laboratory reported detected concentrations of analytes below the laboratory's practical quantitation limit (PQL)/report limit (RL). The detections between the PQL/RL and the method detection limit (MDL) have been qualified as estimated.

SAMPLE PRESERVATION AND HOLDING TIMES

Sample holding time periods and preservation requirements are summarized in the analytical methods. All sample extractions and/or analyses were performed within the specified holding times with a few exceptions. Several sample results were qualified as estimated (See Table 2).

All samples were properly preserved and cooled after collection.

METHOD BLANK SAMPLES

Method blank samples are prepared from a purified sample matrix and are processed concurrently with investigative samples to assess the presence and the magnitude of sample contamination introduced during sample analysis. Method blank samples are analyzed at a minimum frequency of one per analytical batch and target analytes should be non-detect.

Method blanks were analyzed at the recommended frequency and all results were non-detect for the compounds of interest with a few exceptions. Several sample results were qualified as non-detect (See Table 3).

SURROGATE COMPOUNDS – ORGANIC ANALYSES

Individual sample performance for organic analyses was monitored by assessing the results of surrogate compound percent recoveries. Surrogate percent recoveries are reviewed against the laboratory developed control limits provided in the analytical report.

The use of surrogates was not appropriate for the methods requested.

LABORATORY CONTROL SAMPLE (LCS)

The LCS analysis serves as a monitor of the overall performance in all steps of the sample analysis and are analyzed with each sample batch. The LCS percent recoveries were evaluated against method and laboratory established control limits.

Laboratory control samples (LCS) were analyzed for all parameters. The LCS for metals and mercury were analyzed in duplicate. All recoveries were within required control limits showing adequate analytical accuracy and precision.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) ANALYSES

To assess the long term accuracy and precision of the analytical methods on various matrices, MS/MSD percent recoveries and relative percent differences (RPD) of the concentrations were determined. The organic MS/MSD percent recovery and RPD control limits are established by the laboratory. The inorganic control limits are defined by the methods and the "Guidelines", which require recoveries between 70 to 130 percent with RPDs less than 30 percent.

Matrix spikes (MS) were prepared and analyzed for all parameters. Some MS for metals, mercury and anions were analyzed in duplicate. All recoveries were within required control limits showing adequate analytical accuracy and precision with a few exceptions. Several sample results were qualified as estimated (See Tables 4A and 4B). Laboratory duplicates were prepared and analyzed for all parameters. All RPDs were within the required control limit with a few exceptions. Several sample results were qualified as estimated (See Table 5).

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

The field QA/QC consisted of field duplicate sample sets and equipment blanks.

Overall precision for the sampling event and laboratory procedures was monitored using the results of the field duplicate sample sets. The RPDs associated with these duplicate samples must be less than 50 percent for water or 100 percent for soil/sediment. If the reported concentration in either the investigative sample or its duplicate is less than five times the RL, the evaluation criteria are; one times the RL value for water or two times for soil/sediment.

All field duplicate results were acceptable indicating good field and analytical precision with a few exceptions. Several sample results were qualified as estimated (See Table 6).

To monitor potential cross-contamination during sample collection, equipment blanks were submitted to the laboratory for analysis.

All equipment blank results were non-detect for the compounds of interest with a few exceptions. Several sample results were qualified as non-detect (See Table 7).

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used with the qualifications noted.

TABLE 1A

**ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010**

	<i>Sample Location:</i>	<i>BG-1</i>	<i>BG-1</i>	<i>BG-1</i>	<i>BG-2</i>	<i>BG-2</i>
	<i>Sample ID:</i>	SO-2494-BG1 (0-1)-102110	SO-2494-BG1 (4-5)-102110	SO-2494-BG1 (14-15)-102110	SO-2494-BG2 (0-1)-102110	SO-2494-BG2 (4-5)-102110
	<i>Sample Date:</i>	10/21/2010	10/21/2010	10/21/2010	10/21/2010	10/21/2010
	<i>Sample Depth:</i>	0-1 ft BGS	4-5 ft BGS	14-15 ft BGS	0-1 ft BGS	4-5 ft BGS
<i>Parameters</i>	<i>Units</i>					
<i>Metals</i>						
Aluminum	mg/kg	6800	12000	9900	16000	18000
Arsenic	mg/kg	3.9	3.2	6.2	6.8	4.8
Barium	mg/kg	66	94	77	140	110
Cadmium	mg/kg	<0.35	<0.40	<0.40	<0.44	<0.46
Chromium	mg/kg	6.9	10	13	13	14
Copper	mg/kg	11	11	23	18	13
Lead	mg/kg	9.6	9.3	8.7	13	12
Mercury	mg/kg	0.015 J	0.0064 J	<0.017	0.020 J	0.011 J
Potassium	mg/kg	-	-	-	-	-
Selenium	mg/kg	<3.5	<4.0	<4.0 U	<4.4	<4.6
Silver	mg/kg	<0.71	<0.80	<0.79	<0.88	<0.92
Sodium	mg/kg	-	-	-	-	-
<i>Metals-TCLP</i>						
Aluminum	mg/L	-	-	-	-	-
Arsenic	mg/L	-	-	-	-	-
Barium	mg/L	-	-	-	-	-
Cadmium	mg/L	-	-	-	-	-
Chromium	mg/L	-	-	-	-	-
Copper	mg/L	-	-	-	-	-
Lead	mg/L	-	-	-	-	-
Mercury	mg/L	-	-	-	-	-
Selenium	mg/L	-	-	-	-	-
Silver	mg/L	-	-	-	-	-
<i>General Chemistry</i>						
Chloride	mg/kg	0.411 J	0.415 J	0.927 J	0.786 J	0.433 J
Fluoride	mg/kg	2.16 J	4.78 J	0.721 J	2.92 J	5.84 J
Nitrate (as N)	mg/kg	1.95 J	1.04 J	0.515 J	2.02 J	1.08 J

TABLE 1A
ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

		<i>BG-1</i>	<i>BG-1</i>	<i>BG-1</i>	<i>BG-2</i>	<i>BG-2</i>
	<i>Sample Location:</i>					
	<i>Sample ID:</i>	SO-2494-BG1 (0-1)-102110	SO-2494-BG1 (4-5)-102110	SO-2494-BG1 (14-15)-102110	SO-2494-BG2 (0-1)-102110	SO-2494-BG2 (4-5)-102110
	<i>Sample Date:</i>	10/21/2010	10/21/2010	10/21/2010	10/21/2010	10/21/2010
	<i>Sample Depth:</i>	0-1 ft BGS	4-5 ft BGS	14-15 ft BGS	0-1 ft BGS	4-5 ft BGS
<i>Parameters</i>	<i>Units</i>					
<i>General Chemistry (Cont'd.)</i>						
Nitrite (as N)	mg/kg	0.308 J	<2.08 UJ	<2.06 UJ	0.449 J	<2.16 UJ
Percent moisture	%	12	6.7	4.0	12	9.6
Percent solids	%	88	93	96	88	90
Specific gravity	none	-	-	-	-	-
Specific Gravity at 20C	none	-	-	-	-	-
Sulfate	mg/kg	9.24 J	6.75 J	4.43 J	5.84 J	4.44 J
<i>Geotech</i>						
Density	g/cc	-	-	-	-	-

TABLE 1A
ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

	<i>Sample Location:</i>	BG-2	BG-3	BG-3	BG-3	BG-4
	<i>Sample ID:</i>	SO-2494-BG2 (14-15)-102110	SO-2494-BG3 (0-1)-102110	SO-2494-BG3 (4-5)-102110	SO-2494-BG3 (14-15)-102110	SO-2494-BG4 (0-1)-102110
	<i>Sample Date:</i>	10/21/2010	10/21/2010	10/21/2010	10/21/2010	10/21/2010
	<i>Sample Depth:</i>	14-15 ft BGS	0-1 ft BGS	4-5 ft BGS	14-15 ft BGS	0-1 ft BGS
<i>Parameters</i>	<i>Units</i>					
<i>Metals</i>						
Aluminum	mg/kg	10000	12000	17000	6600	12000
Arsenic	mg/kg	5.1	7.0	5.6	9.0	6.8
Barium	mg/kg	54	84	100	38	84
Cadmium	mg/kg	<0.43	<0.46	<0.41	<0.47	<0.48
Chromium	mg/kg	11	11	14	7.7	11
Copper	mg/kg	37	19	18	47	20
Lead	mg/kg	10	11	11	7.8	13
Mercury	mg/kg	0.0055 J	0.014 J	0.0065 J	<0.016	0.011 J
Potassium	mg/kg	-	-	-	-	-
Selenium	mg/kg	<4.3	<4.6	<4.1	<4.7 U	<4.8
Silver	mg/kg	<0.86	<0.92	<0.83	<0.94	<0.96
Sodium	mg/kg	-	-	-	-	-
<i>Metals-TCLP</i>						
Aluminum	mg/L	-	-	-	-	-
Arsenic	mg/L	-	-	-	-	-
Barium	mg/L	-	-	-	-	-
Cadmium	mg/L	-	-	-	-	-
Chromium	mg/L	-	-	-	-	-
Copper	mg/L	-	-	-	-	-
Lead	mg/L	-	-	-	-	-
Mercury	mg/L	-	-	-	-	-
Selenium	mg/L	-	-	-	-	-
Silver	mg/L	-	-	-	-	-
<i>General Chemistry</i>						
Chloride	mg/kg	1.38 J	1.16 J	1.49 J	1.38 J	0.429 J
Fluoride	mg/kg	0.744 J	2.43 J	1.60 J	0.638 J	1.29 J
Nitrate (as N)	mg/kg	0.532 J	1.27 J	<2.13 UJ	<2.13 UJ	0.857 J

TABLE 1A
ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

	<i>Sample Location:</i>	BG-2	BG-3	BG-3	BG-3	BG-4
	<i>Sample ID:</i>	SO-2494-BG2 (14-15)-102110	SO-2494-BG3 (0-1)-102110	SO-2494-BG3 (4-5)-102110	SO-2494-BG3 (14-15)-102110	SO-2494-BG4 (0-1)-102110
	<i>Sample Date:</i>	10/21/2010	10/21/2010	10/21/2010	10/21/2010	10/21/2010
	<i>Sample Depth:</i>	14-15 ft BGS	0-1 ft BGS	4-5 ft BGS	14-15 ft BGS	0-1 ft BGS
<i>Parameters</i>	<i>Units</i>					
<i>General Chemistry (Cont'd.)</i>						
Nitrite (as N)	mg/kg	<2.13 UJ	0.528 J	<2.13 UJ	<2.13 UJ	<2.14 UJ
Percent moisture	%	4.1	4.0	8.4	4.0	0.18
Percent solids	%	96	96	92	96	100
Specific gravity	none	-	-	-	-	-
Specific Gravity at 20C	none	-	-	-	-	-
Sulfate	mg/kg	5.95 J	4.54 J	4.05 J	3.94 J	4.50 J
<i>Geotech</i>						
Density	g/cc	-	-	-	-	-

TABLE 1A

**ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010**

		<i>DB-1</i>	<i>DB-1</i>	<i>DB-1</i>	<i>DB-1</i>	<i>DB-1</i>
	<i>Sample Location:</i>	<i>DB-1</i>	<i>DB-1</i>	<i>DB-1</i>	<i>DB-1</i>	<i>DB-1</i>
	<i>Sample ID:</i>	STW-2494-DB1 (2-3)-102010	SO-2494-DB1 (4-5)-102010	SO-2494-DB1 (8-9)-102010	SO-2494-FD01-102010	SO-2494-DB1 (18-19)-102010
	<i>Sample Date:</i>	10/20/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010
	<i>Sample Depth:</i>	2-3 ft BGS	4-5 ft BGS	8-9 ft BGS	8-9 ft BGS <i>Duplicate</i>	18-19 ft BGS
<i>Parameters</i>	<i>Units</i>					
<i>Metals</i>						
Aluminum	mg/kg	49000	70000	6600 J	11000 J	6700
Arsenic	mg/kg	2.2	6.5	6.1 J	8.5 J	16
Barium	mg/kg	67 J	47 J	39 J	65 J	38 J
Cadmium	mg/kg	<0.33	<0.48	<0.49	<0.47	<0.43
Chromium	mg/kg	12 J	52 J	7.3 J	10 J	7.3 J
Copper	mg/kg	97 J	300 J	19 J	68 J	12 J
Lead	mg/kg	15 J	22 J	8.1 J	24 J	6.8 J
Mercury	mg/kg	24 J	0.0085 J	0.013 J	0.0063 J	0.0067 J
Potassium	mg/kg	-	-	-	-	-
Selenium	mg/kg	<3.3	<4.8	<4.9	<4.7	<4.3
Silver	mg/kg	0.31 J	<0.96	<0.97	<0.94	<0.87
Sodium	mg/kg	-	-	-	-	-
<i>Metals-TCLP</i>						
Aluminum	mg/L	25	-	-	-	-
Arsenic	mg/L	<0.060	-	-	-	-
Barium	mg/L	0.044	-	-	-	-
Cadmium	mg/L	<0.010	-	-	-	-
Chromium	mg/L	0.0062 J	-	-	-	-
Copper	mg/L	0.22	-	-	-	-
Lead	mg/L	0.012 J	-	-	-	-
Mercury	mg/L	<0.0033 U	-	-	-	-
Selenium	mg/L	<0.10	-	-	-	-
Silver	mg/L	0.10	-	-	-	-
<i>General Chemistry</i>						
Chloride	mg/kg	370	29.3	28.0	28.7	72.0
Fluoride	mg/kg	82.7	14.1	19.8 J	28.5 J	3.09 J
Nitrate (as N)	mg/kg	129 J	101 J	94.4 J	86.8 J	25.1 J

TABLE 1A
ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

	<i>Sample Location:</i>	<i>DB-1</i>	<i>DB-1</i>	<i>DB-1</i>	<i>DB-1</i>	<i>DB-1</i>
	<i>Sample ID:</i>	STW-2494-DB1 (2-3)-102010	SO-2494-DB1 (4-5)-102010	SO-2494-DB1 (8-9)-102010	SO-2494-FD01-102010	SO-2494-DB1 (18-19)-102010
	<i>Sample Date:</i>	10/20/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010
	<i>Sample Depth:</i>	2-3 ft BGS	4-5 ft BGS	8-9 ft BGS	8-9 ft BGS <i>Duplicate</i>	18-19 ft BGS
<i>Parameters</i>	<i>Units</i>					
<i>General Chemistry (Cont'd.)</i>						
Nitrite (as N)	mg/kg	<2.57 UJ	<2.15 UJ	<2.09 UJ	<2.14 UJ	<2.06 UJ
Percent moisture	%	22	7.4	4.6	6.8	2.9
Percent solids	%	78	93	95	93	97
Specific gravity	none	3.06	-	-	-	-
Specific Gravity at 20C	none	3.06	-	-	-	-
Sulfate	mg/kg	9370	1100	1260	1570	776
<i>Geotech</i>						
Density	g/cc	1.44	-	-	-	-

TABLE 1A

**ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010**

		<i>DB-2</i>	<i>DB-2</i>	<i>DB-2</i>	<i>DB-2</i>
	<i>Sample Location:</i>				
	<i>Sample ID:</i>	STW-2494-DB2 (1-2)-102010	STW-2494-DB2 (5-6)-102010	SO-2494-DB2 (6-7)-102010	SO-2494-DB2 (10-11)-102010
	<i>Sample Date:</i>	10/20/2010	10/20/2010	10/20/2010	10/20/2010
	<i>Sample Depth:</i>	1-2 ft BGS	5-6 ft BGS	6-7 ft BGS	10-11 ft BGS
<i>Parameters</i>	<i>Units</i>				
<i>Metals</i>					
Aluminum	mg/kg	45000	42000	11000	8900
Arsenic	mg/kg	2.7 J	3.3	6.4	10
Barium	mg/kg	240 J	170 J	59 J	37 J
Cadmium	mg/kg	<0.65	<0.36	<0.51	<0.42
Chromium	mg/kg	43 J	45 J	9.5 J	7.3 J
Copper	mg/kg	260 J	340 J	20 J	29 J
Lead	mg/kg	54 J	48 J	9.7 J	7.2 J
Mercury	mg/kg	5.7 J	9.0 J	0.023 J	0.0058 J
Potassium	mg/kg	-	-	-	-
Selenium	mg/kg	<6.5	<3.6	<5.1	<4.2
Silver	mg/kg	0.36 J	0.30 J	<1.0	<0.85
Sodium	mg/kg	-	-	-	-
<i>Metals-TCLP</i>					
Aluminum	mg/L	-	58	-	-
Arsenic	mg/L	-	0.0058 J	-	-
Barium	mg/L	-	0.080	-	-
Cadmium	mg/L	-	0.0015 J	-	-
Chromium	mg/L	-	0.024 J	-	-
Copper	mg/L	-	3.8	-	-
Lead	mg/L	-	0.017 J	-	-
Mercury	mg/L	-	<0.0028 U	-	-
Selenium	mg/L	-	0.0094 J	-	-
Silver	mg/L	-	0.16	-	-
<i>General Chemistry</i>					
Chloride	mg/kg	40.1	78.8	17.7	14.7
Fluoride	mg/kg	309	600	143	78.1
Nitrate (as N)	mg/kg	0.763 J	<2.54 UJ	<2.10 UJ	<2.11 UJ

TABLE 1A
ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

	<i>Sample Location:</i>	<i>DB-2</i>	<i>DB-2</i>	<i>DB-2</i>	<i>DB-2</i>
	<i>Sample ID:</i>	STW-2494-DB2 (1-2)-102010	STW-2494-DB2 (5-6)-102010	SO-2494-DB2 (6-7)-102010	SO-2494-DB2 (10-11)-102010
	<i>Sample Date:</i>	10/20/2010	10/20/2010	10/20/2010	10/20/2010
	<i>Sample Depth:</i>	1-2 ft BGS	5-6 ft BGS	6-7 ft BGS	10-11 ft BGS
<i>Parameters</i>	<i>Units</i>				
<i>General Chemistry (Cont'd.)</i>					
Nitrite (as N)	mg/kg	<2.54 UJ	<2.54 UJ	<2.10 UJ	<2.11 UJ
Percent moisture	%	24	18	4.7	4.5
Percent solids	%	76	82	95	96
Specific gravity	none	-	3.24	-	-
Specific Gravity at 20C	none	-	3.24	-	-
Sulfate	mg/kg	10500	15000	4490	3040
<i>Geotech</i>					
Density	g/cc	-	1.48	-	-

TABLE 1A

**ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010**

	<i>Sample Location:</i>	<i>DB-2</i>	<i>Dross 1</i>	<i>Dross 2</i>	<i>MW-2</i>
	<i>Sample ID:</i>	SO-2494-DB2 (20-21)-102010	STW-2494-Dross Grey -102510	STW-2494-Dross Tan -102510	SO-2494-MW2 (8-9)-102010
	<i>Sample Date:</i>	10/20/2010	10/25/2010	10/25/2010	10/20/2010
	<i>Sample Depth:</i>	20-21 ft BGS	0-1 ft BGS	0-1 ft BGS	8-9 ft BGS
<i>Parameters</i>	<i>Units</i>				
<i>Metals</i>					
Aluminum	mg/kg	5500	58000	<33	12000
Arsenic	mg/kg	5.8	3.2 J	7.4	5.7
Barium	mg/kg	42 J	140	94	98 J
Cadmium	mg/kg	<0.48	<0.64	<0.56	<0.52
Chromium	mg/kg	17 J	32	210	10 J
Copper	mg/kg	15 J	200	1700	33 J
Lead	mg/kg	9.4 J	53	44	12 J
Mercury	mg/kg	<0.017	4.6	0.38	0.12
Potassium	mg/kg	-	830 J	6300	-
Selenium	mg/kg	<4.8	<6.4	<5.6	<5.2
Silver	mg/kg	<0.97	0.17 J	0.11 J	<1.0
Sodium	mg/kg	-	4100	9800	-
<i>Metals-TCLP</i>					
Aluminum	mg/L	-	-	-	-
Arsenic	mg/L	-	-	-	-
Barium	mg/L	-	-	-	-
Cadmium	mg/L	-	-	-	-
Chromium	mg/L	-	-	-	-
Copper	mg/L	-	-	-	-
Lead	mg/L	-	-	-	-
Mercury	mg/L	-	-	-	-
Selenium	mg/L	-	-	-	-
Silver	mg/L	-	-	-	-
<i>General Chemistry</i>					
Chloride	mg/kg	14.8	76.1 J	8650	1130
Fluoride	mg/kg	9.22 J	1050	112 J	26.0
Nitrate (as N)	mg/kg	2.18 J	0.525 J	914 J	50.3 J

TABLE 1A

**ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010**

	<i>Sample Location:</i>	<i>DB-2</i>	<i>Dross 1</i>	<i>Dross 2</i>	<i>MW-2</i>
	<i>Sample ID:</i>	SO-2494-DB2 (20-21)-102010	STW-2494-Dross Grey -102510	STW-2494-Dross Tan -102510	SO-2494-MW2 (8-9)-102010
	<i>Sample Date:</i>	10/20/2010	10/25/2010	10/25/2010	10/20/2010
	<i>Sample Depth:</i>	20-21 ft BGS	0-1 ft BGS	0-1 ft BGS	8-9 ft BGS
<i>Parameters</i>	<i>Units</i>				
<i>General Chemistry (Cont'd.)</i>					
Nitrite (as N)	mg/kg	<2.07 UJ	-	-	<2.30 UJ
Percent moisture	%	2.6	24	18	11
Percent solids	%	97	76	82	89
Specific gravity	none	-	-	-	-
Specific Gravity at 20C	none	-	-	-	-
Sulfate	mg/kg	1450	30000	6160	904
<i>Geotech</i>					
Density	g/cc	-	-	-	-

TABLE 1A
ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

	<i>Sample Location:</i>	MW-2	MW-2	MW-2	MW-3	MW-3
	<i>Sample ID:</i>	SO-2494-MW2 (12-13)-102010	SO-2494-FD03-102010	SO-2494-MW2 (22-23)-102010	SO-2494-MW3 (0-1)-102110	SO-2494-MW3 (4-5)-102110
	<i>Sample Date:</i>	10/20/2010	10/20/2010	10/20/2010	10/21/2010	10/21/2010
	<i>Sample Depth:</i>	12-13 ft BGS	12-13 ft BGS	22-23 ft BGS	0-1 ft BGS	4-5 ft BGS
			<i>Duplicate</i>			
<i>Parameters</i>	<i>Units</i>					
<i>Metals</i>						
Aluminum	mg/kg	5400 J	9900 J	2100	25000	10000
Arsenic	mg/kg	3.7	3.1 J	1.9 J	6.9	5.1
Barium	mg/kg	29 J	51 J	9.5 J	160	41
Cadmium	mg/kg	<0.56	<0.53	<0.45	<0.44	<0.44
Chromium	mg/kg	6.0 J	9.6 J	2.2 J	18	11
Copper	mg/kg	14 J	11 J	5.5 J	110	15
Lead	mg/kg	6.2 J	4.9 J	3.1 J	31	15
Mercury	mg/kg	<0.018	0.0091 J	<0.017	0.098 J	<0.017
Potassium	mg/kg	-	-	-	-	-
Selenium	mg/kg	<5.6	<5.3	<4.5	<4.4	<4.4
Silver	mg/kg	<1.1	<1.1	0.11 J	<0.89	<0.88
Sodium	mg/kg	-	-	-	-	-
<i>Metals-TCLP</i>						
Aluminum	mg/L	-	-	-	-	-
Arsenic	mg/L	-	-	-	-	-
Barium	mg/L	-	-	-	-	-
Cadmium	mg/L	-	-	-	-	-
Chromium	mg/L	-	-	-	-	-
Copper	mg/L	-	-	-	-	-
Lead	mg/L	-	-	-	-	-
Mercury	mg/L	-	-	-	-	-
Selenium	mg/L	-	-	-	-	-
Silver	mg/L	-	-	-	-	-
<i>General Chemistry</i>						
Chloride	mg/kg	326	346	196	2.31 J	0.515 J
Fluoride	mg/kg	17.7 J	43.1 J	2.31 J	16.8	0.617 J
Nitrate (as N)	mg/kg	20.2 J	19.3 J	4.72 J	1.62 J	0.412 J

TABLE 1A
ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

	<i>Sample Location:</i>	MW-2	MW-2	MW-2	MW-3	MW-3
	<i>Sample ID:</i>	SO-2494-MW2 (12-13)-102010	SO-2494-FD03-102010	SO-2494-MW2 (22-23)-102010	SO-2494-MW3 (0-1)-102110	SO-2494-MW3 (4-5)-102110
	<i>Sample Date:</i>	10/20/2010	10/20/2010	10/20/2010	10/21/2010	10/21/2010
	<i>Sample Depth:</i>	12-13 ft BGS	12-13 ft BGS	22-23 ft BGS	0-1 ft BGS	4-5 ft BGS
			<i>Duplicate</i>			
<i>Parameters</i>	<i>Units</i>					
<i>General Chemistry (Cont'd.)</i>						
Nitrite (as N)	mg/kg	<2.21 UJ	<2.14 UJ	0.629 J	<2.31 UJ	<2.06 UJ
Percent moisture	%	11	12	8.9	13	2.3
Percent solids	%	89	88	91	87	98
Specific gravity	none	-	-	-	-	-
Specific Gravity at 20C	none	-	-	-	-	-
Sulfate	mg/kg	293	322	342	9.03 J	3.50 J
<i>Geotech</i>						
Density	g/cc	-	-	-	-	-

TABLE 1A

**ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010**

	<i>Sample Location:</i>	MW-3	SB-1	SB-1	SB-1	SB-1
	<i>Sample ID:</i>	SO-2494-MW3 (14-15)-102110	SO-2494-SB1 (0-1)-102010	SO-2494-SB1 (4-5)-102010	SO-2494-FD02-102010	SO-2494-SB1 (14-15)-102010
	<i>Sample Date:</i>	10/21/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010
	<i>Sample Depth:</i>	14-15 ft BGS	0-1 ft BGS	4-5 ft BGS	4-5 ft BGS <i>Duplicate</i>	14-15 ft BGS
<i>Parameters</i>	<i>Units</i>					
<i>Metals</i>						
Aluminum	mg/kg	5900	<18	3700	4500	3700
Arsenic	mg/kg	7.5	6.7	6.7 J	11 J	4.8
Barium	mg/kg	58	170 J	36 J	35 J	23 J
Cadmium	mg/kg	<0.45	<0.30	<0.41	<0.39	<0.48
Chromium	mg/kg	8.6	86	3.7 J	5.2 J	5.1
Copper	mg/kg	14	980	8.9	11	5.4
Lead	mg/kg	6.5	50 J	6.2 J	8.6 J	5.6 J
Mercury	mg/kg	<0.017	0.43	<0.017	<0.016	<0.017
Potassium	mg/kg	-	-	-	-	-
Selenium	mg/kg	<4.5	<3.0	<4.1	<3.9	<4.8
Silver	mg/kg	<0.89	<0.61	<0.82	<0.77	<0.96
Sodium	mg/kg	-	-	-	-	-
<i>Metals-TCLP</i>						
Aluminum	mg/L	-	-	-	-	-
Arsenic	mg/L	-	-	-	-	-
Barium	mg/L	-	-	-	-	-
Cadmium	mg/L	-	-	-	-	-
Chromium	mg/L	-	-	-	-	-
Copper	mg/L	-	-	-	-	-
Lead	mg/L	-	-	-	-	-
Mercury	mg/L	-	-	-	-	-
Selenium	mg/L	-	-	-	-	-
Silver	mg/L	-	-	-	-	-
<i>General Chemistry</i>						
Chloride	mg/kg	1.79 J	1.06 J	0.842 J	1.05 J	0.517 J
Fluoride	mg/kg	1.47 J	273	6.95 J	6.11 J	1.96 J
Nitrate (as N)	mg/kg	<2.10 UJ	6.35 J	1.26 J	1.16 J	0.413 J

TABLE 1A
ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

	<i>Sample Location:</i>	MW-3	SB-1	SB-1	SB-1	SB-1
	<i>Sample ID:</i>	SO-2494-MW3 (14-15)-102110	SO-2494-SB1 (0-1)-102010	SO-2494-SB1 (4-5)-102010	SO-2494-FD02-102010	SO-2494-SB1 (14-15)-102010
	<i>Sample Date:</i>	10/21/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010
	<i>Sample Depth:</i>	14-15 ft BGS	0-1 ft BGS	4-5 ft BGS	4-5 ft BGS <i>Duplicate</i>	14-15 ft BGS
<i>Parameters</i>	<i>Units</i>					
<i>General Chemistry (Cont'd.)</i>						
Nitrite (as N)	mg/kg	<2.10 UJ	<2.12 UJ	<2.10 UJ	<2.11 UJ	<2.07 UJ
Percent moisture	%	6.0	3.9	3.4	4.2	5.2
Percent solids	%	94	96	97	96	95
Specific gravity	none	-	-	-	-	-
Specific Gravity at 20C	none	-	-	-	-	-
Sulfate	mg/kg	6.84 J	162	33.7	28.0	17.9 J
<i>Geotech</i>						
Density	g/cc	-	-	-	-	-

TABLE 1A
ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

	<i>Sample Location:</i>	<i>SB-2</i>	<i>SB-2</i>	<i>SB-2</i>	<i>SB-3</i>	<i>SB-3</i>
	<i>Sample ID:</i>	SO-2494-SB2 (1-2)-102110	SO-2494-SB2 (5-6)-102110	SO-2494-SB2 (15-16)-102110	SO-2494-SB3 (0-1)-102110	SO-2494-SB3 (4-5)-102110
	<i>Sample Date:</i>	10/21/2010	10/21/2010	10/21/2010	10/21/2010	10/21/2010
	<i>Sample Depth:</i>	1-2 ft BGS	5-6 ft BGS	15-16 ft BGS	0-1 ft BGS	4-5 ft BGS
<i>Parameters</i>	<i>Units</i>					
<i>Metals</i>						
Aluminum	mg/kg	21000	7800	5200	14000	9000
Arsenic	mg/kg	7.9	4.0	8.5	6.9	8.0
Barium	mg/kg	120	32	42	150	77
Cadmium	mg/kg	<0.48	<0.41	<0.38	<0.53	<0.39
Chromium	mg/kg	20	6.0	9.0	34	11
Copper	mg/kg	250	52	15	44	23
Lead	mg/kg	18	4.4	6.6	40	9.2
Mercury	mg/kg	0.070	0.0053 J	<0.017	0.054	0.0069 J
Potassium	mg/kg	-	-	-	-	-
Selenium	mg/kg	<4.8	<4.1	<3.8	<5.3	<3.9
Silver	mg/kg	<0.95	<0.81	<0.75	<1.1	<0.79
Sodium	mg/kg	-	-	-	-	-
<i>Metals-TCLP</i>						
Aluminum	mg/L	-	-	-	-	-
Arsenic	mg/L	-	-	-	-	-
Barium	mg/L	-	-	-	-	-
Cadmium	mg/L	-	-	-	-	-
Chromium	mg/L	-	-	-	-	-
Copper	mg/L	-	-	-	-	-
Lead	mg/L	-	-	-	-	-
Mercury	mg/L	-	-	-	-	-
Selenium	mg/L	-	-	-	-	-
Silver	mg/L	-	-	-	-	-
<i>General Chemistry</i>						
Chloride	mg/kg	3.44 J	2.41 J	1.62 J	1.36 J	0.912 J
Fluoride	mg/kg	19.0 J	30.5 J	8.09 J	15.0 J	26.0 J
Nitrate (as N)	mg/kg	<2.15 UJ	11.6 J	3.44 J	1.78 J	<2.03 UJ

TABLE 1A
ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

		SB-2	SB-2	SB-2	SB-3	SB-3
	<i>Sample Location:</i>	SB-2	SB-2	SB-2	SB-3	SB-3
	<i>Sample ID:</i>	SO-2494-SB2 (1-2)-102110	SO-2494-SB2 (5-6)-102110	SO-2494-SB2 (15-16)-102110	SO-2494-SB3 (0-1)-102110	SO-2494-SB3 (4-5)-102110
	<i>Sample Date:</i>	10/21/2010	10/21/2010	10/21/2010	10/21/2010	10/21/2010
	<i>Sample Depth:</i>	1-2 ft BGS	5-6 ft BGS	15-16 ft BGS	0-1 ft BGS	4-5 ft BGS
<i>Parameters</i>	<i>Units</i>					
<i>General Chemistry (Cont'd.)</i>						
Nitrite (as N)	mg/kg	<2.15 UJ	<2.10 UJ	<2.02 UJ	<2.10 UJ	<2.03 UJ
Percent moisture	%	7.2	3.8	2.7	9.3	1.2
Percent solids	%	93	96	97	91	99
Specific gravity	none	-	-	-	-	-
Specific Gravity at 20C	none	-	-	-	-	-
Sulfate	mg/kg	1380 J	4450 J	367 J	6.39 J	15.0 J
<i>Geotech</i>						
Density	g/cc	-	-	-	-	-

TABLE 1A

**ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010**

	<i>Sample Location:</i>	<i>SB-3</i>	<i>SB-4</i>	<i>SB-5</i>	<i>SB-5</i>	<i>SB-5</i>
	<i>Sample ID:</i>	SO-2494-SB3 (14-15)-102110	SO-2494-SB4 (0-1)-102010	SO-2494-SB5 (0-1)-102010	SO-2494-SB5 (4-5)-102010	SO-2494-SB5 (14-15)-102010
	<i>Sample Date:</i>	10/21/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010
	<i>Sample Depth:</i>	14-15 ft BGS	0-1 ft BGS	0-1 ft BGS	4-5 ft BGS	14-15 ft BGS
<i>Parameters</i>	<i>Units</i>					
<i>Metals</i>						
Aluminum	mg/kg	4900	10000	52000	6000	4100
Arsenic	mg/kg	4.2	9.9	3.5	10	11
Barium	mg/kg	34	57 J	130 J	36 J	41 J
Cadmium	mg/kg	<0.45	<0.47	<0.47	<0.44	<0.31
Chromium	mg/kg	6.9	11	83 J	6.6 J	5.9
Copper	mg/kg	8.8	47	570 J	16 J	11
Lead	mg/kg	5.9	15 J	40 J	9.9 J	11 J
Mercury	mg/kg	<0.016	0.011 J	5.2	<0.017	<0.017
Potassium	mg/kg	-	-	-	-	-
Selenium	mg/kg	<4.5	<4.7	<4.7	<4.4	<3.1
Silver	mg/kg	<0.90	<0.93	0.054 J	<0.89	<0.62
Sodium	mg/kg	-	-	-	-	-
<i>Metals-TCLP</i>						
Aluminum	mg/L	-	-	-	-	-
Arsenic	mg/L	-	-	-	-	-
Barium	mg/L	-	-	-	-	-
Cadmium	mg/L	-	-	-	-	-
Chromium	mg/L	-	-	-	-	-
Copper	mg/L	-	-	-	-	-
Lead	mg/L	-	-	-	-	-
Mercury	mg/L	-	-	-	-	-
Selenium	mg/L	-	-	-	-	-
Silver	mg/L	-	-	-	-	-
<i>General Chemistry</i>						
Chloride	mg/kg	1.35 J	1.37 J	2.38 J	1.02 J	3.80 J
Fluoride	mg/kg	1.14 J	4.10 J	7.69 J	19.6	6.19 J
Nitrate (as N)	mg/kg	0.416 J	0.947 J	10.2 J	<2.04 UJ	0.543 J

TABLE 1A
ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

	<i>Sample Location:</i>	<i>SB-3</i>	<i>SB-4</i>	<i>SB-5</i>	<i>SB-5</i>	<i>SB-5</i>
	<i>Sample ID:</i>	SO-2494-SB3 (14-15)-102110	SO-2494-SB4 (0-1)-102010	SO-2494-SB5 (0-1)-102010	SO-2494-SB5 (4-5)-102010	SO-2494-SB5 (14-15)-102010
	<i>Sample Date:</i>	10/21/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010
	<i>Sample Depth:</i>	14-15 ft BGS	0-1 ft BGS	0-1 ft BGS	4-5 ft BGS	14-15 ft BGS
<i>Parameters</i>	<i>Units</i>					
<i>General Chemistry (Cont'd.)</i>						
Nitrite (as N)	mg/kg	<2.08 UJ	<2.10 UJ	<2.17 UJ	<2.04 UJ	<2.17 UJ
Percent moisture	%	3.4	4.2	7.8	3.2	4.5
Percent solids	%	97	96	92	97	95
Specific gravity	none	-	-	-	-	2.71
Specific Gravity at 20C	none	-	-	-	-	2.71
Sulfate	mg/kg	13.6 J	4.52 J	648	1300	67.0
<i>Geotech</i>						
Density	g/cc	-	-	-	-	2.03

Notes:

- - Not analyzed.

TCLP - Toxicity Characteristic Leaching Procedure.

H - Estimated.

U - Not detected

UJ - Not detected, estimated reporting limit.

TABLE 1B
ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

	<i>Sample Location:</i>	<i>MW-1</i>	<i>MW-2</i>	<i>MW-2</i>	<i>MW-3</i>
	<i>Sample ID:</i>	<i>WG-2494-MW1-102610</i>	<i>WG-2494-MW2-102610</i>	<i>WG-2494-FD04-102610</i>	<i>WG-2494-MW03-102610</i>
	<i>Sample Date:</i>	<i>10/26/2010</i>	<i>10/26/2010</i>	<i>10/26/2010</i>	<i>10/26/2010</i>
				<i>Duplicate</i>	
<i>Parameters</i>	<i>Units</i>				
<i>Metals</i>					
Aluminum	mg/L	0.66 J	<1.0	<1.0	<1.0
Arsenic	mg/L	<0.0020	<0.0020	<0.0020	<0.0020
Barium	mg/L	0.035	0.024	0.024	0.023
Cadmium	mg/L	<0.0020	<0.0020	<0.0020	<0.0020
Calcium	mg/L	33	32	32	34
Chromium	mg/L	<0.011 U	<0.0084 U	<0.0079 U	<0.0063 U
Copper	mg/L	<0.020	<0.020	<0.020	<0.020
Lead	mg/L	0.0059	<0.0020	<0.0020 U	<0.0020 U
Magnesium	mg/L	14	14	14	14
Mercury	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Potassium	mg/L	1.9 J	1.9 J	2.0 J	2.5 J
Selenium	mg/L	<0.0020	<0.0020	<0.0020	<0.0020
Silver	mg/L	<0.0020	<0.0020	<0.0020	<0.0020
Sodium	mg/L	3.2	3.2	3.1	3.2
<i>General Chemistry</i>					
Alkalinity, bicarbonate	mg/L	142	137	135	135
Alkalinity, carbonate	mg/L	<4.00	<4.00	<4.00	<4.00
Ammonia-N	mg/L	<1.00	<1.00	<1.00	<1.00
Chloride	mg/L	2.16	2.26	2.17	2.21
Fluoride	mg/L	<0.500	<0.500	<0.500	<0.500
Nitrate (as N)	mg/L	0.940	0.960	0.950	0.970
Nitrite (as N)	mg/L	<0.200	<0.200	<0.200	<0.200
Sulfate	mg/L	13.3	13.6	13.6	15.2
Total kjeldahl nitrogen (TKN)	mg/L	<0.800	<0.800	<0.800	<0.800

Notes:

J - Estimated.

U - Not detected.

TABLE 2
QUALIFIED SAMPLE RESULTS DUE TO HOLDING TIME EXCEEDANCES
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

<i>Parameter</i>	<i>Analyte</i>	<i>Sample ID</i>	<i>Holding Time (days)</i>	<i>Holding Time Criteria (days)</i>	<i>Qualified Sample Results</i>	<i>Units</i>
E300	Nitrate (as N)	SO-2494-DB1 (18-19)-102010	5	2	25.1 J	mg/kg
E300	Nitrite (as N)	SO-2494-DB1 (18-19)-102010	5	2	2.06 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-DB1 (4-5)-102010	5	2	101 J	mg/kg
E300	Nitrite (as N)	SO-2494-DB1 (4-5)-102010	5	2	2.15 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-DB1 (8-9)-102010	5	2	94.4 J	mg/kg
E300	Nitrite (as N)	SO-2494-DB1 (8-9)-102010	5	2	2.09 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-DB2 (10-11)-102010	5	2	2.11 UJ	mg/kg
E300	Nitrite (as N)	SO-2494-DB2 (10-11)-102010	5	2	2.11 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-DB2 (20-21)-102010	5	2	2.18 J	mg/kg
E300	Nitrite (as N)	SO-2494-DB2 (20-21)-102010	5	2	2.07 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-DB2 (6-7)-102010	5	2	2.10 UJ	mg/kg
E300	Nitrite (as N)	SO-2494-DB2 (6-7)-102010	5	2	2.10 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-FD01-102010	5	2	86.8 J	mg/kg
E300	Nitrite (as N)	SO-2494-FD01-102010	5	2	2.14 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-FD02-102010	8	2	1.16 J	mg/kg
E300	Nitrite (as N)	SO-2494-FD02-102010	8	2	2.11 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-FD03-102010	5	2	19.3 J	mg/kg
E300	Nitrite (as N)	SO-2494-FD03-102010	5	2	2.14 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-MW2 (12-13)-102010	5	2	20.2 J	mg/kg
E300	Nitrite (as N)	SO-2494-MW2 (12-13)-102010	5	2	2.21 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-MW2 (22-23)-102010	5	2	4.72 J	mg/kg
E300	Nitrite (as N)	SO-2494-MW2 (22-23)-102010	5	2	0.629 J	mg/kg
E300	Nitrate (as N)	SO-2494-MW2 (8-9)-102010	5	2	50.3 J	mg/kg
E300	Nitrite (as N)	SO-2494-MW2 (8-9)-102010	5	2	2.30 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-SB1 (0-1)-102010	8	2	6.35 J	mg/kg
E300	Nitrite (as N)	SO-2494-SB1 (0-1)-102010	8	2	2.12 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-SB1 (14-15)-102010	8	2	0.413 J	mg/kg
E300	Nitrite (as N)	SO-2494-SB1 (14-15)-102010	8	2	2.07 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-SB1 (4-5)-102010	8	2	1.26 J	mg/kg
E300	Nitrite (as N)	SO-2494-SB1 (4-5)-102010	8	2	2.10 UJ	mg/kg

TABLE 2
QUALIFIED SAMPLE RESULTS DUE TO HOLDING TIME EXCEEDANCES
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

<i>Parameter</i>	<i>Analyte</i>	<i>Sample ID</i>	<i>Holding Time (days)</i>	<i>Holding Time Criteria (days)</i>	<i>Qualified Sample Results</i>	<i>Units</i>
E300	Nitrate (as N)	SO-2494-SB4 (0-1)-102010	8	2	0.947 J	mg/kg
E300	Nitrite (as N)	SO-2494-SB4 (0-1)-102010	8	2	2.10 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-SB5 (0-1)-102010	5	2	10.2 J	mg/kg
E300	Nitrite (as N)	SO-2494-SB5 (0-1)-102010	5	2	2.17 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-SB5 (14-15)-102010	5	2	0.543 J	mg/kg
E300	Nitrite (as N)	SO-2494-SB5 (14-15)-102010	5	2	2.17 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-SB5 (4-5)-102010	5	2	2.04 UJ	mg/kg
E300	Nitrite (as N)	SO-2494-SB5 (4-5)-102010	5	2	2.04 UJ	mg/kg
E300	Nitrate (as N)	STW-2494-DB1 (2-3)-102010	8	2	129 J	mg/kg
E300	Nitrite (as N)	STW-2494-DB1 (2-3)-102010	8	2	2.57 UJ	mg/kg
E300	Nitrate (as N)	STW-2494-DB2 (1-2)-102010	5	2	0.763 J	mg/kg
E300	Nitrite (as N)	STW-2494-DB2 (1-2)-102010	5	2	2.54 UJ	mg/kg
E300	Nitrate (as N)	STW-2494-DB2 (5-6)-102010	5	2	2.54 UJ	mg/kg
E300	Nitrite (as N)	STW-2494-DB2 (5-6)-102010	5	2	2.54 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-BG1 (0-1)-102110	7	2	1.95 J	mg/kg
E300	Nitrite (as N)	SO-2494-BG1 (0-1)-102110	7	2	0.308 J	mg/kg
E300	Nitrate (as N)	SO-2494-BG1 (14-15)-102110	7	2	0.515 J	mg/kg
E300	Nitrite (as N)	SO-2494-BG1 (14-15)-102110	7	2	2.06 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-BG1 (4-5)-102110	7	2	1.04 J	mg/kg
E300	Nitrite (as N)	SO-2494-BG1 (4-5)-102110	7	2	2.08 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-BG2 (0-1)-102110	7	2	2.02 J	mg/kg
E300	Nitrite (as N)	SO-2494-BG2 (0-1)-102110	7	2	0.449 J	mg/kg
E300	Nitrate (as N)	SO-2494-BG2 (14-15)-102110	11	2	0.532 J	mg/kg
E300	Nitrite (as N)	SO-2494-BG2 (14-15)-102110	11	2	2.13 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-BG2 (4-5)-102110	11	2	1.08 J	mg/kg
E300	Nitrite (as N)	SO-2494-BG2 (4-5)-102110	11	2	2.16 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-BG3 (0-1)-102110	11	2	1.27 J	mg/kg
E300	Nitrite (as N)	SO-2494-BG3 (0-1)-102110	11	2	0.528 J	mg/kg
E300	Nitrate (as N)	SO-2494-BG3 (14-15)-102110	11	2	2.13 UJ	mg/kg
E300	Nitrite (as N)	SO-2494-BG3 (14-15)-102110	11	2	2.13 UJ	mg/kg

TABLE 2
QUALIFIED SAMPLE RESULTS DUE TO HOLDING TIME EXCEEDANCES
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

<i>Parameter</i>	<i>Analyte</i>	<i>Sample ID</i>	<i>Holding Time (days)</i>	<i>Holding Time Criteria (days)</i>	<i>Qualified Sample Results</i>	<i>Units</i>
E300	Nitrate (as N)	SO-2494-BG3 (4-5)-102110	11	2	2.13 UJ	mg/kg
E300	Nitrite (as N)	SO-2494-BG3 (4-5)-102110	11	2	2.13 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-BG4 (0-1)-102110	11	2	0.857 J	mg/kg
E300	Nitrite (as N)	SO-2494-BG4 (0-1)-102110	11	2	2.14 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-MW3 (0-1)-102110	11	2	1.62 J	mg/kg
E300	Nitrite (as N)	SO-2494-MW3 (0-1)-102110	11	2	2.31 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-MW3 (14-15)-102110	11	2	2.10 UJ	mg/kg
E300	Nitrite (as N)	SO-2494-MW3 (14-15)-102110	11	2	2.10 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-MW3 (4-5)-102110	11	2	0.412 J	mg/kg
E300	Nitrite (as N)	SO-2494-MW3 (4-5)-102110	11	2	2.06 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-SB2 (1-2)-102110	7	2	2.15 UJ	mg/kg
E300	Nitrite (as N)	SO-2494-SB2 (1-2)-102110	7	2	2.15 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-SB2 (15-16)-102110	7	2	3.44 J	mg/kg
E300	Nitrite (as N)	SO-2494-SB2 (15-16)-102110	7	2	2.02 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-SB2 (5-6)-102110	7	2	11.6 J	mg/kg
E300	Nitrite (as N)	SO-2494-SB2 (5-6)-102110	7	2	2.10 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-SB3 (0-1)-102110	7	2	1.78 J	mg/kg
E300	Nitrite (as N)	SO-2494-SB3 (0-1)-102110	7	2	2.10 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-SB3 (14-15)-102110	7	2	0.416 J	mg/kg
E300	Nitrite (as N)	SO-2494-SB3 (14-15)-102110	7	2	2.08 UJ	mg/kg
E300	Nitrate (as N)	SO-2494-SB3 (4-5)-102110	7	2	2.03 UJ	mg/kg
E300	Nitrite (as N)	SO-2494-SB3 (4-5)-102110	7	2	2.03 UJ	mg/kg
E300	Nitrate (as N)	STW-2494-Dross Grey -102510	7	2	0.525 J	mg/kg
E300	Nitrate (as N)	STW-2494-Dross Tan -102510	7	2	914 J	mg/kg

Notes:

- J Estimated.
UJ Not detected, estimated reporting limit.

TABLE 3

**QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE METHOD BLANKS
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010**

<i>Parameter</i>	<i>Analysis Date</i>	<i>Analyte</i>	<i>Blank Result</i>	<i>Sample ID</i>	<i>Qualified Sample Result</i>	<i>Units</i>
SW7470	10/28/2010	Mercury	0.00103	STW-2494-DB1 (2-3)-102010	0.0033 U	mg/L
SW7470	10/28/2010	Mercury	0.00103	STW-2494-DB2 (5-6)-102010	0.0028 U	mg/L
SW6010B	11/2/2010	Selenium	0.165	SO-2494-BG1 (14-15)-102110	4.0 U	mg/kg
SW6010B	11/2/2010	Selenium	0.165	SO-2494-BG3 (14-15)-102110	4.7 U	mg/kg

Notes:

U Not detected.

TABLE 4A

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING MATRIX SPIKE RECOVERIES
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

<i>Parameter</i>	<i>Associated Sample ID</i>	<i>Analyte</i>	<i>MS Recovery (percent)</i>	<i>Control Limits (percent)</i>	<i>Qualified Sample Result</i>	<i>Units</i>
E300	SO-2494-BG1 (0-1)-102110	Fluoride	139	70-130	2.16 J	mg/kg
E300	SO-2494-BG1 (14-15)-102110	Fluoride	139	70-130	0.721 J	mg/kg
E300	SO-2494-BG1 (4-5)-102110	Fluoride	139	70-130	4.78 J	mg/kg
E300	SO-2494-BG2 (0-1)-102110	Fluoride	139	70-130	2.92 J	mg/kg
E300	SO-2494-SB2 (1-2)-102110	Fluoride	139	70-130	19.0 J	mg/kg
E300	SO-2494-SB2 (15-16)-102110	Fluoride	139	70-130	8.09 J	mg/kg
E300	SO-2494-SB2 (5-6)-102110	Fluoride	139	70-130	30.5 J	mg/kg
E300	SO-2494-SB3 (0-1)-102110	Fluoride	139	70-130	15.0 J	mg/kg
E300	SO-2494-SB3 (14-15)-102110	Fluoride	139	70-130	1.14 J	mg/kg
E300	SO-2494-SB3 (4-5)-102110	Fluoride	139	70-130	26.0 J	mg/kg
E300	SO-2494-BG1 (0-1)-102110	Sulfate	58.4	70-130	9.24 J	mg/kg
E300	SO-2494-BG1 (14-15)-102110	Sulfate	58.4	70-130	4.43 J	mg/kg
E300	SO-2494-BG1 (4-5)-102110	Sulfate	58.4	70-130	6.75 J	mg/kg
E300	SO-2494-BG2 (0-1)-102110	Sulfate	58.4	70-130	5.84 J	mg/kg
E300	SO-2494-SB2 (1-2)-102110	Sulfate	58.4	70-130	1380 J	mg/kg
E300	SO-2494-SB2 (15-16)-102110	Sulfate	58.4	70-130	367 J	mg/kg
E300	SO-2494-SB2 (5-6)-102110	Sulfate	58.4	70-130	4450 J	mg/kg
E300	SO-2494-SB3 (0-1)-102110	Sulfate	58.4	70-130	6.39 J	mg/kg
E300	SO-2494-SB3 (14-15)-102110	Sulfate	58.4	70-130	13.6 J	mg/kg
E300	SO-2494-SB3 (4-5)-102110	Sulfate	58.4	70-130	15.0 J	mg/kg

Notes:

J Estimated.
MS Matrix Spike.

TABLE 4B

**QUALIFIED SAMPLE RESULTS DUE TO OUTLYING MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERIES
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010**

<i>Parameter</i>	<i>Associated Sample ID</i>	<i>Analyte</i>	<i>MS Recovery (percent)</i>	<i>MSD Recovery (percent)</i>	<i>RPD</i>	<i>Control Limits</i>		<i>Qualified Sample Result</i>	<i>Units</i>
						<i>Recovery (percent)</i>	<i>RPD (percent)</i>		
SW6010B	SO-2494-DB1 (18-19)-102010	Chromium	-98	-145	24	70-130	30	7.3 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	Chromium	-98	-145	24	70-130	30	52 J	mg/kg
SW6010B	SO-2494-DB1 (8-9)-102010	Chromium	-98	-145	24	70-130	30	7.3 J	mg/kg
SW6010B	SO-2494-DB2 (10-11)-102010	Chromium	-98	-145	24	70-130	30	7.3 J	mg/kg
SW6010B	SO-2494-DB2 (20-21)-102010	Chromium	-98	-145	24	70-130	30	17 J	mg/kg
SW6010B	SO-2494-DB2 (6-7)-102010	Chromium	-98	-145	24	70-130	30	9.5 J	mg/kg
SW6010B	SO-2494-FD01-102010	Chromium	-98	-145	24	70-130	30	10 J	mg/kg
SW6010B	SO-2494-FD03-102010	Chromium	-98	-145	24	70-130	30	9.6 J	mg/kg
SW6010B	SO-2494-MW2 (12-13)-102010	Chromium	-98	-145	24	70-130	30	6.0 J	mg/kg
SW6010B	SO-2494-MW2 (22-23)-102010	Chromium	-98	-145	24	70-130	30	2.2 J	mg/kg
SW6010B	SO-2494-MW2 (8-9)-102010	Chromium	-98	-145	24	70-130	30	10 J	mg/kg
SW6010B	SO-2494-SB5 (0-1)-102010	Chromium	-98	-145	24	70-130	30	83 J	mg/kg
SW6010B	SO-2494-SB5 (4-5)-102010	Chromium	-98	-145	24	70-130	30	6.6 J	mg/kg
SW6010B	STW-2494-DB1 (2-3)-102010	Chromium	-98	-145	24	70-130	30	12 J	mg/kg
SW6010B	STW-2494-DB2 (1-2)-102010	Chromium	-98	-145	24	70-130	30	43 J	mg/kg
SW6010B	STW-2494-DB2 (5-6)-102010	Chromium	-98	-145	24	70-130	30	45 J	mg/kg
SW6010B	SO-2494-DB1 (18-19)-102010	Lead	62	57	10	70-130	30	6.8 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	Lead	62	57	10	70-130	30	22 J	mg/kg
SW6010B	SO-2494-DB1 (8-9)-102010	Lead	62	57	10	70-130	30	8.1 J	mg/kg
SW6010B	SO-2494-DB2 (10-11)-102010	Lead	62	57	10	70-130	30	7.2 J	mg/kg
SW6010B	SO-2494-DB2 (20-21)-102010	Lead	62	57	10	70-130	30	9.4 J	mg/kg
SW6010B	SO-2494-DB2 (6-7)-102010	Lead	62	57	10	70-130	30	9.7 J	mg/kg
SW6010B	SO-2494-FD01-102010	Lead	62	57	10	70-130	30	24 J	mg/kg
SW6010B	SO-2494-FD03-102010	Lead	62	57	10	70-130	30	4.9 J	mg/kg
SW6010B	SO-2494-MW2 (12-13)-102010	Lead	62	57	10	70-130	30	6.2 J	mg/kg
SW6010B	SO-2494-MW2 (22-23)-102010	Lead	62	57	10	70-130	30	3.1 J	mg/kg
SW6010B	SO-2494-MW2 (8-9)-102010	Lead	62	57	10	70-130	30	12 J	mg/kg
SW6010B	SO-2494-SB5 (0-1)-102010	Lead	62	57	10	70-130	30	40 J	mg/kg

TABLE 4B

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERIES
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010

<i>Parameter</i>	<i>Associated Sample ID</i>	<i>Analyte</i>	<i>MS Recovery (percent)</i>	<i>MSD Recovery (percent)</i>	<i>RPD</i>	<i>Control Limits</i>		<i>Qualified Sample Result</i>	<i>Units</i>
						<i>Recovery (percent)</i>	<i>RPD (percent)</i>		
SW6010B	SO-2494-SB5 (4-5)-102010	Lead	62	57	10	70-130	30	9.9 J	mg/kg
SW6010B	STW-2494-DB1 (2-3)-102010	Lead	62	57	10	70-130	30	15 J	mg/kg
SW6010B	STW-2494-DB2 (1-2)-102010	Lead	62	57	10	70-130	30	54 J	mg/kg
SW6010B	STW-2494-DB2 (5-6)-102010	Lead	62	57	10	70-130	30	48 J	mg/kg

Notes:

J Estimated.
 MS Matrix Spike.
 MSD Matrix Spike Duplicate.
 RPD Relative Percent Difference.

TABLE 5

**QUALIFIED SAMPLE DATA DUE TO POOR LABORATORY DUPLICATE PRECISION
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010**

<i>Analyte</i>	<i>Sample ID</i>	<i>RPD</i>	<i>RPD Control Limit</i>	<i>Associated Sample IDs</i>	<i>Qualified Sample Results</i>	<i>Units</i>
SW6010B	SO-2494-DB1 (4-5)-102010	36	30	SO-2494-DB1 (18-19)-102010	38 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	36	30	SO-2494-DB1 (4-5)-102010	47 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	36	30	SO-2494-DB1 (8-9)-102010	39 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	36	30	SO-2494-DB2 (10-11)-102010	37 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	36	30	SO-2494-DB2 (20-21)-102010	42 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	36	30	SO-2494-DB2 (6-7)-102010	59 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	36	30	SO-2494-FD01-102010	65 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	36	30	SO-2494-FD03-102010	51 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	36	30	SO-2494-MW2 (12-13)-102010	29 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	36	30	SO-2494-MW2 (22-23)-102010	9.5 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	36	30	SO-2494-MW2 (8-9)-102010	98 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	36	30	SO-2494-SB5 (0-1)-102010	130 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	36	30	SO-2494-SB5 (4-5)-102010	36 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	36	30	STW-2494-DB1 (2-3)-102010	67 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	36	30	STW-2494-DB2 (1-2)-102010	240 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	36	30	STW-2494-DB2 (5-6)-102010	170 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	88	30	SO-2494-DB1 (18-19)-102010	6.8 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	88	30	SO-2494-DB1 (4-5)-102010	22 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	88	30	SO-2494-DB1 (8-9)-102010	8.1 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	88	30	SO-2494-DB2 (10-11)-102010	7.2 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	88	30	SO-2494-DB2 (20-21)-102010	9.4 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	88	30	SO-2494-DB2 (6-7)-102010	9.7 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	88	30	SO-2494-FD01-102010	24 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	88	30	SO-2494-FD03-102010	4.9 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	88	30	SO-2494-MW2 (12-13)-102010	6.2 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	88	30	SO-2494-MW2 (22-23)-102010	3.1 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	88	30	SO-2494-MW2 (8-9)-102010	12 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	88	30	SO-2494-SB5 (0-1)-102010	40 J	mg/kg

TABLE 5

**QUALIFIED SAMPLE DATA DUE TO POOR LABORATORY DUPLICATE PRECISION
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010**

<i>Analyte</i>	<i>Sample ID</i>	<i>RPD</i>	<i>RPD Control Limit</i>	<i>Associated Sample IDs</i>	<i>Qualified Sample Results</i>	<i>Units</i>
SW6010B	SO-2494-DB1 (4-5)-102010	88	30	SO-2494-SB5 (4-5)-102010	9.9 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	88	30	STW-2494-DB1 (2-3)-102010	15 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	88	30	STW-2494-DB2 (1-2)-102010	54 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	88	30	STW-2494-DB2 (5-6)-102010	48 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	52	30	SO-2494-DB1 (18-19)-102010	12 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	52	30	SO-2494-DB1 (4-5)-102010	300 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	52	30	SO-2494-DB1 (8-9)-102010	19 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	52	30	SO-2494-DB2 (10-11)-102010	29 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	52	30	SO-2494-DB2 (20-21)-102010	15 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	52	30	SO-2494-DB2 (6-7)-102010	20 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	52	30	SO-2494-FD01-102010	68 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	52	30	SO-2494-FD03-102010	11 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	52	30	SO-2494-MW2 (12-13)-102010	14 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	52	30	SO-2494-MW2 (22-23)-102010	5.5 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	52	30	SO-2494-MW2 (8-9)-102010	33 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	52	30	SO-2494-SB5 (0-1)-102010	570 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	52	30	SO-2494-SB5 (4-5)-102010	16 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	52	30	STW-2494-DB1 (2-3)-102010	97 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	52	30	STW-2494-DB2 (1-2)-102010	260 J	mg/kg
SW6010B	SO-2494-DB1 (4-5)-102010	52	30	STW-2494-DB2 (5-6)-102010	340 J	mg/kg
SW6010B	SO-2494-SB1 (4-5)-102010	39	30	SO-2494-FD02-102010	35 J	mg/kg
SW6010B	SO-2494-SB1 (4-5)-102010	39	30	SO-2494-SB1 (0-1)-102010	170 J	mg/kg
SW6010B	SO-2494-SB1 (4-5)-102010	39	30	SO-2494-SB1 (14-15)-102010	23 J	mg/kg
SW6010B	SO-2494-SB1 (4-5)-102010	39	30	SO-2494-SB1 (4-5)-102010	36 J	mg/kg
SW6010B	SO-2494-SB1 (4-5)-102010	39	30	SO-2494-SB4 (0-1)-102010	57 J	mg/kg
SW6010B	SO-2494-SB1 (4-5)-102010	39	30	SO-2494-SB5 (14-15)-102010	41 J	mg/kg
SW6010B	SO-2494-SB1 (4-5)-102010	37	30	SO-2494-FD02-102010	8.6 J	mg/kg
SW6010B	SO-2494-SB1 (4-5)-102010	37	30	SO-2494-SB1 (0-1)-102010	50 J	mg/kg
SW6010B	SO-2494-SB1 (4-5)-102010	37	30	SO-2494-SB1 (14-15)-102010	5.6 J	mg/kg
SW6010B	SO-2494-SB1 (4-5)-102010	37	30	SO-2494-SB1 (4-5)-102010	6.2 J	mg/kg

TABLE 5

**QUALIFIED SAMPLE DATA DUE TO POOR LABORATORY DUPLICATE PRECISION
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010**

<i>Analyte</i>	<i>Sample ID</i>	<i>RPD</i>	<i>RPD Control Limit</i>	<i>Associated Sample IDs</i>	<i>Qualified Sample Results</i>	<i>Units</i>
SW6010B	SO-2494-SB1 (4-5)-102010	37	30	SO-2494-SB4 (0-1)-102010	15 J	mg/kg
SW6010B	SO-2494-SB1 (4-5)-102010	37	30	SO-2494-SB5 (14-15)-102010	11 J	mg/kg
SW7471A	SO-2494-DB1 (4-5)-102010	51	30	SO-2494-DB1 (18-19)-102010	0.0067 J	mg/kg
SW7471A	SO-2494-DB1 (4-5)-102010	51	30	SO-2494-DB1 (4-5)-102010	0.0085 J	mg/kg
SW7471A	SO-2494-DB1 (4-5)-102010	51	30	SO-2494-DB1 (8-9)-102010	0.013 J	mg/kg
SW7471A	SO-2494-DB1 (4-5)-102010	51	30	SO-2494-DB2 (10-11)-102010	0.0058 J	mg/kg
SW7471A	SO-2494-DB1 (4-5)-102010	51	30	SO-2494-DB2 (6-7)-102010	0.023 J	mg/kg
SW7471A	SO-2494-DB1 (4-5)-102010	51	30	SO-2494-FD01-102010	0.0063 J	mg/kg
SW7471A	SO-2494-DB1 (4-5)-102010	51	30	STW-2494-DB1 (2-3)-102010	24 J	mg/kg
SW7471A	SO-2494-DB1 (4-5)-102010	51	30	STW-2494-DB2 (1-2)-102010	5.7 J	mg/kg
SW7471A	SO-2494-DB1 (4-5)-102010	51	30	STW-2494-DB2 (5-6)-102010	9.0 J	mg/kg
SW7471A	SO-2494-SB3 (4-5)-102110	32	30	SO-2494-BG1 (0-1)-102110	0.015 J	mg/kg
SW7471A	SO-2494-SB3 (4-5)-102110	32	30	SO-2494-BG1 (4-5)-102110	0.0064 J	mg/kg
SW7471A	SO-2494-SB3 (4-5)-102110	32	30	SO-2494-BG2 (0-1)-102110	0.020 J	mg/kg
SW7471A	SO-2494-SB3 (4-5)-102110	32	30	SO-2494-BG2 (14-15)-102110	0.0055 J	mg/kg
SW7471A	SO-2494-SB3 (4-5)-102110	32	30	SO-2494-BG2 (4-5)-102110	0.011 J	mg/kg
SW7471A	SO-2494-SB3 (4-5)-102110	32	30	SO-2494-BG3 (0-1)-102110	0.014 J	mg/kg
SW7471A	SO-2494-SB3 (4-5)-102110	32	30	SO-2494-BG3 (4-5)-102110	0.0065 J	mg/kg
SW7471A	SO-2494-SB3 (4-5)-102110	32	30	SO-2494-BG4 (0-1)-102110	0.011 J	mg/kg
SW7471A	SO-2494-SB3 (4-5)-102110	32	30	SO-2494-MW3 (0-1)-102110	0.098 J	mg/kg
SW7471A	SO-2494-SB3 (4-5)-102110	32	30	SO-2494-SB3 (4-5)-102110	0.0069 J	mg/kg

Notes:

J Estimated.

RPD Relative Percent Difference.

TABLE 6

**QUALIFIED SAMPLE RESULTS DUE TO VARIABILITY IN FIELD DUPLICATE RESULTS
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010**

<i>Parameter</i>	<i>Analyte</i>	<i>Original Sample ID</i>	<i>Qualified Sample Result</i>	<i>Duplicate Sample ID</i>	<i>Qualified Sample Result</i>	<i>RPD</i>	<i>Units</i>
SW6010B	Arsenic	SO-2494-DB1 (8-9)-102010	6.1 J	SO-2494-FD01-102010	8.5 J	33	mg/kg
SW6010B	Barium	SO-2494-DB1 (8-9)-102010	39 J	SO-2494-FD01-102010	65 J	50	mg/kg
SW6010B	Chromium	SO-2494-DB1 (8-9)-102010	7.3 J	SO-2494-FD01-102010	10 J	31	mg/kg
SW6010B	Lead	SO-2494-DB1 (8-9)-102010	8.1 J	SO-2494-FD01-102010	24 J	99	mg/kg
SW6010B	Copper	SO-2494-DB1 (8-9)-102010	19 J	SO-2494-FD01-102010	68 J	113	mg/kg
SW6010B	Aluminum	SO-2494-DB1 (8-9)-102010	6600 J	SO-2494-FD01-102010	11000 J	50	mg/kg
SW7471A	Mercury	SO-2494-DB1 (8-9)-102010	0.013 J	SO-2494-FD01-102010	0.0063 J	69	mg/kg
E300	Fluoride	SO-2494-DB1 (8-9)-102010	19.8 J	SO-2494-FD01-102010	28.5 J	36	mg/kg
SW6010B	Arsenic	SO-2494-SB1 (4-5)-102010	6.7 J	SO-2494-FD02-102010	11 J	49	mg/kg
SW6010B	Chromium	SO-2494-SB1 (4-5)-102010	3.7 J	SO-2494-FD02-102010	5.2 J	34	mg/kg
SW6010B	Lead	SO-2494-SB1 (4-5)-102010	6.2 J	SO-2494-FD02-102010	8.6 J	32	mg/kg
SW6010B	Barium	SO-2494-MW2 (12-13)-102010	29 J	SO-2494-FD03-102010	51 J	55	mg/kg
SW6010B	Chromium	SO-2494-MW2 (12-13)-102010	6.0 J	SO-2494-FD03-102010	9.6 J	46	mg/kg
SW6010B	Aluminum	SO-2494-MW2 (12-13)-102010	5400 J	SO-2494-FD03-102010	9900 J	59	mg/kg
E300	Fluoride	SO-2494-MW2 (12-13)-102010	17.7 J	SO-2494-FD03-102010	43.1 J	84	mg/kg

Notes:

- 1 The qualifier applies to both the original and duplicate results.
 J Estimated.
 RPD Relative Percent Difference.

TABLE 7

**QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE RINSE BLANKS
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
OCTOBER 2010**

<i>Parameter</i>	<i>Rinse Blank Date</i>	<i>Analyte</i>	<i>Blank Result</i>	<i>Sample ID</i>	<i>Qualified Sample Result</i>	<i>Units</i>
SW6020	10/26/10	Chromium	0.0064	WG-2494-FD04-102610	0.0079 U	mg/L
SW6020	10/26/10	Chromium	0.0064	WG-2494-MW03-102610	0.0063 U	mg/L
SW6020	10/26/10	Chromium	0.0064	WG-2494-MW1-102610	0.011 U	mg/L
SW6020	10/26/10	Chromium	0.0064	WG-2494-MW2-102610	0.0084 U	mg/L
SW6020	10/26/10	Lead	0.0002	WG-2494-FD04-102610	0.0020 U	mg/L
SW6020	10/26/10	Lead	0.0002	WG-2494-MW03-102610	0.0020 U	mg/L

Notes:

U Not detected.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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

TestAmerica Job ID: STJ0119

TestAmerica Sample Delivery Group: STJ0119

Client Project/Site: 3171

Client Project Description:

UPRR Aluminum Recycling Trentwood

For:

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr. Suite 4004
Round Rock, TX 78664

Attn: Tim Nickels



Authorized for release by:
11/8/2010 2:42 PM

Randee Decker
Project Manager
Randee.Decker@testamericainc.com

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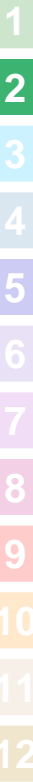


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Case Narrative

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Notes

Receipt

All samples were received in good condition within temperature requirements.

Density of Soil in Place by the Drive Cylinder Method

The density results do not represent the in-place density of the soil for samples(s): STJ0119-01 (STW-2494-DB1 (2-3)-102010), STJ0119-07 (STW-2494-DB2 (5-6)-102010) and STJ0119-17 (SO-2494-SB5 (14-15)-102010). The soils were received in a disturbed state and were subsequently molded in the laboratory to an approximation of the field environment.

No other analytical or quality issues were noted.

Metals - Method 6010B

For cadmium and lead, the ICP ICESA standard contains trace impurities derived from the manufacturing process, which may cause these standards to fail method QC criteria. Regrettably, corrective action can not be performed for any outliers other than to note deficiencies in the laboratory's QC report section. The data was qualified "^" and reported.

No other analytical or quality issues were noted.

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Sample Summary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
STJ0119-01	STW-2494-DB1 (2-3)-102010	Soil	10/20/10 09:20	10/21/10 09:20
STJ0119-02	SO-2494-DB1 (4-5)-102010	Soil	10/20/10 09:25	10/21/10 09:20
STJ0119-03	SO-2494-DB1 (8-9)-102010	Soil	10/20/10 09:30	10/21/10 09:20
STJ0119-04	SO-2494-DB1 (18-19)-102010	Soil	10/20/10 09:35	10/21/10 09:20
STJ0119-05	SO-2494-FD01-102010	Soil	10/20/10 00:00	10/21/10 09:20
STJ0119-06	STW-2494-DB2 (1-2)-102010	Soil	10/20/10 10:00	10/21/10 09:20
STJ0119-07	STW-2494-DB2 (5-6)-102010	Soil	10/20/10 10:05	10/21/10 09:20
STJ0119-08	SO-2494-DB2 (6-7)-102010	Soil	10/20/10 10:10	10/21/10 09:20
STJ0119-09	SO-2494-DB2 (10-11)-102010	Soil	10/20/10 10:15	10/21/10 09:20
STJ0119-10	SO-2494-DB2 (20-21)-102010	Soil	10/20/10 10:20	10/21/10 09:20
STJ0119-11	SO-2494-MW2 (8-9)-102010	Soil	10/20/10 10:55	10/21/10 09:20
STJ0119-12	SO-2494-MW2 (12-13)-102010	Soil	10/20/10 11:00	10/21/10 09:20
STJ0119-13	SO-2494-MW2 (22-23)-102010	Soil	10/20/10 11:05	10/21/10 09:20
STJ0119-14	SO-2494-FD03-102010	Soil	10/20/10 00:00	10/21/10 09:20
STJ0119-15	SO-2494-SB5 (0-1)-102010	Soil	10/20/10 15:00	10/21/10 09:20
STJ0119-16	SO-2494-SB5 (4-5)-102010	Soil	10/20/10 15:45	10/21/10 09:20
STJ0119-17	SO-2494-SB5 (14-15)-102010	Soil	10/20/10 15:50	10/21/10 09:20
STJ0119-18	SO-2494-SB1 (0-1)-102010	Soil	10/20/10 16:05	10/21/10 09:20
STJ0119-19	SO-2494-SB1 (4-5)-102010	Soil	10/20/10 16:20	10/21/10 09:20
STJ0119-20	SO-2494-SB1 (14-15)-102010	Soil	10/20/10 16:30	10/21/10 09:20
STJ0119-21	SO-2494-FD02-102010	Soil	10/20/10 00:00	10/21/10 09:20
STJ0119-22	SO-2494-SB4 (0-1)-102010	Soil	10/20/10 17:45	10/21/10 09:20

Qualifier Definition/Glossary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
F	Duplicate RPD exceeds the control limit
F	MS or MSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Wet Chem

Qualifier	Qualifier Description
J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).

Glossary

Glossary	Glossary Description
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.



Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: STW-2494-DB1 (2-3)-102010

Lab Sample ID: STJ0119-01

Date Collected: 10/20/10 09:20

Matrix: Soil

Date Received: 10/21/10 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	49000		20	5.9	mg/Kg		10/29/10 13:51	10/30/10 10:46	1
Arsenic	2.2		2.0	0.086	mg/Kg		10/29/10 13:51	10/30/10 10:46	1
Barium	67		0.33	0.010	mg/Kg		10/29/10 13:51	10/30/10 10:46	1
Cadmium	ND		0.33	0.053	mg/Kg		10/29/10 13:51	10/30/10 10:46	1
Chromium	12		0.86	0.031	mg/Kg		10/29/10 13:51	10/30/10 10:46	1
Copper	97		0.66	0.15	mg/Kg		10/29/10 13:51	10/30/10 10:46	1
Lead	15		1.0	0.080	mg/Kg		10/29/10 13:51	10/30/10 10:46	1
Selenium	ND		3.3	0.080	mg/Kg		10/29/10 13:51	10/30/10 10:46	1
Silver	0.31	J	0.66	0.030	mg/Kg		10/29/10 13:51	10/30/10 10:46	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	25		1.0	0.31	mg/L		10/28/10 10:35	10/29/10 14:57	1
Arsenic	ND		0.060	0.0047	mg/L		10/28/10 10:35	10/29/10 14:57	1
Barium	0.044		0.010	0.00035	mg/L		10/28/10 10:35	10/29/10 14:57	1
Cadmium	ND	^	0.010	0.0015	mg/L		10/28/10 10:35	10/29/10 14:57	1
Chromium	0.0062	J	0.025	0.0033	mg/L		10/28/10 10:35	10/29/10 14:57	1
Copper	0.22		0.020	0.0033	mg/L		10/28/10 10:35	10/29/10 14:57	1
Lead	0.012	J ^	0.030	0.0017	mg/L		10/28/10 10:35	10/29/10 14:57	1
Selenium	ND		0.10	0.0020	mg/L		10/28/10 10:35	10/29/10 14:57	1
Silver	0.10		0.020	0.00085	mg/L		10/28/10 10:35	10/29/10 14:57	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0033	B	0.0020	0.00041	mg/L		10/28/10 10:54	10/28/10 15:54	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	24		1.6	0.51	mg/Kg		10/29/10 06:58	10/29/10 10:37	100

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	370		12.9	0.0206	mg/kg dry	☼	10/25/10 13:21	10/25/10 18:13	1
Fluoride	82.7		12.9	0.0193	mg/kg dry	☼	10/25/10 13:21	10/25/10 18:13	1
Nitrate-Nitrogen	129		2.57	0.0141	mg/kg dry	☼	10/25/10 13:21	10/25/10 18:13	1
Nitrite-Nitrogen	ND		2.57	0.0206	mg/kg dry	☼	10/25/10 13:21	10/25/10 18:13	1
Sulfate	9370		257	6.57	mg/kg dry	☼	10/25/10 13:21	10/27/10 19:59	10

Method: D2937 - Density of Soil in Place by the Drive-Cylinder Met

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
In Place Density	1.44				g/cc		10/22/10 16:01	10/22/10 16:01	1

Method: D854 - Specific Gravity

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Gravity	3.06				NONE		10/22/10 16:28	10/22/10 16:28	1
Specific Gravity at 20 deg Celsius	3.06				NONE		10/22/10 16:28	10/22/10 16:28	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: SO-2494-DB1 (4-5)-102010

Lab Sample ID: STJ0119-02

Date Collected: 10/20/10 09:25

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 92.6

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.5		2.9	0.13	mg/Kg	☼	10/29/10 13:51	10/30/10 10:07	1
Barium	47		0.48	0.014	mg/Kg	☼	10/29/10 13:51	10/30/10 10:07	1
Cadmium	ND		0.48	0.077	mg/Kg	☼	10/29/10 13:51	10/30/10 10:07	1
Chromium	52		1.3	0.045	mg/Kg	☼	10/29/10 13:51	10/30/10 10:07	1
Lead	22		1.4	0.12	mg/Kg	☼	10/29/10 13:51	10/30/10 10:07	1
Selenium	ND		4.8	0.12	mg/Kg	☼	10/29/10 13:51	10/30/10 10:07	1
Silver	ND		0.96	0.043	mg/Kg	☼	10/29/10 13:51	10/30/10 10:07	1
Copper	300		0.96	0.21	mg/Kg	☼	10/29/10 13:51	10/30/10 10:07	1
Aluminum	70000		29	8.6	mg/Kg	☼	10/29/10 13:51	10/30/10 10:07	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0085	J	0.018	0.0057	mg/Kg	☼	10/29/10 06:58	10/29/10 09:26	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29.3		10.7	0.0172	mg/kg dry	☼	10/25/10 13:21	10/25/10 19:15	1
Fluoride	14.1		10.7	0.0161	mg/kg dry	☼	10/25/10 13:21	10/25/10 19:15	1
Nitrate-Nitrogen	101		2.15	0.0118	mg/kg dry	☼	10/25/10 13:21	10/25/10 19:15	1
Nitrite-Nitrogen	ND		2.15	0.0172	mg/kg dry	☼	10/25/10 13:21	10/25/10 19:15	1
Sulfate	1100		215	5.48	mg/kg dry	☼	10/25/10 13:21	10/27/10 21:33	10

Client Sample ID: SO-2494-DB1 (8-9)-102010

Lab Sample ID: STJ0119-03

Date Collected: 10/20/10 09:30

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 95.4

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.1		2.9	0.13	mg/Kg	☼	10/29/10 13:51	10/30/10 10:52	1
Barium	39		0.49	0.015	mg/Kg	☼	10/29/10 13:51	10/30/10 10:52	1
Cadmium	ND		0.49	0.078	mg/Kg	☼	10/29/10 13:51	10/30/10 10:52	1
Chromium	7.3		1.3	0.046	mg/Kg	☼	10/29/10 13:51	10/30/10 10:52	1
Lead	8.1		1.5	0.12	mg/Kg	☼	10/29/10 13:51	10/30/10 10:52	1
Selenium	ND		4.9	0.12	mg/Kg	☼	10/29/10 13:51	10/30/10 10:52	1
Silver	ND		0.97	0.044	mg/Kg	☼	10/29/10 13:51	10/30/10 10:52	1
Copper	19		0.97	0.21	mg/Kg	☼	10/29/10 13:51	10/30/10 10:52	1
Aluminum	6600		29	8.7	mg/Kg	☼	10/29/10 13:51	10/30/10 10:52	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.013	J	0.016	0.0052	mg/Kg	☼	10/29/10 06:58	10/29/10 10:27	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28.0		10.4	0.0167	mg/kg dry	☼	10/25/10 13:21	10/25/10 19:31	1
Fluoride	19.8		10.4	0.0156	mg/kg dry	☼	10/25/10 13:21	10/25/10 19:31	1
Nitrate-Nitrogen	94.4		2.09	0.0115	mg/kg dry	☼	10/25/10 13:21	10/25/10 19:31	1
Nitrite-Nitrogen	ND		2.09	0.0167	mg/kg dry	☼	10/25/10 13:21	10/25/10 19:31	1
Sulfate	1260		209	5.33	mg/kg dry	☼	10/25/10 13:21	10/27/10 21:48	10

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: SO-2494-DB1 (18-19)-102010

Lab Sample ID: STJ0119-04

Date Collected: 10/20/10 09:35

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 97.1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16		2.6	0.11	mg/Kg	☼	10/29/10 13:51	10/30/10 10:58	1
Barium	38		0.43	0.013	mg/Kg	☼	10/29/10 13:51	10/30/10 10:58	1
Cadmium	ND		0.43	0.070	mg/Kg	☼	10/29/10 13:51	10/30/10 10:58	1
Chromium	7.3		1.1	0.041	mg/Kg	☼	10/29/10 13:51	10/30/10 10:58	1
Lead	6.8		1.3	0.10	mg/Kg	☼	10/29/10 13:51	10/30/10 10:58	1
Selenium	ND		4.3	0.10	mg/Kg	☼	10/29/10 13:51	10/30/10 10:58	1
Silver	ND		0.87	0.039	mg/Kg	☼	10/29/10 13:51	10/30/10 10:58	1
Copper	12		0.87	0.19	mg/Kg	☼	10/29/10 13:51	10/30/10 10:58	1
Aluminum	6700		26	7.7	mg/Kg	☼	10/29/10 13:51	10/30/10 10:58	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0067	J	0.017	0.0053	mg/Kg	☼	10/29/10 06:58	10/29/10 09:41	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	72.0		10.3	0.0165	mg/kg dry	☼	10/25/10 13:21	10/25/10 19:46	1
Fluoride	3.09	J	10.3	0.0155	mg/kg dry	☼	10/25/10 13:21	10/25/10 19:46	1
Nitrate-Nitrogen	25.1		2.06	0.0113	mg/kg dry	☼	10/25/10 13:21	10/25/10 19:46	1
Nitrite-Nitrogen	ND		2.06	0.0165	mg/kg dry	☼	10/25/10 13:21	10/25/10 19:46	1
Sulfate	776		20.6	0.527	mg/kg dry	☼	10/25/10 13:21	10/25/10 19:46	1

Client Sample ID: SO-2494-FD01-102010

Lab Sample ID: STJ0119-05

Date Collected: 10/20/10 00:00

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 93.2

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	79		2.8	0.12	mg/Kg	☼	10/29/10 13:51	10/30/10 11:03	1
Barium	65		0.47	0.014	mg/Kg	☼	10/29/10 13:51	10/30/10 11:03	1
Cadmium	ND		0.47	0.075	mg/Kg	☼	10/29/10 13:51	10/30/10 11:03	1
Chromium	10		1.2	0.044	mg/Kg	☼	10/29/10 13:51	10/30/10 11:03	1
Lead	24		1.4	0.11	mg/Kg	☼	10/29/10 13:51	10/30/10 11:03	1
Selenium	ND		4.7	0.11	mg/Kg	☼	10/29/10 13:51	10/30/10 11:03	1
Silver	ND		0.94	0.042	mg/Kg	☼	10/29/10 13:51	10/30/10 11:03	1
Copper	68		0.94	0.21	mg/Kg	☼	10/29/10 13:51	10/30/10 11:03	1
Aluminum	11000		28	8.4	mg/Kg	☼	10/29/10 13:51	10/30/10 11:03	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0063	J	0.017	0.0053	mg/Kg	☼	10/29/10 06:58	10/29/10 09:48	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28.7		10.7	0.0171	mg/kg dry	☼	10/25/10 13:21	10/25/10 20:02	1
Fluoride	28.5		10.7	0.0160	mg/kg dry	☼	10/25/10 13:21	10/25/10 20:02	1
Nitrate-Nitrogen	86.8		2.14	0.0118	mg/kg dry	☼	10/25/10 13:21	10/25/10 20:02	1
Nitrite-Nitrogen	ND		2.14	0.0171	mg/kg dry	☼	10/25/10 13:21	10/25/10 20:02	1
Sulfate	1570		214	5.46	mg/kg dry	☼	10/25/10 13:21	10/27/10 22:04	10

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: STW-2494-DB2 (1-2)-102010

Lab Sample ID: STJ0119-06

Date Collected: 10/20/10 10:00

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 76.4

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.7	J	3.9	0.17	mg/Kg	☼	10/29/10 13:51	10/30/10 11:09	1
Barium	240		0.65	0.019	mg/Kg	☼	10/29/10 13:51	10/30/10 11:09	1
Cadmium	ND		0.65	0.10	mg/Kg	☼	10/29/10 13:51	10/30/10 11:09	1
Chromium	43		1.7	0.061	mg/Kg	☼	10/29/10 13:51	10/30/10 11:09	1
Lead	54		1.9	0.16	mg/Kg	☼	10/29/10 13:51	10/30/10 11:09	1
Selenium	ND		6.5	0.16	mg/Kg	☼	10/29/10 13:51	10/30/10 11:09	1
Silver	0.36	J	1.3	0.058	mg/Kg	☼	10/29/10 13:51	10/30/10 11:09	1
Copper	260		1.3	0.29	mg/Kg	☼	10/29/10 13:51	10/30/10 11:09	1
Aluminum	45000		39	12	mg/Kg	☼	10/29/10 13:51	10/30/10 11:09	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	5.7		0.42	0.13	mg/Kg	☼	10/29/10 06:58	10/29/10 10:32	20

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	40.1		12.7	0.0203	mg/kg dry	☼	10/25/10 13:21	10/25/10 20:49	1
Fluoride	309		127	0.191	mg/kg dry	☼	10/25/10 13:21	10/27/10 22:19	10
Nitrate-Nitrogen	0.763	J	2.54	0.0140	mg/kg dry	☼	10/25/10 13:21	10/25/10 20:49	1
Nitrite-Nitrogen	ND		2.54	0.0203	mg/kg dry	☼	10/25/10 13:21	10/25/10 20:49	1
Sulfate	10500		254	6.50	mg/kg dry	☼	10/25/10 13:21	10/27/10 22:19	10

Client Sample ID: STW-2494-DB2 (5-6)-102010

Lab Sample ID: STJ0119-07

Date Collected: 10/20/10 10:05

Matrix: Soil

Date Received: 10/21/10 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	42000		22	6.4	mg/Kg		10/29/10 13:51	10/30/10 11:16	1
Arsenic	3.3		2.2	0.094	mg/Kg		10/29/10 13:51	10/30/10 11:16	1
Barium	170		0.36	0.011	mg/Kg		10/29/10 13:51	10/30/10 11:16	1
Cadmium	ND		0.36	0.058	mg/Kg		10/29/10 13:51	10/30/10 11:16	1
Chromium	45		0.94	0.034	mg/Kg		10/29/10 13:51	10/30/10 11:16	1
Copper	340		0.72	0.16	mg/Kg		10/29/10 13:51	10/30/10 11:16	1
Lead	48		1.1	0.087	mg/Kg		10/29/10 13:51	10/30/10 11:16	1
Selenium	ND		3.6	0.087	mg/Kg		10/29/10 13:51	10/30/10 11:16	1
Silver	0.30	J	0.72	0.033	mg/Kg		10/29/10 13:51	10/30/10 11:16	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	58		1.0	0.31	mg/L		10/28/10 10:35	10/29/10 15:03	1
Arsenic	0.0058	J	0.060	0.0047	mg/L		10/28/10 10:35	10/29/10 15:03	1
Barium	0.080		0.010	0.00035	mg/L		10/28/10 10:35	10/29/10 15:03	1
Cadmium	0.0015	J ^	0.010	0.0015	mg/L		10/28/10 10:35	10/29/10 15:03	1
Chromium	0.024	J	0.025	0.0033	mg/L		10/28/10 10:35	10/29/10 15:03	1
Copper	3.8		0.020	0.0033	mg/L		10/28/10 10:35	10/29/10 15:03	1
Lead	0.017	J ^	0.030	0.0017	mg/L		10/28/10 10:35	10/29/10 15:03	1
Selenium	0.0094	J	0.10	0.0020	mg/L		10/28/10 10:35	10/29/10 15:03	1
Silver	0.16		0.020	0.00085	mg/L		10/28/10 10:35	10/29/10 15:03	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: STW-2494-DB2 (5-6)-102010

Lab Sample ID: STJ0119-07

Date Collected: 10/20/10 10:05

Matrix: Soil

Date Received: 10/21/10 09:20

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0028	B	0.0020	0.00041	mg/L		10/28/10 10:54	10/28/10 15:57	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	9.0		0.33	0.10	mg/Kg		10/29/10 06:58	10/29/10 10:35	20

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	78.8		12.7	0.0203	mg/kg dry	*	10/25/10 13:21	10/25/10 21:04	1
Fluoride	600		127	0.191	mg/kg dry	*	10/25/10 13:21	10/27/10 22:35	10
Nitrate-Nitrogen	ND		2.54	0.0140	mg/kg dry	*	10/25/10 13:21	10/25/10 21:04	1
Nitrite-Nitrogen	ND		2.54	0.0203	mg/kg dry	*	10/25/10 13:21	10/25/10 21:04	1
Sulfate	15000		2540	64.9	mg/kg dry	*	10/25/10 13:21	10/28/10 17:56	100

Method: D2937 - Density of Soil in Place by the Drive-Cylinder Met

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
In Place Density	1.48				g/cc		10/22/10 16:01	10/22/10 16:01	1

Method: D854 - Specific Gravity

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Gravity	3.24				NONE		10/22/10 16:28	10/22/10 16:28	1
Specific Gravity at 20 deg Celsius	3.24				NONE		10/22/10 16:28	10/22/10 16:28	1

Client Sample ID: SO-2494-DB2 (6-7)-102010

Lab Sample ID: STJ0119-08

Date Collected: 10/20/10 10:10

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 95.3

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.4		3.1	0.13	mg/Kg	*	10/29/10 13:51	10/30/10 11:22	1
Barium	59		0.51	0.015	mg/Kg	*	10/29/10 13:51	10/30/10 11:22	1
Cadmium	ND		0.51	0.081	mg/Kg	*	10/29/10 13:51	10/30/10 11:22	1
Chromium	9.5		1.3	0.048	mg/Kg	*	10/29/10 13:51	10/30/10 11:22	1
Lead	9.7		1.5	0.12	mg/Kg	*	10/29/10 13:51	10/30/10 11:22	1
Selenium	ND		5.1	0.12	mg/Kg	*	10/29/10 13:51	10/30/10 11:22	1
Silver	ND		1.0	0.046	mg/Kg	*	10/29/10 13:51	10/30/10 11:22	1
Copper	20		1.0	0.22	mg/Kg	*	10/29/10 13:51	10/30/10 11:22	1
Aluminum	11000		31	9.1	mg/Kg	*	10/29/10 13:51	10/30/10 11:22	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.023		0.017	0.0055	mg/Kg	*	10/29/10 06:58	10/29/10 09:55	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17.7		10.5	0.0168	mg/kg dry	*	10/25/10 13:21	10/25/10 21:20	1
Fluoride	143		10.5	0.0157	mg/kg dry	*	10/25/10 13:21	10/25/10 21:20	1
Nitrate-Nitrogen	ND		2.10	0.0115	mg/kg dry	*	10/25/10 13:21	10/25/10 21:20	1
Nitrite-Nitrogen	ND		2.10	0.0168	mg/kg dry	*	10/25/10 13:21	10/25/10 21:20	1
Sulfate	4490		210	5.36	mg/kg dry	*	10/25/10 13:21	10/27/10 22:51	10

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: SO-2494-DB2 (10-11)-102010

Lab Sample ID: STJ0119-09

Date Collected: 10/20/10 10:15

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 95.5

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10		2.5	0.11	mg/Kg	☼	10/29/10 13:51	10/30/10 11:28	1
Barium	37		0.42	0.013	mg/Kg	☼	10/29/10 13:51	10/30/10 11:28	1
Cadmium	ND		0.42	0.068	mg/Kg	☼	10/29/10 13:51	10/30/10 11:28	1
Chromium	7.3		1.1	0.040	mg/Kg	☼	10/29/10 13:51	10/30/10 11:28	1
Lead	7.2		1.3	0.10	mg/Kg	☼	10/29/10 13:51	10/30/10 11:28	1
Selenium	ND		4.2	0.10	mg/Kg	☼	10/29/10 13:51	10/30/10 11:28	1
Silver	ND		0.85	0.038	mg/Kg	☼	10/29/10 13:51	10/30/10 11:28	1
Copper	29		0.85	0.19	mg/Kg	☼	10/29/10 13:51	10/30/10 11:28	1
Aluminum	8900		25	7.6	mg/Kg	☼	10/29/10 13:51	10/30/10 11:28	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0058	J	0.017	0.0053	mg/Kg	☼	10/29/10 06:58	10/29/10 09:58	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14.7		10.5	0.0168	mg/kg dry	☼	10/25/10 13:21	10/25/10 21:36	1
Fluoride	78.1		10.5	0.0158	mg/kg dry	☼	10/25/10 13:21	10/25/10 21:36	1
Nitrate-Nitrogen	ND		2.11	0.0116	mg/kg dry	☼	10/25/10 13:21	10/25/10 21:36	1
Nitrite-Nitrogen	ND		2.11	0.0168	mg/kg dry	☼	10/25/10 13:21	10/25/10 21:36	1
Sulfate	3040		211	5.38	mg/kg dry	☼	10/25/10 13:21	10/27/10 23:06	10

Client Sample ID: SO-2494-DB2 (20-21)-102010

Lab Sample ID: STJ0119-10

Date Collected: 10/20/10 10:20

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 97.4

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.8		2.9	0.13	mg/Kg	☼	10/29/10 13:51	10/30/10 11:46	1
Barium	42		0.48	0.014	mg/Kg	☼	10/29/10 13:51	10/30/10 11:46	1
Cadmium	ND		0.48	0.077	mg/Kg	☼	10/29/10 13:51	10/30/10 11:46	1
Chromium	17		1.3	0.045	mg/Kg	☼	10/29/10 13:51	10/30/10 11:46	1
Lead	9.4		1.4	0.12	mg/Kg	☼	10/29/10 13:51	10/30/10 11:46	1
Selenium	ND		4.8	0.12	mg/Kg	☼	10/29/10 13:51	10/30/10 11:46	1
Silver	ND		0.97	0.043	mg/Kg	☼	10/29/10 13:51	10/30/10 11:46	1
Copper	15		0.97	0.21	mg/Kg	☼	10/29/10 13:51	10/30/10 11:46	1
Aluminum	5500		29	8.6	mg/Kg	☼	10/29/10 13:51	10/30/10 11:46	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0053	mg/Kg	☼	10/29/10 08:09	10/29/10 11:09	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14.8		10.4	0.0166	mg/kg dry	☼	10/25/10 13:21	10/25/10 21:51	1
Fluoride	9.22	J	10.4	0.0155	mg/kg dry	☼	10/25/10 13:21	10/25/10 21:51	1
Nitrate-Nitrogen	2.18		2.07	0.0114	mg/kg dry	☼	10/25/10 13:21	10/25/10 21:51	1
Nitrite-Nitrogen	ND		2.07	0.0166	mg/kg dry	☼	10/25/10 13:21	10/25/10 21:51	1
Sulfate	1450		207	5.29	mg/kg dry	☼	10/25/10 13:21	10/27/10 23:22	10

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: SO-2494-MW2 (8-9)-102010

Lab Sample ID: STJ0119-11

Date Collected: 10/20/10 10:55

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 89.5

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.7		3.1	0.14	mg/Kg	☼	10/29/10 13:51	10/30/10 11:52	1
Barium	98		0.52	0.016	mg/Kg	☼	10/29/10 13:51	10/30/10 11:52	1
Cadmium	ND		0.52	0.083	mg/Kg	☼	10/29/10 13:51	10/30/10 11:52	1
Chromium	10		1.4	0.049	mg/Kg	☼	10/29/10 13:51	10/30/10 11:52	1
Lead	12		1.6	0.13	mg/Kg	☼	10/29/10 13:51	10/30/10 11:52	1
Selenium	ND		5.2	0.13	mg/Kg	☼	10/29/10 13:51	10/30/10 11:52	1
Silver	ND		1.0	0.047	mg/Kg	☼	10/29/10 13:51	10/30/10 11:52	1
Copper	33		1.0	0.23	mg/Kg	☼	10/29/10 13:51	10/30/10 11:52	1
Aluminum	12000		31	9.3	mg/Kg	☼	10/29/10 13:51	10/30/10 11:52	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.12		0.018	0.0057	mg/Kg	☼	10/29/10 08:09	10/29/10 11:11	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1130		115	0.184	mg/kg dry	☼	10/25/10 13:21	10/27/10 23:37	10
Fluoride	26.0		11.5	0.0172	mg/kg dry	☼	10/25/10 13:21	10/25/10 22:07	1
Nitrate-Nitrogen	50.3		2.30	0.0126	mg/kg dry	☼	10/25/10 13:21	10/25/10 22:07	1
Nitrite-Nitrogen	ND		2.30	0.0184	mg/kg dry	☼	10/25/10 13:21	10/25/10 22:07	1
Sulfate	904		23.0	0.587	mg/kg dry	☼	10/25/10 13:21	10/25/10 22:07	1

Client Sample ID: SO-2494-MW2 (12-13)-102010

Lab Sample ID: STJ0119-12

Date Collected: 10/20/10 11:00

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 89.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.7		3.3	0.14	mg/Kg	☼	10/29/10 13:51	10/30/10 11:57	1
Barium	29		0.56	0.017	mg/Kg	☼	10/29/10 13:51	10/30/10 11:57	1
Cadmium	ND		0.56	0.089	mg/Kg	☼	10/29/10 13:51	10/30/10 11:57	1
Chromium	6.0		1.4	0.052	mg/Kg	☼	10/29/10 13:51	10/30/10 11:57	1
Lead	6.2		1.7	0.13	mg/Kg	☼	10/29/10 13:51	10/30/10 11:57	1
Selenium	ND		5.6	0.13	mg/Kg	☼	10/29/10 13:51	10/30/10 11:57	1
Silver	ND		1.1	0.050	mg/Kg	☼	10/29/10 13:51	10/30/10 11:57	1
Copper	14		1.1	0.24	mg/Kg	☼	10/29/10 13:51	10/30/10 11:57	1
Aluminum	5400		33	9.9	mg/Kg	☼	10/29/10 13:51	10/30/10 11:57	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.018	0.0057	mg/Kg	☼	10/29/10 08:09	10/29/10 10:59	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	326		11.1	0.0177	mg/kg dry	☼	10/25/10 13:21	10/25/10 22:22	1
Fluoride	17.7		11.1	0.0166	mg/kg dry	☼	10/25/10 13:21	10/25/10 22:22	1
Nitrate-Nitrogen	20.2		2.21	0.0122	mg/kg dry	☼	10/25/10 13:21	10/25/10 22:22	1
Nitrite-Nitrogen	ND		2.21	0.0177	mg/kg dry	☼	10/25/10 13:21	10/25/10 22:22	1
Sulfate	293		22.1	0.566	mg/kg dry	☼	10/25/10 13:21	10/25/10 22:22	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: SO-2494-MW2 (22-23)-102010

Lab Sample ID: STJ0119-13

Date Collected: 10/20/10 11:05

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 91.1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.9	J	2.7	0.12	mg/Kg	☼	10/29/10 13:51	10/30/10 12:15	1
Barium	9.5		0.45	0.014	mg/Kg	☼	10/29/10 13:51	10/30/10 12:15	1
Cadmium	ND		0.45	0.073	mg/Kg	☼	10/29/10 13:51	10/30/10 12:15	1
Chromium	2.2		1.2	0.043	mg/Kg	☼	10/29/10 13:51	10/30/10 12:15	1
Lead	3.1		1.4	0.11	mg/Kg	☼	10/29/10 13:51	10/30/10 12:15	1
Selenium	ND		4.5	0.11	mg/Kg	☼	10/29/10 13:51	10/30/10 12:15	1
Silver	0.11	J	0.91	0.041	mg/Kg	☼	10/29/10 13:51	10/30/10 12:15	1
Copper	5.5		0.91	0.20	mg/Kg	☼	10/29/10 13:51	10/30/10 12:15	1
Aluminum	2100		27	8.1	mg/Kg	☼	10/29/10 13:51	10/30/10 12:15	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0053	mg/Kg	☼	10/29/10 08:09	10/29/10 11:14	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	196		10.5	0.0168	mg/kg dry	☼	10/25/10 13:21	10/25/10 23:09	1
Fluoride	2.31	J	10.5	0.0157	mg/kg dry	☼	10/25/10 13:21	10/25/10 23:09	1
Nitrate-Nitrogen	4.72		2.10	0.0115	mg/kg dry	☼	10/25/10 13:21	10/25/10 23:09	1
Nitrite-Nitrogen	0.629	J	2.10	0.0168	mg/kg dry	☼	10/25/10 13:21	10/25/10 23:09	1
Sulfate	342		21.0	0.536	mg/kg dry	☼	10/25/10 13:21	10/25/10 23:09	1

Client Sample ID: SO-2494-FD03-102010

Lab Sample ID: STJ0119-14

Date Collected: 10/20/10 00:00

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 87.7

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.1	J	3.2	0.14	mg/Kg	☼	10/29/10 13:51	10/30/10 12:21	1
Barium	51		0.53	0.016	mg/Kg	☼	10/29/10 13:51	10/30/10 12:21	1
Cadmium	ND		0.53	0.085	mg/Kg	☼	10/29/10 13:51	10/30/10 12:21	1
Chromium	9.6		1.4	0.050	mg/Kg	☼	10/29/10 13:51	10/30/10 12:21	1
Lead	4.9		1.6	0.13	mg/Kg	☼	10/29/10 13:51	10/30/10 12:21	1
Selenium	ND		5.3	0.13	mg/Kg	☼	10/29/10 13:51	10/30/10 12:21	1
Silver	ND		1.1	0.048	mg/Kg	☼	10/29/10 13:51	10/30/10 12:21	1
Copper	11		1.1	0.23	mg/Kg	☼	10/29/10 13:51	10/30/10 12:21	1
Aluminum	9900		32	9.4	mg/Kg	☼	10/29/10 13:51	10/30/10 12:21	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0091	J	0.018	0.0058	mg/Kg	☼	10/29/10 08:09	10/29/10 11:21	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	346		107	0.172	mg/kg dry	☼	10/25/10 13:21	10/28/10 00:40	10
Fluoride	43.1		10.7	0.0161	mg/kg dry	☼	10/25/10 13:21	10/28/10 00:24	1
Nitrate-Nitrogen	19.3		2.14	0.0118	mg/kg dry	☼	10/25/10 13:21	10/25/10 23:56	1
Nitrite-Nitrogen	ND		2.14	0.0172	mg/kg dry	☼	10/25/10 13:21	10/25/10 23:56	1
Sulfate	322		21.4	0.548	mg/kg dry	☼	10/25/10 13:21	10/25/10 23:56	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: SO-2494-SB5 (0-1)-102010

Lab Sample ID: STJ0119-15

Date Collected: 10/20/10 15:00

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 92.2

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.5		2.8	0.12	mg/Kg	☼	10/29/10 13:51	10/30/10 12:26	1
Barium	130		0.47	0.014	mg/Kg	☼	10/29/10 13:51	10/30/10 12:26	1
Cadmium	ND		0.47	0.075	mg/Kg	☼	10/29/10 13:51	10/30/10 12:26	1
Chromium	83		1.2	0.044	mg/Kg	☼	10/29/10 13:51	10/30/10 12:26	1
Lead	40		1.4	0.11	mg/Kg	☼	10/29/10 13:51	10/30/10 12:26	1
Selenium	ND		4.7	0.11	mg/Kg	☼	10/29/10 13:51	10/30/10 12:26	1
Silver	0.054	J	0.94	0.042	mg/Kg	☼	10/29/10 13:51	10/30/10 12:26	1
Copper	570		0.94	0.21	mg/Kg	☼	10/29/10 13:51	10/30/10 12:26	1
Aluminum	52000		28	8.4	mg/Kg	☼	10/29/10 13:51	10/30/10 12:26	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	5.2		0.36	0.11	mg/Kg	☼	10/29/10 08:09	10/29/10 12:03	20

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.38	J	10.8	0.0173	mg/kg dry	☼	10/25/10 13:21	10/26/10 00:12	1
Fluoride	7.69	J	10.8	0.0163	mg/kg dry	☼	10/25/10 13:21	10/28/10 12:55	1
Nitrate-Nitrogen	10.2		2.17	0.0119	mg/kg dry	☼	10/25/10 13:21	10/26/10 00:12	1
Nitrite-Nitrogen	ND		2.17	0.0173	mg/kg dry	☼	10/25/10 13:21	10/26/10 00:12	1
Sulfate	648		21.7	0.554	mg/kg dry	☼	10/25/10 13:21	10/26/10 00:12	1

Client Sample ID: SO-2494-SB5 (4-5)-102010

Lab Sample ID: STJ0119-16

Date Collected: 10/20/10 15:45

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 96.8

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10		2.7	0.12	mg/Kg	☼	10/29/10 13:51	10/30/10 12:32	1
Barium	36		0.44	0.013	mg/Kg	☼	10/29/10 13:51	10/30/10 12:32	1
Cadmium	ND		0.44	0.071	mg/Kg	☼	10/29/10 13:51	10/30/10 12:32	1
Chromium	6.6		1.2	0.042	mg/Kg	☼	10/29/10 13:51	10/30/10 12:32	1
Lead	9.9		1.3	0.11	mg/Kg	☼	10/29/10 13:51	10/30/10 12:32	1
Selenium	ND		4.4	0.11	mg/Kg	☼	10/29/10 13:51	10/30/10 12:32	1
Silver	ND		0.89	0.040	mg/Kg	☼	10/29/10 13:51	10/30/10 12:32	1
Copper	16		0.89	0.19	mg/Kg	☼	10/29/10 13:51	10/30/10 12:32	1
Aluminum	6000		27	7.9	mg/Kg	☼	10/29/10 13:51	10/30/10 12:32	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0053	mg/Kg	☼	10/29/10 08:09	10/29/10 11:26	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.02	J	10.2	0.0163	mg/kg dry	☼	10/25/10 13:21	10/26/10 00:27	1
Fluoride	19.6		10.2	0.0153	mg/kg dry	☼	10/25/10 13:21	10/28/10 01:11	1
Nitrate-Nitrogen	ND		2.04	0.0112	mg/kg dry	☼	10/25/10 13:21	10/26/10 00:27	1
Nitrite-Nitrogen	ND		2.04	0.0163	mg/kg dry	☼	10/25/10 13:21	10/26/10 00:27	1
Sulfate	1300		204	5.22	mg/kg dry	☼	10/25/10 13:21	10/28/10 01:27	10

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: SO-2494-SB5 (14-15)-102010

Lab Sample ID: STJ0119-17

Date Collected: 10/20/10 15:50

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 95.5

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11		1.9	0.081	mg/Kg	☼	10/29/10 15:08	10/30/10 13:56	1
Barium	41		0.31	0.0094	mg/Kg	☼	10/29/10 15:08	10/30/10 13:56	1
Cadmium	ND	^	0.31	0.050	mg/Kg	☼	10/29/10 15:08	10/30/10 13:56	1
Chromium	5.9		0.81	0.029	mg/Kg	☼	10/29/10 15:08	10/30/10 13:56	1
Lead	11		0.94	0.075	mg/Kg	☼	10/29/10 15:08	10/30/10 13:56	1
Selenium	ND	^	3.1	0.075	mg/Kg	☼	10/29/10 15:08	10/30/10 13:56	1
Silver	ND		0.62	0.028	mg/Kg	☼	10/29/10 15:08	10/30/10 13:56	1
Copper	11	^	0.62	0.14	mg/Kg	☼	10/29/10 15:08	10/30/10 13:56	1
Aluminum	4100		19	5.6	mg/Kg	☼	10/29/10 15:08	10/30/10 13:56	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0053	mg/Kg	☼	10/29/10 08:09	10/29/10 11:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	7200		2000		mg/Kg			10/27/10 13:15	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.80	J	10.9	0.0174	mg/kg dry	☼	10/25/10 13:21	10/26/10 00:43	1
Fluoride	6.19	J	10.9	0.0163	mg/kg dry	☼	10/25/10 13:21	10/28/10 01:42	1
Nitrate-Nitrogen	0.543	J	2.17	0.0119	mg/kg dry	☼	10/25/10 13:21	10/26/10 00:43	1
Nitrite-Nitrogen	ND		2.17	0.0174	mg/kg dry	☼	10/25/10 13:21	10/26/10 00:43	1
Sulfate	67.0		21.7	0.555	mg/kg dry	☼	10/25/10 13:21	10/26/10 00:43	1

Method: D2937 - Density of Soil in Place by the Drive-Cylinder Met

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
In Place Density	2.03				g/cc		10/22/10 16:01	10/22/10 16:01	1

Method: D854 - Specific Gravity

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Gravity	2.71				NONE		10/22/10 16:28	10/22/10 16:28	1
Specific Gravity at 20 deg Celsius	2.71				NONE		10/22/10 16:28	10/22/10 16:28	1

Client Sample ID: SO-2494-SB1 (0-1)-102010

Lab Sample ID: STJ0119-18

Date Collected: 10/20/10 16:05

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 96.1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.7		1.8	0.079	mg/Kg	☼	10/29/10 15:08	10/30/10 14:02	1
Barium	170		0.30	0.0091	mg/Kg	☼	10/29/10 15:08	10/30/10 14:02	1
Cadmium	ND	^	0.30	0.049	mg/Kg	☼	10/29/10 15:08	10/30/10 14:02	1
Chromium	86		0.79	0.029	mg/Kg	☼	10/29/10 15:08	10/30/10 14:02	1
Lead	50		0.91	0.073	mg/Kg	☼	10/29/10 15:08	10/30/10 14:02	1
Selenium	ND	^	3.0	0.073	mg/Kg	☼	10/29/10 15:08	10/30/10 14:02	1
Silver	ND		0.61	0.027	mg/Kg	☼	10/29/10 15:08	10/30/10 14:02	1
Copper	980	^	0.61	0.13	mg/Kg	☼	10/29/10 15:08	10/30/10 14:02	1
Aluminum	ND		18	5.4	mg/Kg	☼	10/29/10 15:08	10/30/10 14:02	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: SO-2494-SB1 (0-1)-102010

Lab Sample ID: STJ0119-18

Date Collected: 10/20/10 16:05

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 96.1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.43		0.017	0.0055	mg/Kg	☼	10/29/10 08:09	10/29/10 11:31	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.06	J	10.6	0.0169	mg/kg dry	☼	10/28/10 13:55	10/29/10 16:50	1
Fluoride	273		106	0.159	mg/kg dry	☼	10/28/10 13:55	10/29/10 17:05	10
Nitrate-Nitrogen	6.35		2.12	0.0116	mg/kg dry	☼	10/28/10 13:55	10/29/10 16:50	1
Nitrite-Nitrogen	ND		2.12	0.0169	mg/kg dry	☼	10/28/10 13:55	10/29/10 16:50	1
Sulfate	162		21.2	0.541	mg/kg dry	☼	10/28/10 13:55	10/29/10 16:50	1

Client Sample ID: SO-2494-SB1 (4-5)-102010

Lab Sample ID: STJ0119-19

Date Collected: 10/20/10 16:20

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 96.6

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.7		2.4	0.11	mg/Kg	☼	10/29/10 15:08	10/30/10 13:15	1
Barium	36		0.41	0.012	mg/Kg	☼	10/29/10 15:08	10/30/10 13:15	1
Cadmium	ND	^	0.41	0.065	mg/Kg	☼	10/29/10 15:08	10/30/10 13:15	1
Chromium	3.7		1.1	0.038	mg/Kg	☼	10/29/10 15:08	10/30/10 13:15	1
Lead	6.2		1.2	0.098	mg/Kg	☼	10/29/10 15:08	10/30/10 13:15	1
Selenium	ND	^	4.1	0.098	mg/Kg	☼	10/29/10 15:08	10/30/10 13:15	1
Silver	ND		0.82	0.037	mg/Kg	☼	10/29/10 15:08	10/30/10 13:15	1
Copper	8.9	^	0.82	0.18	mg/Kg	☼	10/29/10 15:08	10/30/10 13:15	1
Aluminum	3700		24	7.3	mg/Kg	☼	10/29/10 15:08	10/30/10 13:15	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0053	mg/Kg	☼	10/29/10 08:09	10/29/10 11:33	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.842	J	10.5	0.0168	mg/kg dry	☼	10/28/10 13:55	10/29/10 18:08	1
Fluoride	6.95	J	10.5	0.0158	mg/kg dry	☼	10/28/10 13:55	10/29/10 18:08	1
Nitrate-Nitrogen	1.26	J	2.10	0.0116	mg/kg dry	☼	10/28/10 13:55	10/29/10 18:08	1
Nitrite-Nitrogen	ND		2.10	0.0168	mg/kg dry	☼	10/28/10 13:55	10/29/10 18:08	1
Sulfate	33.7		21.0	0.538	mg/kg dry	☼	10/28/10 13:55	10/29/10 18:08	1

Client Sample ID: SO-2494-SB1 (14-15)-102010

Lab Sample ID: STJ0119-20

Date Collected: 10/20/10 16:30

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 94.8

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.8		2.9	0.13	mg/Kg	☼	10/29/10 15:08	10/30/10 14:07	1
Barium	23		0.48	0.014	mg/Kg	☼	10/29/10 15:08	10/30/10 14:07	1
Cadmium	ND	^	0.48	0.077	mg/Kg	☼	10/29/10 15:08	10/30/10 14:07	1
Chromium	5.1		1.3	0.045	mg/Kg	☼	10/29/10 15:08	10/30/10 14:07	1
Lead	5.6		1.4	0.12	mg/Kg	☼	10/29/10 15:08	10/30/10 14:07	1
Selenium	ND	^	4.8	0.12	mg/Kg	☼	10/29/10 15:08	10/30/10 14:07	1
Silver	ND		0.96	0.043	mg/Kg	☼	10/29/10 15:08	10/30/10 14:07	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: SO-2494-SB1 (14-15)-102010

Lab Sample ID: STJ0119-20

Date Collected: 10/20/10 16:30

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 94.8

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	5.4	^	0.96	0.21	mg/Kg	☼	10/29/10 15:08	10/30/10 14:07	1
Aluminum	3700		29	8.6	mg/Kg	☼	10/29/10 15:08	10/30/10 14:07	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0053	mg/Kg	☼	10/29/10 08:09	10/29/10 11:41	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.517	J	10.3	0.0165	mg/kg dry	☼	10/28/10 13:55	10/29/10 18:23	1
Fluoride	1.96	J	10.3	0.0155	mg/kg dry	☼	10/28/10 13:55	10/29/10 18:23	1
Nitrate-Nitrogen	0.413	J	2.07	0.0114	mg/kg dry	☼	10/28/10 13:55	10/29/10 18:23	1
Nitrite-Nitrogen	ND		2.07	0.0165	mg/kg dry	☼	10/28/10 13:55	10/29/10 18:23	1
Sulfate	17.9	J	20.7	0.528	mg/kg dry	☼	10/28/10 13:55	10/29/10 18:23	1

Client Sample ID: SO-2494-FD02-102010

Lab Sample ID: STJ0119-21

Date Collected: 10/20/10 00:00

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 95.8

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11		2.3	0.10	mg/Kg	☼	10/29/10 15:08	10/30/10 14:13	1
Barium	35		0.39	0.012	mg/Kg	☼	10/29/10 15:08	10/30/10 14:13	1
Cadmium	ND	^	0.39	0.062	mg/Kg	☼	10/29/10 15:08	10/30/10 14:13	1
Chromium	5.2		1.0	0.036	mg/Kg	☼	10/29/10 15:08	10/30/10 14:13	1
Lead	8.6		1.2	0.093	mg/Kg	☼	10/29/10 15:08	10/30/10 14:13	1
Selenium	ND	^	3.9	0.093	mg/Kg	☼	10/29/10 15:08	10/30/10 14:13	1
Silver	ND		0.77	0.035	mg/Kg	☼	10/29/10 15:08	10/30/10 14:13	1
Copper	11	^	0.77	0.17	mg/Kg	☼	10/29/10 15:08	10/30/10 14:13	1
Aluminum	4500		23	6.9	mg/Kg	☼	10/29/10 15:08	10/30/10 14:13	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.016	0.0050	mg/Kg	☼	10/29/10 08:09	10/29/10 11:43	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.05	J	10.5	0.0169	mg/kg dry	☼	10/28/10 13:55	10/29/10 18:39	1
Fluoride	6.11	J	10.5	0.0158	mg/kg dry	☼	10/28/10 13:55	10/29/10 18:39	1
Nitrate-Nitrogen	1.16	J	2.11	0.0116	mg/kg dry	☼	10/28/10 13:55	10/29/10 18:39	1
Nitrite-Nitrogen	ND		2.11	0.0169	mg/kg dry	☼	10/28/10 13:55	10/29/10 18:39	1
Sulfate	28.0		21.1	0.539	mg/kg dry	☼	10/28/10 13:55	10/29/10 18:39	1

Client Sample ID: SO-2494-SB4 (0-1)-102010

Lab Sample ID: STJ0119-22

Date Collected: 10/20/10 17:45

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 95.8

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.9		2.8	0.12	mg/Kg	☼	10/29/10 15:08	10/30/10 14:19	1
Barium	57		0.47	0.014	mg/Kg	☼	10/29/10 15:08	10/30/10 14:19	1
Cadmium	ND	^	0.47	0.075	mg/Kg	☼	10/29/10 15:08	10/30/10 14:19	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0119
 SDG: STJ0119

Client Sample ID: SO-2494-SB4 (0-1)-102010

Lab Sample ID: STJ0119-22

Date Collected: 10/20/10 17:45

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 95.8

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	11		1.2	0.044	mg/Kg	☼	10/29/10 15:08	10/30/10 14:19	1
Lead	15		1.4	0.11	mg/Kg	☼	10/29/10 15:08	10/30/10 14:19	1
Selenium	ND	^	4.7	0.11	mg/Kg	☼	10/29/10 15:08	10/30/10 14:19	1
Silver	ND		0.93	0.042	mg/Kg	☼	10/29/10 15:08	10/30/10 14:19	1
Copper	47	^	0.93	0.21	mg/Kg	☼	10/29/10 15:08	10/30/10 14:19	1
Aluminum	10000		28	8.3	mg/Kg	☼	10/29/10 15:08	10/30/10 14:19	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.011	J	0.017	0.0053	mg/Kg	☼	10/29/10 08:09	10/29/10 11:50	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.37	J	10.5	0.0168	mg/kg dry	☼	10/28/10 13:55	10/29/10 19:26	1
Fluoride	4.10	J	10.5	0.0158	mg/kg dry	☼	10/28/10 13:55	10/29/10 19:26	1
Nitrate-Nitrogen	0.947	J	2.10	0.0116	mg/kg dry	☼	10/28/10 13:55	10/29/10 19:26	1
Nitrite-Nitrogen	ND		2.10	0.0168	mg/kg dry	☼	10/28/10 13:55	10/29/10 19:26	1
Sulfate	4.52	J	21.0	0.538	mg/kg dry	☼	10/28/10 13:55	10/29/10 19:26	1



Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Method: 6010B - Metals (ICP)

Lab Sample ID: LCS 580-74535/20-A
Matrix: Solid
Analysis Batch: 74679

Client Sample ID: LCS 580-74535/20-A
Prep Type: Total/NA
Prep Batch: 74535

Analyte	Spike Added	LCS	LCS	Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	RPD
Arsenic	4.00	4.06		mg/L		102	80 - 120	
Barium	4.00	4.05		mg/L		101	80 - 120	
Cadmium	0.100	0.103	^	mg/L		103	80 - 120	
Chromium	0.400	0.429		mg/L		107	80 - 120	
Lead	1.00	0.926	^	mg/L		93	80 - 120	
Selenium	4.00	4.05		mg/L		101	80 - 120	
Silver	0.600	0.700		mg/L		117	80 - 120	
Copper	0.500	0.502		mg/L		100	80 - 120	
Aluminum	4.00	3.37		mg/L		84	80 - 120	

Lab Sample ID: LCSD 580-74535/21-A
Matrix: Solid
Analysis Batch: 74679

Client Sample ID: LCSD 580-74535/21-A
Prep Type: Total/NA
Prep Batch: 74535

Analyte	Spike Added	LCSD	LCSD	Unit	D	% Rec	% Rec.		RPD	
		Result	Qualifier				Limits	RPD	Limit	
Arsenic	4.00	4.16		mg/L		104	80 - 120	2	20	
Barium	4.00	4.16		mg/L		104	80 - 120	3	20	
Cadmium	0.100	0.104	^	mg/L		104	80 - 120	1	20	
Chromium	0.400	0.439		mg/L		110	80 - 120	2	20	
Lead	1.00	0.944	^	mg/L		94	80 - 120	2	20	
Selenium	4.00	4.17		mg/L		104	80 - 120	3	20	
Silver	0.600	0.712		mg/L		119	80 - 120	2	20	
Copper	0.500	0.514		mg/L		103	80 - 120	2	20	
Aluminum	4.00	3.54		mg/L		89	80 - 120	5	20	

Lab Sample ID: LCSSRM 580-74535/22-A
Matrix: Solid
Analysis Batch: 74679

Client Sample ID: LCSSRM 580-74535/22-A
Prep Type: Total/NA
Prep Batch: 74535

Analyte	Spike Added	LCSSRM	LCSSRM	Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	RPD
Arsenic	4.00	4.10		mg/L		102	80 - 120	
Barium	4.00	4.08		mg/L		102	80 - 120	
Cadmium	0.100	0.103	^	mg/L		103	80 - 120	
Chromium	0.400	0.431		mg/L		108	80 - 120	
Lead	1.00	0.931	^	mg/L		93	80 - 120	
Selenium	4.00	4.10		mg/L		103	80 - 120	
Silver	0.600	0.705		mg/L		118	80 - 120	
Copper	0.500	0.509		mg/L		102	80 - 120	
Aluminum	4.00	3.47		mg/L		87	80 - 120	

Lab Sample ID: MB 580-74659/22-A
Matrix: Solid
Analysis Batch: 74744

Client Sample ID: MB 580-74659/22-A
Prep Type: Total/NA
Prep Batch: 74659

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0	0.13	mg/Kg		10/29/10 13:51	10/30/10 09:41	1
Barium	ND		0.50	0.015	mg/Kg		10/29/10 13:51	10/30/10 09:41	1
Cadmium	ND		0.50	0.080	mg/Kg		10/29/10 13:51	10/30/10 09:41	1
Chromium	ND		1.3	0.047	mg/Kg		10/29/10 13:51	10/30/10 09:41	1
Lead	ND		1.5	0.12	mg/Kg		10/29/10 13:51	10/30/10 09:41	1

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 580-74659/22-A
Matrix: Solid
Analysis Batch: 74744

Client Sample ID: MB 580-74659/22-A
Prep Type: Total/NA
Prep Batch: 74659

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.392	J	5.0	0.12	mg/Kg		10/29/10 13:51	10/30/10 09:41	1
Silver	ND		1.0	0.045	mg/Kg		10/29/10 13:51	10/30/10 09:41	1
Copper	ND		1.0	0.22	mg/Kg		10/29/10 13:51	10/30/10 09:41	1
Aluminum	ND		30	8.9	mg/Kg		10/29/10 13:51	10/30/10 09:41	1

Lab Sample ID: LCS 580-74659/23-A
Matrix: Solid
Analysis Batch: 74744

Client Sample ID: LCS 580-74659/23-A
Prep Type: Total/NA
Prep Batch: 74659

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic	200	196		mg/Kg		98	80 - 120
Barium	200	203		mg/Kg		101	80 - 120
Cadmium	5.00	4.95		mg/Kg		99	80 - 120
Chromium	20.0	20.0		mg/Kg		100	80 - 120
Lead	50.0	50.4		mg/Kg		101	80 - 120
Selenium	200	193		mg/Kg		97	80 - 120
Silver	30.0	28.6		mg/Kg		95	75 - 120
Copper	25.0	24.8		mg/Kg		99	80 - 120
Aluminum	200	210		mg/Kg		105	80 - 120

Lab Sample ID: LCSD 580-74659/24-A
Matrix: Solid
Analysis Batch: 74744

Client Sample ID: LCSD 580-74659/24-A
Prep Type: Total/NA
Prep Batch: 74659

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Arsenic	200	198		mg/Kg		99	80 - 120	1	20
Barium	200	205		mg/Kg		103	80 - 120	1	20
Cadmium	5.00	5.01		mg/Kg		100	80 - 120	1	20
Chromium	20.0	20.3		mg/Kg		101	80 - 120	1	20
Lead	50.0	50.7		mg/Kg		101	80 - 120	1	20
Selenium	200	196		mg/Kg		98	80 - 120	1	20
Silver	30.0	29.0		mg/Kg		97	75 - 120	1	20
Copper	25.0	25.1		mg/Kg		100	80 - 120	1	20
Aluminum	200	216		mg/Kg		108	80 - 120	3	20

Lab Sample ID: 580-22471-2MS
Matrix: Solid
Analysis Batch: 74744

Client Sample ID: STJ0119-02
Prep Type: Total/NA
Prep Batch: 74659

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic	6.5		206	193		mg/Kg	⊛	90	80 - 120
Barium	47		206	229		mg/Kg	⊛	88	80 - 120
Cadmium	ND		5.16	3.84	F	mg/Kg	⊛	74	80 - 120
Chromium	52		20.6	32.0	F	mg/Kg	⊛	-98	80 - 120
Lead	22		51.6	54.3	F	mg/Kg	⊛	62	80 - 120
Selenium	ND		206	177		mg/Kg	⊛	86	80 - 120
Silver	ND		31.0	28.0		mg/Kg	⊛	90	75 - 120
Copper	300		25.8	59.4	4	mg/Kg	⊛	-944	80 - 120
Aluminum	70000		206	13900	4	mg/Kg	⊛	-2706	80 - 120

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Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 580-22471-2MSD

Matrix: Solid

Analysis Batch: 74744

Client Sample ID: STJ0119-02

Prep Type: Total/NA

Prep Batch: 74659

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Arsenic	6.5		187	177		mg/Kg	*	92	80 - 120	8	20	
Barium	47		187	208		mg/Kg	*	86	80 - 120	9	20	
Cadmium	ND		4.67	3.60	F	mg/Kg	*	77	80 - 120	7	20	
Chromium	52		18.7	25.0	F	mg/Kg	*	-145	80 - 120	24	20	
Lead	22		46.7	49.0	F	mg/Kg	*	57	80 - 120	10	20	
Selenium	ND		187	164		mg/Kg	*	88	80 - 120	7	20	
Silver	ND		28.0	25.4		mg/Kg	*	91	75 - 120	10	20	
Copper	300		23.3	35.0	4 F	mg/Kg	*	-1149	80 - 120	52	20	
Aluminum	70000		187	8140	4 F	mg/Kg	*	-3301	80 - 120	52	20	

Lab Sample ID: 580-22471-12MS

Matrix: Solid

Analysis Batch: 74744

Client Sample ID: STJ0119-12

Prep Type: Total/NA

Prep Batch: 74659

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Arsenic	3.7		215	195		mg/Kg	*	89	80 - 120			
Barium	29		215	233		mg/Kg	*	95	80 - 120			
Cadmium	ND		5.38	4.27	F	mg/Kg	*	79	80 - 120			
Chromium	6.0		21.5	26.6		mg/Kg	*	96	80 - 120			
Lead	6.2		53.8	55.1		mg/Kg	*	91	80 - 120			
Selenium	ND		215	184		mg/Kg	*	86	80 - 120			
Silver	ND		32.3	28.8		mg/Kg	*	89	75 - 120			
Copper	14		26.9	36.7		mg/Kg	*	85	80 - 120			
Aluminum	5400		215	7680	4	mg/Kg	*	1039	80 - 120			

Lab Sample ID: 580-22471-12MSD

Matrix: Solid

Analysis Batch: 74744

Client Sample ID: STJ0119-12

Prep Type: Total/NA

Prep Batch: 74659

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Arsenic	3.7		204	186		mg/Kg	*	89	80 - 120	5	20	
Barium	29		204	226		mg/Kg	*	97	80 - 120	3	20	
Cadmium	ND		5.09	4.10		mg/Kg	*	80	80 - 120	4	20	
Chromium	6.0		20.4	25.7		mg/Kg	*	96	80 - 120	4	20	
Lead	6.2		50.9	51.2		mg/Kg	*	88	80 - 120	7	20	
Selenium	ND		204	175		mg/Kg	*	86	80 - 120	5	20	
Silver	ND		30.6	27.3		mg/Kg	*	89	75 - 120	5	20	
Copper	14		25.5	36.3		mg/Kg	*	88	80 - 120	1	20	
Aluminum	5400		204	7060	4	mg/Kg	*	793	80 - 120	8	20	

Lab Sample ID: 580-22471-2 DU

Matrix: Solid

Analysis Batch: 74744

Client Sample ID: STJ0119-02

Prep Type: Total/NA

Prep Batch: 74659

Analyte	Sample	Sample	DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Arsenic	6.5		6.70		mg/Kg	*	3	20
Barium	47		32.6	F	mg/Kg	*	36	20
Cadmium	ND		ND		mg/Kg	*	NC	20
Chromium	52		68.8	F	mg/Kg	*	28	20
Lead	22		57.1	F	mg/Kg	*	88	20

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 580-22471-2 DU
Matrix: Solid
Analysis Batch: 74744

Client Sample ID: STJ0119-02
Prep Type: Total/NA
Prep Batch: 74659

Analyte	Sample	Sample	DU		Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
Selenium	ND		ND		mg/Kg	⊛	NC	20	
Silver	ND		ND		mg/Kg	⊛	NC	20	
Copper	300		518	F	mg/Kg	⊛	52	20	
Aluminum	70000		ND		mg/Kg	⊛	NC	20	

Lab Sample ID: MB 580-74667/22-A
Matrix: Solid
Analysis Batch: 74745

Client Sample ID: MB 580-74667/22-A
Prep Type: Total/NA
Prep Batch: 74667

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0	0.13	mg/Kg		10/29/10 15:08	10/30/10 12:50	1
Barium	ND		0.50	0.015	mg/Kg		10/29/10 15:08	10/30/10 12:50	1
Cadmium	ND	^	0.50	0.080	mg/Kg		10/29/10 15:08	10/30/10 12:50	1
Chromium	ND		1.3	0.047	mg/Kg		10/29/10 15:08	10/30/10 12:50	1
Lead	ND		1.5	0.12	mg/Kg		10/29/10 15:08	10/30/10 12:50	1
Selenium	ND	^	5.0	0.12	mg/Kg		10/29/10 15:08	10/30/10 12:50	1
Silver	0.0843	J	1.0	0.045	mg/Kg		10/29/10 15:08	10/30/10 12:50	1
Copper	ND	^	1.0	0.22	mg/Kg		10/29/10 15:08	10/30/10 12:50	1
Aluminum	ND		30	8.9	mg/Kg		10/29/10 15:08	10/30/10 12:50	1

Lab Sample ID: LCS 580-74667/23-A
Matrix: Solid
Analysis Batch: 74745

Client Sample ID: LCS 580-74667/23-A
Prep Type: Total/NA
Prep Batch: 74667

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Barium	200	197		mg/Kg		99	80 - 120
Cadmium	5.00	4.71	^	mg/Kg		94	80 - 120
Chromium	20.0	19.5		mg/Kg		98	80 - 120
Lead	50.0	48.0		mg/Kg		96	80 - 120
Selenium	200	182	^	mg/Kg		91	80 - 120
Silver	30.0	28.2		mg/Kg		94	75 - 120
Copper	25.0	24.2	^	mg/Kg		97	80 - 120
Aluminum	200	200		mg/Kg		100	80 - 120

Lab Sample ID: LCSD 580-74667/24-A
Matrix: Solid
Analysis Batch: 74745

Client Sample ID: LCSD 580-74667/24-A
Prep Type: Total/NA
Prep Batch: 74667

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	Limit
Barium	200	200		mg/Kg		100	80 - 120	1	20
Cadmium	5.00	4.86	^	mg/Kg		97	80 - 120	3	20
Chromium	20.0	19.8		mg/Kg		99	80 - 120	1	20
Lead	50.0	49.5		mg/Kg		99	80 - 120	3	20
Selenium	200	188	^	mg/Kg		94	80 - 120	3	20
Silver	30.0	28.4		mg/Kg		95	75 - 120	1	20
Copper	25.0	24.5	^	mg/Kg		98	80 - 120	1	20
Aluminum	200	205		mg/Kg		103	80 - 120	2	20

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 580-22471-19MS

Matrix: Solid

Analysis Batch: 74745

Client Sample ID: STJ0119-19

Prep Type: Total/NA

Prep Batch: 74667

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	% Rec	% Rec.	
	Result	Qualifier		Result	Qualifier				Limits	RPD
Arsenic	6.7		183	170		mg/Kg	*	89	80 - 120	
Barium	36		183	194		mg/Kg	*	86	80 - 120	
Cadmium	ND	^	4.58	3.58	^ F	mg/Kg	*	78	80 - 120	
Chromium	3.7		18.3	21.5		mg/Kg	*	97	80 - 120	
Lead	6.2		45.8	45.0		mg/Kg	*	85	80 - 120	
Selenium	ND	^	183	159	^	mg/Kg	*	87	80 - 120	
Silver	ND		27.5	24.6		mg/Kg	*	90	75 - 120	
Copper	8.9	^	22.9	27.4	^	mg/Kg	*	81	80 - 120	
Aluminum	3700		183	4560	4	mg/Kg	*	494	80 - 120	

Lab Sample ID: 580-22471-19MSD

Matrix: Solid

Analysis Batch: 74745

Client Sample ID: STJ0119-19

Prep Type: Total/NA

Prep Batch: 74667

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD	
	Result	Qualifier		Result	Qualifier				Limits	RPD	Limit	
Arsenic	6.7		184	175		mg/Kg	*	91	80 - 120	3	20	
Barium	36		184	198		mg/Kg	*	88	80 - 120	2	20	
Cadmium	ND	^	4.60	3.44	^ F	mg/Kg	*	75	80 - 120	4	20	
Chromium	3.7		18.4	21.9		mg/Kg	*	99	80 - 120	2	20	
Lead	6.2		46.0	48.8		mg/Kg	*	93	80 - 120	8	20	
Selenium	ND	^	184	161	^	mg/Kg	*	88	80 - 120	1	20	
Silver	ND		27.6	24.9		mg/Kg	*	90	75 - 120	1	20	
Copper	8.9	^	23.0	31.1	^	mg/Kg	*	97	80 - 120	13	20	
Aluminum	3700		184	5600	4 F	mg/Kg	*	1058	80 - 120	21	20	

Lab Sample ID: 580-22471-19 DU

Matrix: Solid

Analysis Batch: 74745

Client Sample ID: STJ0119-19

Prep Type: Total/NA

Prep Batch: 74667

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier		Result				
Arsenic	6.7		6.35		mg/Kg	*	5	20
Barium	36		24.0	F	mg/Kg	*	39	20
Cadmium	ND	^	ND	^	mg/Kg	*	NC	20
Chromium	3.7		4.57		mg/Kg	*	20	20
Lead	6.2		4.25	F	mg/Kg	*	37	20
Selenium	ND	^	ND	^	mg/Kg	*	NC	20
Silver	ND		ND		mg/Kg	*	NC	20
Copper	8.9	^	7.22	^ F	mg/Kg	*	21	20
Aluminum	3700		4260		mg/Kg	*	15	20

Lab Sample ID: MB 580-74480/16-B

Matrix: Solid

Analysis Batch: 74679

Client Sample ID: MB 580-74480/16-B

Prep Type: TCLP

Prep Batch: 74535

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		0.060	0.0047	mg/L		10/28/10 10:35	10/29/10 10:28	1
Barium	ND		0.010	0.00035	mg/L		10/28/10 10:35	10/29/10 10:28	1
Cadmium	ND	^	0.010	0.0015	mg/L		10/28/10 10:35	10/29/10 10:28	1
Chromium	ND		0.025	0.0033	mg/L		10/28/10 10:35	10/29/10 10:28	1
Lead	ND	^	0.030	0.0017	mg/L		10/28/10 10:35	10/29/10 10:28	1

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 580-74480/16-B
Matrix: Solid
Analysis Batch: 74679

Client Sample ID: MB 580-74480/16-B
Prep Type: TCLP
Prep Batch: 74535

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		0.10	0.0020	mg/L		10/28/10 10:35	10/29/10 10:28	1
Silver	ND		0.020	0.00085	mg/L		10/28/10 10:35	10/29/10 10:28	1
Copper	ND		0.020	0.0033	mg/L		10/28/10 10:35	10/29/10 10:28	1
Aluminum	ND		1.0	0.31	mg/L		10/28/10 10:35	10/29/10 10:28	1

Lab Sample ID: 580-22464-A-1-D MS
Matrix: Solid
Analysis Batch: 74679

Client Sample ID: 580-22464-A-1-D MS
Prep Type: TCLP
Prep Batch: 74535

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic	0.21		4.00	4.38		mg/L		104	50 - 150
Barium	0.35		4.00	4.33		mg/L		99	50 - 150
Cadmium	0.012	^	0.100	0.102	^	mg/L		90	50 - 150
Chromium	0.0037	J	0.400	0.387		mg/L		96	50 - 150
Lead	0.20	^	1.00	0.958	^	mg/L		76	50 - 150
Selenium	ND		4.00	4.42		mg/L		111	50 - 150
Silver	0.0037	J	0.600	0.673		mg/L		112	50 - 150
Copper	0.28		0.500	0.764		mg/L		97	50 - 150
Aluminum	ND		4.00	3.68		mg/L		92	50 - 150

Lab Sample ID: 580-22464-A-1-E MSD
Matrix: Solid
Analysis Batch: 74679

Client Sample ID: 580-22464-A-1-E MSD
Prep Type: TCLP
Prep Batch: 74535

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Arsenic	0.21		4.00	4.52		mg/L		108	50 - 150	3	20
Barium	0.35		4.00	4.46		mg/L		103	50 - 150	3	20
Cadmium	0.012	^	0.100	0.105	^	mg/L		93	50 - 150	3	20
Chromium	0.0037	J	0.400	0.399		mg/L		99	50 - 150	3	20
Lead	0.20	^	1.00	0.978	^	mg/L		78	50 - 150	2	20
Selenium	ND		4.00	4.58		mg/L		115	50 - 150	4	20
Silver	0.0037	J	0.600	0.695		mg/L		115	50 - 150	3	20
Copper	0.28		0.500	0.783		mg/L		101	50 - 150	2	20
Aluminum	ND		4.00	3.86		mg/L		97	50 - 150	5	20

Lab Sample ID: 580-22464-A-1-C DU
Matrix: Solid
Analysis Batch: 74679

Client Sample ID: 580-22464-A-1-C DU
Prep Type: TCLP
Prep Batch: 74535

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.21		0.218		mg/L		3	20
Barium	0.35		0.356		mg/L		0.8	20
Cadmium	0.012	^	0.0121	^	mg/L		2	20
Chromium	0.0037	J	0.00410	J	mg/L		10	20
Lead	0.20	^	0.197	^	mg/L		0.8	20
Selenium	ND		ND		mg/L		NC	20
Silver	0.0037	J	0.00240	J	mg/L		43	20
Copper	0.28		0.279		mg/L		0.4	20
Aluminum	ND		ND		mg/L		NC	20

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Method: 7470A - Mercury (CVAA)

Lab Sample ID: LCS 580-74541/19-A
Matrix: Solid
Analysis Batch: 74601

Client Sample ID: LCS 580-74541/19-A
Prep Type: Total/NA
Prep Batch: 74541

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.0200	0.0182		mg/L		91	80 - 120

Lab Sample ID: LCSD 580-74541/20-A
Matrix: Solid
Analysis Batch: 74601

Client Sample ID: LCSD 580-74541/20-A
Prep Type: Total/NA
Prep Batch: 74541

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	Limit
Mercury	0.0200	0.0180		mg/L		90	80 - 120	1	20

Lab Sample ID: MB 580-74480/16-C
Matrix: Solid
Analysis Batch: 74601

Client Sample ID: MB 580-74480/16-C
Prep Type: TCLP
Prep Batch: 74541

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00103	J	0.0020	0.00041	mg/L		10/28/10 10:54	10/28/10 15:13	1

Lab Sample ID: 580-22460-C-1-E MS
Matrix: Solid
Analysis Batch: 74601

Client Sample ID: 580-22460-C-1-E MS
Prep Type: TCLP
Prep Batch: 74541

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	ND		0.0200	0.0154	F	mg/L		77	80 - 120

Lab Sample ID: 580-22460-C-1-F MSD
Matrix: Solid
Analysis Batch: 74601

Client Sample ID: 580-22460-C-1-F MSD
Prep Type: TCLP
Prep Batch: 74541

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	Limit
Mercury	ND		0.0200	0.0153	F	mg/L		76	80 - 120	1	20

Lab Sample ID: 580-22460-C-1-D DU
Matrix: Solid
Analysis Batch: 74601

Client Sample ID: 580-22460-C-1-D DU
Prep Type: TCLP
Prep Batch: 74541

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Mercury	ND		0.000600	J	mg/L		NC	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-74606/22-A
Matrix: Solid
Analysis Batch: 74624

Client Sample ID: MB 580-74606/22-A
Prep Type: Total/NA
Prep Batch: 74606

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0052	mg/Kg		10/29/10 06:58	10/29/10 09:18	1

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 580-74606/23-A
Matrix: Solid
Analysis Batch: 74624

Client Sample ID: LCS 580-74606/23-A
Prep Type: Total/NA
Prep Batch: 74606

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.167	0.143		mg/Kg		86	80 - 120

Lab Sample ID: LCSD 580-74606/24-A
Matrix: Solid
Analysis Batch: 74624

Client Sample ID: LCSD 580-74606/24-A
Prep Type: Total/NA
Prep Batch: 74606

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.167	0.143		mg/Kg		86	80 - 120	0	20

Lab Sample ID: 580-22471-2 MS
Matrix: Solid
Analysis Batch: 74624

Client Sample ID: STJ0119-02
Prep Type: Total/NA
Prep Batch: 74606

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.0085	J	0.180	0.184		mg/Kg	☼	97	80 - 120

Lab Sample ID: 580-22471-2 MSD
Matrix: Solid
Analysis Batch: 74624

Client Sample ID: STJ0119-02
Prep Type: Total/NA
Prep Batch: 74606

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.0085	J	0.179	0.183		mg/Kg	☼	97	80 - 120	1	20

Lab Sample ID: 580-22471-2 DU
Matrix: Solid
Analysis Batch: 74624

Client Sample ID: STJ0119-02
Prep Type: Total/NA
Prep Batch: 74606

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.0085	J		0.0144	J	mg/Kg	☼			51	20

Lab Sample ID: MB 580-74610/21-A
Matrix: Solid
Analysis Batch: 74727

Client Sample ID: MB 580-74610/21-A
Prep Type: Total/NA
Prep Batch: 74610

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0052	mg/Kg		10/29/10 08:09	10/29/10 10:52	1

Lab Sample ID: LCS 580-74610/22-A
Matrix: Solid
Analysis Batch: 74727

Client Sample ID: LCS 580-74610/22-A
Prep Type: Total/NA
Prep Batch: 74610

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.167	0.163		mg/Kg		98	80 - 120

Lab Sample ID: LCSD 580-74610/23-A
Matrix: Solid
Analysis Batch: 74727

Client Sample ID: LCSD 580-74610/23-A
Prep Type: Total/NA
Prep Batch: 74610

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.167	0.159		mg/Kg		95	80 - 120	2	20

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: 580-22471-12MS
Matrix: Solid
Analysis Batch: 74727

Client Sample ID: STJ0119-12
Prep Type: Total/NA
Prep Batch: 74610

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	ND		0.187	0.180		mg/Kg	☼	96	80 - 120

Lab Sample ID: 580-22471-12MSD
Matrix: Solid
Analysis Batch: 74727

Client Sample ID: STJ0119-12
Prep Type: Total/NA
Prep Batch: 74610

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	Limit
Mercury	ND		0.181	0.172		mg/Kg	☼	95	80 - 120	4	20

Lab Sample ID: 580-22471-19MS
Matrix: Solid
Analysis Batch: 74727

Client Sample ID: STJ0119-19
Prep Type: Total/NA
Prep Batch: 74610

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	ND		0.169	0.169		mg/Kg	☼	100	80 - 120

Lab Sample ID: 580-22471-19MSD
Matrix: Solid
Analysis Batch: 74727

Client Sample ID: STJ0119-19
Prep Type: Total/NA
Prep Batch: 74610

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	Limit
Mercury	ND		0.169	0.165		mg/Kg	☼	98	80 - 120	2	20

Lab Sample ID: 580-22471-12 DU
Matrix: Solid
Analysis Batch: 74727

Client Sample ID: STJ0119-12
Prep Type: Total/NA
Prep Batch: 74610

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Mercury	ND		0.0146	J	mg/Kg	☼	NC	20

Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 580-74500/3
Matrix: Solid
Analysis Batch: 74500

Client Sample ID: MB 580-74500/3
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		2000		mg/Kg			10/27/10 08:35	1

Lab Sample ID: LCSSRM 580-74500/4
Matrix: Solid
Analysis Batch: 74500

Client Sample ID: LCSSRM 580-74500/4
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	% Rec	% Rec. Limits
Total Organic Carbon	2720	3900		mg/Kg		143	34 - 166

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Method: 9060 - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 580-21981-A-3 MS
Matrix: Solid
Analysis Batch: 74500

Client Sample ID: 580-21981-A-3 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Total Organic Carbon	3100		18600	19500		mg/Kg		88	76 - 128

Lab Sample ID: 580-21981-A-3 DU
Matrix: Solid
Analysis Batch: 74500

Client Sample ID: 580-21981-A-3 DU
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	3100		3000		mg/Kg		3	50

Method: EPA 300.0 - Anions per EPA Method 300.0

Lab Sample ID: 10J0809-BLK1
Matrix: Soil
Analysis Batch: T003454

Client Sample ID: 10J0809-BLK1
Prep Type: total
Prep Batch: 10J0809_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		10.0	0.0160	mg/kg wet		10/25/10 13:21	10/25/10 17:42	1
Fluoride	ND		10.0	0.0150	mg/kg wet		10/25/10 13:21	10/25/10 17:42	1
Nitrate-Nitrogen	ND		2.00	0.0110	mg/kg wet		10/25/10 13:21	10/25/10 17:42	1
Nitrite-Nitrogen	ND		2.00	0.0160	mg/kg wet		10/25/10 13:21	10/25/10 17:42	1
Sulfate	ND		20.0	0.511	mg/kg wet		10/25/10 13:21	10/25/10 17:42	1

Lab Sample ID: 10J0809-BS1
Matrix: Soil
Analysis Batch: T003454

Client Sample ID: 10J0809-BS1
Prep Type: total
Prep Batch: 10J0809_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Chloride	100	93.2		mg/kg wet		93.2	90 - 110
Fluoride	40.0	36.3		mg/kg wet		90.8	90 - 110
Nitrate-Nitrogen	50.0	46.5		mg/kg wet		93.0	90 - 110
Nitrite-Nitrogen	50.0	46.4		mg/kg wet		92.8	90 - 110
Sulfate	300	287		mg/kg wet		95.7	90 - 110

Lab Sample ID: 10J0809-MS1
Matrix: Soil
Analysis Batch: T003454

Client Sample ID: SO-2494-DB1 (4-5)-102010
Prep Type: total
Prep Batch: 10J0809_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Chloride	29.3		21.4	46.4		mg/kg dry	☼	79.8	75 - 125
Fluoride	14.1		21.4	31.0		mg/kg dry	☼	78.9	75 - 125
Nitrate-Nitrogen	101		21.4	109	M8	mg/kg dry	☼	39.1	75 - 125
Nitrite-Nitrogen	ND		21.4	20.6		mg/kg dry	☼	96.1	75 - 125

Lab Sample ID: 10J0809-MS2
Matrix: Soil
Analysis Batch: T003454

Client Sample ID: SO-2494-MW2 (12-13)-102010
Prep Type: total
Prep Batch: 10J0809_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Chloride	326		21.7	322	M8	mg/kg dry	☼	-18.1	75 - 125
Fluoride	17.7		21.7	33.2	M8	mg/kg dry	☼	71.1	75 - 125

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Method: EPA 300.0 - Anions per EPA Method 300.0 (Continued)

Lab Sample ID: 10J0809-MS2
Matrix: Soil
Analysis Batch: T003454

Client Sample ID: SO-2494-MW2 (12-13)-102010
Prep Type: total
Prep Batch: 10J0809_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Nitrate-Nitrogen	20.2		21.7	40.4		mg/kg dry	☼	93.0		75 - 125
Nitrite-Nitrogen	ND		21.7	20.1		mg/kg dry	☼	92.4		75 - 125
Sulfate	293		43.5	303	M8	mg/kg dry	☼	22.7		75 - 125

Lab Sample ID: 10J0809-MS5
Matrix: Soil
Analysis Batch: 10J0809

Client Sample ID: SO-2494-DB1 (4-5)-102010
Prep Type: total
Prep Batch: 10J0809_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Sulfate	1100		429	1490		mg/kg dry	☼	90.9		75 - 125

Lab Sample ID: 10J0809-MSD1
Matrix: Soil
Analysis Batch: T003454

Client Sample ID: SO-2494-DB1 (4-5)-102010
Prep Type: total
Prep Batch: 10J0809_P

Analyte	Sample	Sample	Spike	Matrix Spike Dup	Matrix Spike Dup	Unit	D	% Rec	% Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Chloride	29.3		21.4	49.5		mg/kg dry	☼	94.3		75 - 125	6.48	40
Fluoride	14.1		21.4	39.3		mg/kg dry	☼	118		75 - 125	23.7	40
Nitrate-Nitrogen	101		21.4	121		mg/kg dry	☼	95.8		75 - 125	10.5	40
Nitrite-Nitrogen	ND		21.4	20.4		mg/kg dry	☼	95.2		75 - 125	1.00	40

Lab Sample ID: 10J0809-MSD2
Matrix: Soil
Analysis Batch: T003454

Client Sample ID: SO-2494-MW2 (12-13)-102010
Prep Type: total
Prep Batch: 10J0809_P

Analyte	Sample	Sample	Spike	Matrix Spike Dup	Matrix Spike Dup	Unit	D	% Rec	% Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Chloride	326		22.1	313	M8	mg/kg dry	☼	-57.3		75 - 125	2.76	40
Fluoride	17.7		22.1	37.5		mg/kg dry	☼	89.5		75 - 125	12.3	40
Nitrate-Nitrogen	20.2		22.1	40.3		mg/kg dry	☼	91.1		75 - 125	0.15	40
Nitrite-Nitrogen	ND		22.1	20.5		mg/kg dry	☼	92.6		75 - 125	2.03	40
Sulfate	293		44.3	303	M8	mg/kg dry	☼	22.2		75 - 125	0.00	40
											675	

Lab Sample ID: 10J0809-MSD5
Matrix: Soil
Analysis Batch: 10J0809

Client Sample ID: SO-2494-DB1 (4-5)-102010
Prep Type: total
Prep Batch: 10J0809_P

Analyte	Sample	Sample	Spike	Matrix Spike Dup	Matrix Spike Dup	Unit	D	% Rec	% Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Sulfate	1100		429	1730	M7	mg/kg dry	☼	145		75 - 125	14.4	40

Lab Sample ID: 10J0809-DUP1
Matrix: Soil
Analysis Batch: T003454

Client Sample ID: SO-2494-DB1 (4-5)-102010
Prep Type: total
Prep Batch: 10J0809_P

Analyte	Sample	Sample	Duplicate	Duplicate	Unit	D	RPD	Limit
	Result	Qualifier		Result				
Chloride	29.3		24.2		mg/kg dry	☼	18.9	40
Fluoride	14.1		13.6		mg/kg dry	☼	3.20	40
Nitrate-Nitrogen	101		83.3		mg/kg dry	☼	19.2	40
Nitrite-Nitrogen	ND		ND		mg/kg dry	☼		40

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Method: EPA 300.0 - Anions per EPA Method 300.0 (Continued)

Lab Sample ID: 10J0809-DUP1
Matrix: Soil
Analysis Batch: T003454

Client Sample ID: SO-2494-DB1 (4-5)-102010
Prep Type: total
Prep Batch: 10J0809_P

Analyte	Sample	Sample	Duplicate	Duplicate	Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
Sulfate	1100		1270		mg/kg dry	*	14.2	40	

Lab Sample ID: 10J0949-BLK1
Matrix: Soil
Analysis Batch: T003547

Client Sample ID: 10J0949-BLK1
Prep Type: total
Prep Batch: 10J0949_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	ND		10.0	0.0160	mg/kg wet		10/28/10 13:55	10/29/10 16:18	1
Fluoride	ND		10.0	0.0150	mg/kg wet		10/28/10 13:55	10/29/10 16:18	1
Nitrate-Nitrogen	ND		2.00	0.0110	mg/kg wet		10/28/10 13:55	10/29/10 16:18	1
Nitrite-Nitrogen	ND		2.00	0.0160	mg/kg wet		10/28/10 13:55	10/29/10 16:18	1
Sulfate	ND		20.0	0.511	mg/kg wet		10/28/10 13:55	10/29/10 16:18	1

Lab Sample ID: 10J0949-BS1
Matrix: Soil
Analysis Batch: T003547

Client Sample ID: 10J0949-BS1
Prep Type: total
Prep Batch: 10J0949_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec	Limits
Chloride	100	102		mg/kg wet		102	90 - 110	
Fluoride	40.0	38.3		mg/kg wet		95.8	90 - 110	
Nitrate-Nitrogen	50.0	49.7		mg/kg wet		99.4	90 - 110	
Nitrite-Nitrogen	50.0	49.9		mg/kg wet		99.8	90 - 110	
Sulfate	300	311		mg/kg wet		104	90 - 110	

Lab Sample ID: 10J0949-MS1
Matrix: Soil
Analysis Batch: T003547

Client Sample ID: SO-2494-SB1 (4-5)-102010
Prep Type: total
Prep Batch: 10J0949_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Chloride	0.842	J	20.8	22.5		mg/kg dry	*	104	104	75 - 125
Fluoride	6.95	J	20.8	27.6		mg/kg dry	*	99.1	99.1	75 - 125
Nitrate-Nitrogen	1.26	J	20.8	22.2		mg/kg dry	*	101	101	75 - 125
Nitrite-Nitrogen	ND		20.8	21.6		mg/kg dry	*	104	104	75 - 125
Sulfate	33.7		41.6	77.4		mg/kg dry	*	105	105	75 - 125

Lab Sample ID: 10J0949-MS2
Matrix: Soil
Analysis Batch: T003547

Client Sample ID: PTJ0810-01
Prep Type: total
Prep Batch: 10J0949_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Chloride	3.44		20.9	24.7		mg/kg dry	*	102	102	75 - 125
Fluoride	19.0		20.9	48.0	M7	mg/kg dry	*	139	139	75 - 125
Nitrate-Nitrogen	ND		20.9	21.2		mg/kg dry	*	101	101	75 - 125
Nitrite-Nitrogen	ND		20.9	21.7		mg/kg dry	*	103	103	75 - 125

Lab Sample ID: 10J0949-MS3
Matrix: Soil
Analysis Batch: 10J0949

Client Sample ID: PTJ0810-01
Prep Type: total
Prep Batch: 10J0949_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Sulfate	1380		419	1620	M8	mg/kg dry	*	58.4	58.4	75 - 125

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0119
 SDG: STJ0119

Method: EPA 300.0 - Anions per EPA Method 300.0 (Continued)

Lab Sample ID: 10J0949-MSD1

Matrix: Soil

Analysis Batch: T003547

Client Sample ID: SO-2494-SB1 (4-5)-102010

Prep Type: total

Prep Batch: 10J0949_P

Analyte	Sample	Sample	Spike	Matrix Spike	Dup	Matrix Spike	Dup	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier	Unit	Unit			Limits	RPD		
Chloride	0.842	J	21.0	22.4		mg/kg dry		✱	103	75 - 125	0.49	7	40
Fluoride	6.95	J	21.0	25.8		mg/kg dry		✱	89.9	75 - 125	6.65		40
Nitrate-Nitrogen	1.26	J	21.0	21.9		mg/kg dry		✱	98.4	75 - 125	1.47		40
Nitrite-Nitrogen	ND		21.0	21.6		mg/kg dry		✱	103	75 - 125	0.04	94	40
Sulfate	33.7		42.0	67.8		mg/kg dry		✱	81.3	75 - 125	13.2		40

Lab Sample ID: 10J0949-DUP1

Matrix: Soil

Analysis Batch: T003547

Client Sample ID: SO-2494-SB1 (4-5)-102010

Prep Type: total

Prep Batch: 10J0949_P

Analyte	Sample	Sample	Duplicate		Duplicate	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier	Result				
Chloride	0.842	J	0.736	J		mg/kg dry	✱	13.5	40
Fluoride	6.95	J	7.04	J		mg/kg dry	✱	1.36	40
Nitrate-Nitrogen	1.26	J	1.26	J		mg/kg dry	✱	0.14	40
Nitrite-Nitrogen	ND		ND			mg/kg dry	✱	0	40
Sulfate	33.7		33.7			mg/kg dry	✱	0.17	40
								2	

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QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0119
 SDG: STJ0119

Metals

Leach Batch: 74480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-22464-A-1-C DU	580-22464-A-1-C DU	TCLP	Solid	1311	
580-22464-A-1-D MS	580-22464-A-1-D MS	TCLP	Solid	1311	
580-22464-A-1-E MSD	580-22464-A-1-E MSD	TCLP	Solid	1311	
STJ0119-01	STW-2494-DB1 (2-3)-102010	TCLP	Soil	1311	
STJ0119-01	STW-2494-DB1 (2-3)-102010	TCLP	Soil	1311	
STJ0119-07	STW-2494-DB2 (5-6)-102010	TCLP	Soil	1311	
STJ0119-07	STW-2494-DB2 (5-6)-102010	TCLP	Soil	1311	
MB 580-74480/16-C	MB 580-74480/16-C	TCLP	Solid	1311	
MB 580-74480/16-B	MB 580-74480/16-B	TCLP	Solid	1311	
580-22460-C-1-D DU	580-22460-C-1-D DU	TCLP	Solid	1311	
580-22460-C-1-E MS	580-22460-C-1-E MS	TCLP	Solid	1311	
580-22460-C-1-F MSD	580-22460-C-1-F MSD	TCLP	Solid	1311	

Prep Batch: 74535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-01	STW-2494-DB1 (2-3)-102010	TCLP	Soil	3010A	74480
STJ0119-07	STW-2494-DB2 (5-6)-102010	TCLP	Soil	3010A	74480
MB 580-74480/16-B	MB 580-74480/16-B	TCLP	Solid	3010A	74480
580-22464-A-1-C DU	580-22464-A-1-C DU	TCLP	Solid	3010A	74480
LCS 580-74535/20-A	LCS 580-74535/20-A	Total/NA	Solid	3010A	
LCSD 580-74535/21-A	LCSD 580-74535/21-A	Total/NA	Solid	3010A	
LCSSRM 580-74535/22-A	LCSSRM 580-74535/22-A	Total/NA	Solid	3010A	
580-22464-A-1-D MS	580-22464-A-1-D MS	TCLP	Solid	3010A	74480
580-22464-A-1-E MSD	580-22464-A-1-E MSD	TCLP	Solid	3010A	74480

Prep Batch: 74541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-01	STW-2494-DB1 (2-3)-102010	TCLP	Soil	7470A	74480
STJ0119-07	STW-2494-DB2 (5-6)-102010	TCLP	Soil	7470A	74480
MB 580-74480/16-C	MB 580-74480/16-C	TCLP	Solid	7470A	74480
LCS 580-74541/19-A	LCS 580-74541/19-A	Total/NA	Solid	7470A	
580-22460-C-1-D DU	580-22460-C-1-D DU	TCLP	Solid	7470A	74480
LCSD 580-74541/20-A	LCSD 580-74541/20-A	Total/NA	Solid	7470A	
580-22460-C-1-E MS	580-22460-C-1-E MS	TCLP	Solid	7470A	74480
580-22460-C-1-F MSD	580-22460-C-1-F MSD	TCLP	Solid	7470A	74480

Analysis Batch: 74601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-74480/16-C	MB 580-74480/16-C	TCLP	Solid	7470A	74541
LCS 580-74541/19-A	LCS 580-74541/19-A	Total/NA	Solid	7470A	74541
LCSD 580-74541/20-A	LCSD 580-74541/20-A	Total/NA	Solid	7470A	74541
580-22460-C-1-D DU	580-22460-C-1-D DU	TCLP	Solid	7470A	74541
580-22460-C-1-E MS	580-22460-C-1-E MS	TCLP	Solid	7470A	74541
580-22460-C-1-F MSD	580-22460-C-1-F MSD	TCLP	Solid	7470A	74541
STJ0119-01	STW-2494-DB1 (2-3)-102010	TCLP	Soil	7470A	74541
STJ0119-07	STW-2494-DB2 (5-6)-102010	TCLP	Soil	7470A	74541

Prep Batch: 74606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-02	SO-2494-DB1 (4-5)-102010	Total/NA	Soil	7471A	
STJ0119-07	STW-2494-DB2 (5-6)-102010	Total/NA	Soil	7471A	
STJ0119-08	SO-2494-DB2 (6-7)-102010	Total/NA	Soil	7471A	



QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0119
 SDG: STJ0119

Metals (Continued)

Prep Batch: 74606 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-09	SO-2494-DB2 (10-11)-102010	Total/NA	Soil	7471A	
580-22471-2 DU	STJ0119-02	Total/NA	Solid	7471A	
MB 580-74606/22-A	MB 580-74606/22-A	Total/NA	Solid	7471A	
LCS 580-74606/23-A	LCS 580-74606/23-A	Total/NA	Solid	7471A	
LCSD 580-74606/24-A	LCSD 580-74606/24-A	Total/NA	Solid	7471A	
580-22471-2 MS	STJ0119-02	Total/NA	Solid	7471A	
580-22471-2 MSD	STJ0119-02	Total/NA	Solid	7471A	
STJ0119-01	STW-2494-DB1 (2-3)-102010	Total/NA	Soil	7471A	
STJ0119-03	SO-2494-DB1 (8-9)-102010	Total/NA	Soil	7471A	
STJ0119-04	SO-2494-DB1 (18-19)-102010	Total/NA	Soil	7471A	
STJ0119-05	SO-2494-FD01-102010	Total/NA	Soil	7471A	
STJ0119-06	STW-2494-DB2 (1-2)-102010	Total/NA	Soil	7471A	

Prep Batch: 74610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-12	SO-2494-MW2 (12-13)-102010	Total/NA	Soil	7471A	
STJ0119-16	SO-2494-SB5 (4-5)-102010	Total/NA	Soil	7471A	
STJ0119-17	SO-2494-SB5 (14-15)-102010	Total/NA	Soil	7471A	
STJ0119-18	SO-2494-SB1 (0-1)-102010	Total/NA	Soil	7471A	
STJ0119-19	SO-2494-SB1 (4-5)-102010	Total/NA	Soil	7471A	
STJ0119-20	SO-2494-SB1 (14-15)-102010	Total/NA	Soil	7471A	
STJ0119-21	SO-2494-FD02-102010	Total/NA	Soil	7471A	
STJ0119-22	SO-2494-SB4 (0-1)-102010	Total/NA	Soil	7471A	
580-22471-12 DU	STJ0119-12	Total/NA	Solid	7471A	
MB 580-74610/21-A	MB 580-74610/21-A	Total/NA	Solid	7471A	
LCS 580-74610/22-A	LCS 580-74610/22-A	Total/NA	Solid	7471A	
LCSD 580-74610/23-A	LCSD 580-74610/23-A	Total/NA	Solid	7471A	
580-22471-19MS	STJ0119-19	Total/NA	Solid	7471A	
580-22471-19MSD	STJ0119-19	Total/NA	Solid	7471A	
580-22471-12MS	STJ0119-12	Total/NA	Solid	7471A	
580-22471-12MSD	STJ0119-12	Total/NA	Solid	7471A	
STJ0119-10	SO-2494-DB2 (20-21)-102010	Total/NA	Soil	7471A	
STJ0119-11	SO-2494-MW2 (8-9)-102010	Total/NA	Soil	7471A	
STJ0119-13	SO-2494-MW2 (22-23)-102010	Total/NA	Soil	7471A	
STJ0119-14	SO-2494-FD03-102010	Total/NA	Soil	7471A	
STJ0119-15	SO-2494-SB5 (0-1)-102010	Total/NA	Soil	7471A	

Analysis Batch: 74624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-74606/22-A	MB 580-74606/22-A	Total/NA	Solid	7471A	74606
LCS 580-74606/23-A	LCS 580-74606/23-A	Total/NA	Solid	7471A	74606
LCSD 580-74606/24-A	LCSD 580-74606/24-A	Total/NA	Solid	7471A	74606
STJ0119-02	SO-2494-DB1 (4-5)-102010	Total/NA	Soil	7471A	74606
580-22471-2 DU	STJ0119-02	Total/NA	Solid	7471A	74606
580-22471-2 MS	STJ0119-02	Total/NA	Solid	7471A	74606
580-22471-2 MSD	STJ0119-02	Total/NA	Solid	7471A	74606
STJ0119-04	SO-2494-DB1 (18-19)-102010	Total/NA	Soil	7471A	74606
STJ0119-05	SO-2494-FD01-102010	Total/NA	Soil	7471A	74606
STJ0119-08	SO-2494-DB2 (6-7)-102010	Total/NA	Soil	7471A	74606
STJ0119-09	SO-2494-DB2 (10-11)-102010	Total/NA	Soil	7471A	74606
STJ0119-03	SO-2494-DB1 (8-9)-102010	Total/NA	Soil	7471A	74606
STJ0119-06	STW-2494-DB2 (1-2)-102010	Total/NA	Soil	7471A	74606



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Client: Pastor, Behling & Wheeler, LLC
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TestAmerica Job ID: STJ0119
 SDG: STJ0119

Metals (Continued)

Analysis Batch: 74624 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-07	STW-2494-DB2 (5-6)-102010	Total/NA	Soil	7471A	74606
STJ0119-01	STW-2494-DB1 (2-3)-102010	Total/NA	Soil	7471A	74606

Prep Batch: 74659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-02	SO-2494-DB1 (4-5)-102010	Total/NA	Soil	3050B	
STJ0119-07	STW-2494-DB2 (5-6)-102010	Total/NA	Soil	3050B	
STJ0119-08	SO-2494-DB2 (6-7)-102010	Total/NA	Soil	3050B	
STJ0119-09	SO-2494-DB2 (10-11)-102010	Total/NA	Soil	3050B	
STJ0119-10	SO-2494-DB2 (20-21)-102010	Total/NA	Soil	3050B	
STJ0119-11	SO-2494-MW2 (8-9)-102010	Total/NA	Soil	3050B	
STJ0119-12	SO-2494-MW2 (12-13)-102010	Total/NA	Soil	3050B	
580-22471-12MS	STJ0119-12	Total/NA	Solid	3050B	
580-22471-12MSD	STJ0119-12	Total/NA	Solid	3050B	
STJ0119-13	SO-2494-MW2 (22-23)-102010	Total/NA	Soil	3050B	
STJ0119-14	SO-2494-FD03-102010	Total/NA	Soil	3050B	
580-22471-2 DU	STJ0119-02	Total/NA	Solid	3050B	
STJ0119-15	SO-2494-SB5 (0-1)-102010	Total/NA	Soil	3050B	
STJ0119-16	SO-2494-SB5 (4-5)-102010	Total/NA	Soil	3050B	
MB 580-74659/22-A	MB 580-74659/22-A	Total/NA	Solid	3050B	
LCS 580-74659/23-A	LCS 580-74659/23-A	Total/NA	Solid	3050B	
LCSD 580-74659/24-A	LCSD 580-74659/24-A	Total/NA	Solid	3050B	
580-22471-2MS	STJ0119-02	Total/NA	Solid	3050B	
580-22471-2MSD	STJ0119-02	Total/NA	Solid	3050B	
STJ0119-01	STW-2494-DB1 (2-3)-102010	Total/NA	Soil	3050B	
STJ0119-03	SO-2494-DB1 (8-9)-102010	Total/NA	Soil	3050B	
STJ0119-04	SO-2494-DB1 (18-19)-102010	Total/NA	Soil	3050B	
STJ0119-05	SO-2494-FD01-102010	Total/NA	Soil	3050B	
STJ0119-06	STW-2494-DB2 (1-2)-102010	Total/NA	Soil	3050B	

Prep Batch: 74667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-19	SO-2494-SB1 (4-5)-102010	Total/NA	Soil	3050B	
580-22471-19 DU	STJ0119-19	Total/NA	Solid	3050B	
MB 580-74667/22-A	MB 580-74667/22-A	Total/NA	Solid	3050B	
LCS 580-74667/23-A	LCS 580-74667/23-A	Total/NA	Solid	3050B	
LCSD 580-74667/24-A	LCSD 580-74667/24-A	Total/NA	Solid	3050B	
580-22471-19MS	STJ0119-19	Total/NA	Solid	3050B	
580-22471-19MSD	STJ0119-19	Total/NA	Solid	3050B	
STJ0119-17	SO-2494-SB5 (14-15)-102010	Total/NA	Soil	3050B	
STJ0119-18	SO-2494-SB1 (0-1)-102010	Total/NA	Soil	3050B	
STJ0119-20	SO-2494-SB1 (14-15)-102010	Total/NA	Soil	3050B	
STJ0119-21	SO-2494-FD02-102010	Total/NA	Soil	3050B	
STJ0119-22	SO-2494-SB4 (0-1)-102010	Total/NA	Soil	3050B	

Analysis Batch: 74679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-74480/16-B	MB 580-74480/16-B	TCLP	Solid	6010B	74535
LCS 580-74535/20-A	LCS 580-74535/20-A	Total/NA	Solid	6010B	74535
LCSD 580-74535/21-A	LCSD 580-74535/21-A	Total/NA	Solid	6010B	74535
LCSSRM 580-74535/22-A	LCSSRM 580-74535/22-A	Total/NA	Solid	6010B	74535
580-22464-A-1-C DU	580-22464-A-1-C DU	TCLP	Solid	6010B	74535



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Client: Pastor, Behling & Wheeler, LLC
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TestAmerica Job ID: STJ0119
 SDG: STJ0119

Metals (Continued)

Analysis Batch: 74679 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-22464-A-1-D MS	580-22464-A-1-D MS	TCLP	Solid	6010B	74535
580-22464-A-1-E MSD	580-22464-A-1-E MSD	TCLP	Solid	6010B	74535
STJ0119-01	STW-2494-DB1 (2-3)-102010	TCLP	Soil	6010B	74535
STJ0119-07	STW-2494-DB2 (5-6)-102010	TCLP	Soil	6010B	74535

Analysis Batch: 74727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-74610/21-A	MB 580-74610/21-A	Total/NA	Solid	7471A	74610
STJ0119-13	SO-2494-MW2 (22-23)-102010	Total/NA	Soil	7471A	74610
STJ0119-14	SO-2494-FD03-102010	Total/NA	Soil	7471A	74610
STJ0119-16	SO-2494-SB5 (4-5)-102010	Total/NA	Soil	7471A	74610
STJ0119-17	SO-2494-SB5 (14-15)-102010	Total/NA	Soil	7471A	74610
STJ0119-18	SO-2494-SB1 (0-1)-102010	Total/NA	Soil	7471A	74610
STJ0119-19	SO-2494-SB1 (4-5)-102010	Total/NA	Soil	7471A	74610
580-22471-19MS	STJ0119-19	Total/NA	Solid	7471A	74610
580-22471-19MSD	STJ0119-19	Total/NA	Solid	7471A	74610
STJ0119-20	SO-2494-SB1 (14-15)-102010	Total/NA	Soil	7471A	74610
STJ0119-21	SO-2494-FD02-102010	Total/NA	Soil	7471A	74610
LCS 580-74610/22-A	LCS 580-74610/22-A	Total/NA	Solid	7471A	74610
STJ0119-22	SO-2494-SB4 (0-1)-102010	Total/NA	Soil	7471A	74610
STJ0119-15	SO-2494-SB5 (0-1)-102010	Total/NA	Soil	7471A	74610
LCSD 580-74610/23-A	LCSD 580-74610/23-A	Total/NA	Solid	7471A	74610
STJ0119-12	SO-2494-MW2 (12-13)-102010	Total/NA	Soil	7471A	74610
580-22471-12 DU	STJ0119-12	Total/NA	Solid	7471A	74610
580-22471-12MS	STJ0119-12	Total/NA	Solid	7471A	74610
580-22471-12MSD	STJ0119-12	Total/NA	Solid	7471A	74610
STJ0119-10	SO-2494-DB2 (20-21)-102010	Total/NA	Soil	7471A	74610
STJ0119-11	SO-2494-MW2 (8-9)-102010	Total/NA	Soil	7471A	74610

Analysis Batch: 74744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-74659/22-A	MB 580-74659/22-A	Total/NA	Solid	6010B	74659
STJ0119-04	SO-2494-DB1 (18-19)-102010	Total/NA	Soil	6010B	74659
STJ0119-05	SO-2494-FD01-102010	Total/NA	Soil	6010B	74659
STJ0119-06	STW-2494-DB2 (1-2)-102010	Total/NA	Soil	6010B	74659
STJ0119-07	STW-2494-DB2 (5-6)-102010	Total/NA	Soil	6010B	74659
STJ0119-08	SO-2494-DB2 (6-7)-102010	Total/NA	Soil	6010B	74659
STJ0119-09	SO-2494-DB2 (10-11)-102010	Total/NA	Soil	6010B	74659
STJ0119-10	SO-2494-DB2 (20-21)-102010	Total/NA	Soil	6010B	74659
STJ0119-11	SO-2494-MW2 (8-9)-102010	Total/NA	Soil	6010B	74659
STJ0119-12	SO-2494-MW2 (12-13)-102010	Total/NA	Soil	6010B	74659
580-22471-12MS	STJ0119-12	Total/NA	Solid	6010B	74659
LCS 580-74659/23-A	LCS 580-74659/23-A	Total/NA	Solid	6010B	74659
580-22471-12MSD	STJ0119-12	Total/NA	Solid	6010B	74659
STJ0119-13	SO-2494-MW2 (22-23)-102010	Total/NA	Soil	6010B	74659
STJ0119-14	SO-2494-FD03-102010	Total/NA	Soil	6010B	74659
STJ0119-15	SO-2494-SB5 (0-1)-102010	Total/NA	Soil	6010B	74659
STJ0119-16	SO-2494-SB5 (4-5)-102010	Total/NA	Soil	6010B	74659
LCSD 580-74659/24-A	LCSD 580-74659/24-A	Total/NA	Solid	6010B	74659
STJ0119-02	SO-2494-DB1 (4-5)-102010	Total/NA	Soil	6010B	74659
580-22471-2 DU	STJ0119-02	Total/NA	Solid	6010B	74659
580-22471-2MS	STJ0119-02	Total/NA	Solid	6010B	74659



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Client: Pastor, Behling & Wheeler, LLC
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TestAmerica Job ID: STJ0119
SDG: STJ0119

Metals (Continued)

Analysis Batch: 74744 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-22471-2MSD	STJ0119-02	Total/NA	Solid	6010B	74659
STJ0119-01	STW-2494-DB1 (2-3)-102010	Total/NA	Soil	6010B	74659
STJ0119-03	SO-2494-DB1 (8-9)-102010	Total/NA	Soil	6010B	74659

Analysis Batch: 74745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-74667/22-A	MB 580-74667/22-A	Total/NA	Solid	6010B	74667
LCS 580-74667/23-A	LCS 580-74667/23-A	Total/NA	Solid	6010B	74667
LCSD 580-74667/24-A	LCSD 580-74667/24-A	Total/NA	Solid	6010B	74667
STJ0119-19	SO-2494-SB1 (4-5)-102010	Total/NA	Soil	6010B	74667
580-22471-19 DU	STJ0119-19	Total/NA	Solid	6010B	74667
580-22471-19MS	STJ0119-19	Total/NA	Solid	6010B	74667
580-22471-19MSD	STJ0119-19	Total/NA	Solid	6010B	74667
STJ0119-17	SO-2494-SB5 (14-15)-102010	Total/NA	Soil	6010B	74667
STJ0119-18	SO-2494-SB1 (0-1)-102010	Total/NA	Soil	6010B	74667
STJ0119-20	SO-2494-SB1 (14-15)-102010	Total/NA	Soil	6010B	74667
STJ0119-21	SO-2494-FD02-102010	Total/NA	Soil	6010B	74667
STJ0119-22	SO-2494-SB4 (0-1)-102010	Total/NA	Soil	6010B	74667

General Chemistry

Analysis Batch: 74388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-22376-A-3 DU	580-22376-A-3 DU	Total/NA	Solid	Moisture	
580-22376-A-3 MS	580-22376-A-3 MS	Total/NA	Solid	Moisture	
580-22376-A-3 MSD	580-22376-A-3 MSD	Total/NA	Solid	Moisture	
STJ0119-17	SO-2494-SB5 (14-15)-102010	Total/NA	Soil	Moisture	

Analysis Batch: 74500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-17	SO-2494-SB5 (14-15)-102010	Total/NA	Soil	9060	
MB 580-74500/3	MB 580-74500/3	Total/NA	Solid	9060	
LCSSRM 580-74500/4	LCSSRM 580-74500/4	Total/NA	Solid	9060	
580-21981-A-3 DU	580-21981-A-3 DU	Total/NA	Solid	9060	
580-21981-A-3 MS	580-21981-A-3 MS	Total/NA	Solid	9060	

Analysis Batch: 74634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-01	STW-2494-DB1 (2-3)-102010	Total/NA	Soil	Moisture	
STJ0119-09	SO-2494-DB2 (10-11)-102010	Total/NA	Soil	Moisture	
580-22471-1 DU	STJ0119-01	Total/NA	Solid	Moisture	
STJ0119-02	SO-2494-DB1 (4-5)-102010	Total/NA	Soil	Moisture	
STJ0119-03	SO-2494-DB1 (8-9)-102010	Total/NA	Soil	Moisture	
STJ0119-04	SO-2494-DB1 (18-19)-102010	Total/NA	Soil	Moisture	
STJ0119-05	SO-2494-FD01-102010	Total/NA	Soil	Moisture	
STJ0119-06	STW-2494-DB2 (1-2)-102010	Total/NA	Soil	Moisture	
STJ0119-07	STW-2494-DB2 (5-6)-102010	Total/NA	Soil	Moisture	
STJ0119-08	SO-2494-DB2 (6-7)-102010	Total/NA	Soil	Moisture	

Analysis Batch: 74711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-10	SO-2494-DB2 (20-21)-102010	Total/NA	Soil	Moisture	



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Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0119
 SDG: STJ0119

General Chemistry (Continued)

Analysis Batch: 74711 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-11	SO-2494-MW2 (8-9)-102010	Total/NA	Soil	Moisture	
STJ0119-12	SO-2494-MW2 (12-13)-102010	Total/NA	Soil	Moisture	
580-22471-A-12 DU	580-22471-A-12 DU	Total/NA	Solid	Moisture	
580-22471-12MS	STJ0119-12	Total/NA	Solid	Moisture	
580-22471-12MSD	STJ0119-12	Total/NA	Solid	Moisture	
STJ0119-13	SO-2494-MW2 (22-23)-102010	Total/NA	Soil	Moisture	
STJ0119-14	SO-2494-FD03-102010	Total/NA	Soil	Moisture	
STJ0119-15	SO-2494-SB5 (0-1)-102010	Total/NA	Soil	Moisture	
STJ0119-16	SO-2494-SB5 (4-5)-102010	Total/NA	Soil	Moisture	
STJ0119-17	SO-2494-SB5 (14-15)-102010	Total/NA	Soil	Moisture	
STJ0119-18	SO-2494-SB1 (0-1)-102010	Total/NA	Soil	Moisture	
STJ0119-19	SO-2494-SB1 (4-5)-102010	Total/NA	Soil	Moisture	
580-22471-19MS	STJ0119-19	Total/NA	Solid	Moisture	
580-22471-19MSD	STJ0119-19	Total/NA	Solid	Moisture	
STJ0119-20	SO-2494-SB1 (14-15)-102010	Total/NA	Soil	Moisture	
STJ0119-21	SO-2494-FD02-102010	Total/NA	Soil	Moisture	
580-22471-A-2 DU	580-22471-A-2 DU	Total/NA	Solid	Moisture	
STJ0119-22	SO-2494-SB4 (0-1)-102010	Total/NA	Soil	Moisture	
580-22471-2MS	STJ0119-02	Total/NA	Solid	Moisture	
580-22471-2MSD	STJ0119-02	Total/NA	Solid	Moisture	

Wet Chem

Analysis Batch: 10J0809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0809-MS5	SO-2494-DB1 (4-5)-102010	total	Soil	EPA 300.0	10J0809_P
10J0809-MSD5	SO-2494-DB1 (4-5)-102010	total	Soil	EPA 300.0	10J0809_P

Prep Batch: 10J0809_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0809-BLK1	10J0809-BLK1	total	Soil	Wet Chem	
10J0809-BS1	10J0809-BS1	total	Soil	Wet Chem	
STJ0119-01	STW-2494-DB1 (2-3)-102010	total	Soil	Wet Chem	
10J0809-DUP1	SO-2494-DB1 (4-5)-102010	total	Soil	Wet Chem	
10J0809-MS1	SO-2494-DB1 (4-5)-102010	total	Soil	Wet Chem	
10J0809-MSD1	SO-2494-DB1 (4-5)-102010	total	Soil	Wet Chem	
STJ0119-02	SO-2494-DB1 (4-5)-102010	total	Soil	Wet Chem	
STJ0119-03	SO-2494-DB1 (8-9)-102010	total	Soil	Wet Chem	
STJ0119-04	SO-2494-DB1 (18-19)-102010	total	Soil	Wet Chem	
STJ0119-05	SO-2494-FD01-102010	total	Soil	Wet Chem	
STJ0119-06	STW-2494-DB2 (1-2)-102010	total	Soil	Wet Chem	
STJ0119-07	STW-2494-DB2 (5-6)-102010	total	Soil	Wet Chem	
STJ0119-08	SO-2494-DB2 (6-7)-102010	total	Soil	Wet Chem	
STJ0119-09	SO-2494-DB2 (10-11)-102010	total	Soil	Wet Chem	
STJ0119-10	SO-2494-DB2 (20-21)-102010	total	Soil	Wet Chem	
STJ0119-11	SO-2494-MW2 (8-9)-102010	total	Soil	Wet Chem	
STJ0119-12	SO-2494-MW2 (12-13)-102010	total	Soil	Wet Chem	
10J0809-MS2	SO-2494-MW2 (12-13)-102010	total	Soil	Wet Chem	
10J0809-MSD2	SO-2494-MW2 (12-13)-102010	total	Soil	Wet Chem	
STJ0119-13	SO-2494-MW2 (22-23)-102010	total	Soil	Wet Chem	
STJ0119-14	SO-2494-FD03-102010	total	Soil	Wet Chem	
STJ0119-15	SO-2494-SB5 (0-1)-102010	total	Soil	Wet Chem	

QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0119
 SDG: STJ0119

Wet Chem (Continued)

Prep Batch: 10J0809_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-16	SO-2494-SB5 (4-5)-102010	total	Soil	Wet Chem	
STJ0119-16	SO-2494-SB5 (4-5)-102010	total	Soil	Wet Chem	
STJ0119-17	SO-2494-SB5 (14-15)-102010	total	Soil	Wet Chem	
STJ0119-01	STW-2494-DB1 (2-3)-102010	total	Soil	Wet Chem	
10J0809-DUP1	SO-2494-DB1 (4-5)-102010	total	Soil	Wet Chem	
10J0809-MS5	SO-2494-DB1 (4-5)-102010	total	Soil	Wet Chem	
10J0809-MSD5	SO-2494-DB1 (4-5)-102010	total	Soil	Wet Chem	
STJ0119-02	SO-2494-DB1 (4-5)-102010	total	Soil	Wet Chem	
STJ0119-03	SO-2494-DB1 (8-9)-102010	total	Soil	Wet Chem	
STJ0119-05	SO-2494-FD01-102010	total	Soil	Wet Chem	
STJ0119-06	STW-2494-DB2 (1-2)-102010	total	Soil	Wet Chem	
STJ0119-07	STW-2494-DB2 (5-6)-102010	total	Soil	Wet Chem	
STJ0119-08	SO-2494-DB2 (6-7)-102010	total	Soil	Wet Chem	
STJ0119-09	SO-2494-DB2 (10-11)-102010	total	Soil	Wet Chem	
STJ0119-10	SO-2494-DB2 (20-21)-102010	total	Soil	Wet Chem	
STJ0119-11	SO-2494-MW2 (8-9)-102010	total	Soil	Wet Chem	
STJ0119-14	SO-2494-FD03-102010	total	Soil	Wet Chem	
STJ0119-14	SO-2494-FD03-102010	total	Soil	Wet Chem	
STJ0119-16	SO-2494-SB5 (4-5)-102010	total	Soil	Wet Chem	
STJ0119-16	SO-2494-SB5 (4-5)-102010	total	Soil	Wet Chem	
STJ0119-17	SO-2494-SB5 (14-15)-102010	total	Soil	Wet Chem	
STJ0119-15	SO-2494-SB5 (0-1)-102010	total	Soil	Wet Chem	
STJ0119-07	STW-2494-DB2 (5-6)-102010	total	Soil	Wet Chem	

Analysis Batch: 10J0949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0949-MS3	PTJ0810-01	total	Soil	EPA 300.0	10J0949_P

Prep Batch: 10J0949_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0949-BLK1	10J0949-BLK1	total	Soil	Wet Chem	
10J0949-BS1	10J0949-BS1	total	Soil	Wet Chem	
STJ0119-18	SO-2494-SB1 (0-1)-102010	total	Soil	Wet Chem	
STJ0119-18	SO-2494-SB1 (0-1)-102010	total	Soil	Wet Chem	
10J0949-DUP1	SO-2494-SB1 (4-5)-102010	total	Soil	Wet Chem	
10J0949-MS1	SO-2494-SB1 (4-5)-102010	total	Soil	Wet Chem	
10J0949-MSD1	SO-2494-SB1 (4-5)-102010	total	Soil	Wet Chem	
STJ0119-19	SO-2494-SB1 (4-5)-102010	total	Soil	Wet Chem	
STJ0119-20	SO-2494-SB1 (14-15)-102010	total	Soil	Wet Chem	
STJ0119-21	SO-2494-FD02-102010	total	Soil	Wet Chem	
STJ0119-22	SO-2494-SB4 (0-1)-102010	total	Soil	Wet Chem	
10J0949-MS2	PTJ0810-01	total	Soil	Wet Chem	
10J0949-MS3	PTJ0810-01	total	Soil	Wet Chem	

Analysis Batch: T003454

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0809-BLK1	10J0809-BLK1	total	Soil	EPA 300.0	10J0809_P
10J0809-BS1	10J0809-BS1	total	Soil	EPA 300.0	10J0809_P
STJ0119-01	STW-2494-DB1 (2-3)-102010	total	Soil	EPA 300.0	10J0809_P
10J0809-DUP1	SO-2494-DB1 (4-5)-102010	total	Soil	EPA 300.0	10J0809_P
10J0809-MS1	SO-2494-DB1 (4-5)-102010	total	Soil	EPA 300.0	10J0809_P
10J0809-MSD1	SO-2494-DB1 (4-5)-102010	total	Soil	EPA 300.0	10J0809_P



QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0119
 SDG: STJ0119

Wet Chem (Continued)

Analysis Batch: T003454 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-02	SO-2494-DB1 (4-5)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-03	SO-2494-DB1 (8-9)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-04	SO-2494-DB1 (18-19)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-05	SO-2494-FD01-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-06	STW-2494-DB2 (1-2)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-07	STW-2494-DB2 (5-6)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-08	SO-2494-DB2 (6-7)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-09	SO-2494-DB2 (10-11)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-10	SO-2494-DB2 (20-21)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-11	SO-2494-MW2 (8-9)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-12	SO-2494-MW2 (12-13)-102010	total	Soil	EPA 300.0	10J0809_P
10J0809-MS2	SO-2494-MW2 (12-13)-102010	total	Soil	EPA 300.0	10J0809_P
10J0809-MSD2	SO-2494-MW2 (12-13)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-13	SO-2494-MW2 (22-23)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-14	SO-2494-FD03-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-15	SO-2494-SB5 (0-1)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-16	SO-2494-SB5 (4-5)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-16	SO-2494-SB5 (4-5)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-17	SO-2494-SB5 (14-15)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-01	STW-2494-DB1 (2-3)-102010	total	Soil	EPA 300.0	10J0809_P
10J0809-DUP1	SO-2494-DB1 (4-5)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-02	SO-2494-DB1 (4-5)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-03	SO-2494-DB1 (8-9)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-05	SO-2494-FD01-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-06	STW-2494-DB2 (1-2)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-07	STW-2494-DB2 (5-6)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-08	SO-2494-DB2 (6-7)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-09	SO-2494-DB2 (10-11)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-10	SO-2494-DB2 (20-21)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-11	SO-2494-MW2 (8-9)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-14	SO-2494-FD03-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-14	SO-2494-FD03-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-16	SO-2494-SB5 (4-5)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-16	SO-2494-SB5 (4-5)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-17	SO-2494-SB5 (14-15)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-15	SO-2494-SB5 (0-1)-102010	total	Soil	EPA 300.0	10J0809_P
STJ0119-07	STW-2494-DB2 (5-6)-102010	total	Soil	EPA 300.0	10J0809_P

Analysis Batch: T003547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0949-BLK1	10J0949-BLK1	total	Soil	EPA 300.0	10J0949_P
10J0949-BS1	10J0949-BS1	total	Soil	EPA 300.0	10J0949_P
STJ0119-18	SO-2494-SB1 (0-1)-102010	total	Soil	EPA 300.0	10J0949_P
STJ0119-18	SO-2494-SB1 (0-1)-102010	total	Soil	EPA 300.0	10J0949_P
10J0949-DUP1	SO-2494-SB1 (4-5)-102010	total	Soil	EPA 300.0	10J0949_P
10J0949-MS1	SO-2494-SB1 (4-5)-102010	total	Soil	EPA 300.0	10J0949_P
10J0949-MSD1	SO-2494-SB1 (4-5)-102010	total	Soil	EPA 300.0	10J0949_P
STJ0119-19	SO-2494-SB1 (4-5)-102010	total	Soil	EPA 300.0	10J0949_P
STJ0119-20	SO-2494-SB1 (14-15)-102010	total	Soil	EPA 300.0	10J0949_P
STJ0119-21	SO-2494-FD02-102010	total	Soil	EPA 300.0	10J0949_P
STJ0119-22	SO-2494-SB4 (0-1)-102010	total	Soil	EPA 300.0	10J0949_P
10J0949-MS2	PTJ0810-01	total	Soil	EPA 300.0	10J0949_P



QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0119
 SDG: STJ0119

Sample Control

Analysis Batch: 10J0780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0780-DUP1	STW-2494-DB1 (2-3)-102010	total	Soil	ASTM D2216-80	10J0780_P
10J0780-DUP2	SO-2494-DB1 (4-5)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-01	STW-2494-DB1 (2-3)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-02	SO-2494-DB1 (4-5)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-03	SO-2494-DB1 (8-9)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-04	SO-2494-DB1 (18-19)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-05	SO-2494-FD01-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-06	STW-2494-DB2 (1-2)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-07	STW-2494-DB2 (5-6)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-08	SO-2494-DB2 (6-7)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-09	SO-2494-DB2 (10-11)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-10	SO-2494-DB2 (20-21)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-11	SO-2494-MW2 (8-9)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-12	SO-2494-MW2 (12-13)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-13	SO-2494-MW2 (22-23)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-14	SO-2494-FD03-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-15	SO-2494-SB5 (0-1)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-16	SO-2494-SB5 (4-5)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-17	SO-2494-SB5 (14-15)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-18	SO-2494-SB1 (0-1)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-19	SO-2494-SB1 (4-5)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-20	SO-2494-SB1 (14-15)-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-21	SO-2494-FD02-102010	total	Soil	ASTM D2216-80	10J0780_P
STJ0119-22	SO-2494-SB4 (0-1)-102010	total	Soil	ASTM D2216-80	10J0780_P

Prep Batch: 10J0780_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0780-DUP1	STW-2494-DB1 (2-3)-102010	total	Soil	Dry Weight	
10J0780-DUP2	SO-2494-DB1 (4-5)-102010	total	Soil	Dry Weight	
STJ0119-01	STW-2494-DB1 (2-3)-102010	total	Soil	Dry Weight	
STJ0119-02	SO-2494-DB1 (4-5)-102010	total	Soil	Dry Weight	
STJ0119-03	SO-2494-DB1 (8-9)-102010	total	Soil	Dry Weight	
STJ0119-04	SO-2494-DB1 (18-19)-102010	total	Soil	Dry Weight	
STJ0119-05	SO-2494-FD01-102010	total	Soil	Dry Weight	
STJ0119-06	STW-2494-DB2 (1-2)-102010	total	Soil	Dry Weight	
STJ0119-07	STW-2494-DB2 (5-6)-102010	total	Soil	Dry Weight	
STJ0119-08	SO-2494-DB2 (6-7)-102010	total	Soil	Dry Weight	
STJ0119-09	SO-2494-DB2 (10-11)-102010	total	Soil	Dry Weight	
STJ0119-10	SO-2494-DB2 (20-21)-102010	total	Soil	Dry Weight	
STJ0119-11	SO-2494-MW2 (8-9)-102010	total	Soil	Dry Weight	
STJ0119-12	SO-2494-MW2 (12-13)-102010	total	Soil	Dry Weight	
STJ0119-13	SO-2494-MW2 (22-23)-102010	total	Soil	Dry Weight	
STJ0119-14	SO-2494-FD03-102010	total	Soil	Dry Weight	
STJ0119-15	SO-2494-SB5 (0-1)-102010	total	Soil	Dry Weight	
STJ0119-16	SO-2494-SB5 (4-5)-102010	total	Soil	Dry Weight	
STJ0119-17	SO-2494-SB5 (14-15)-102010	total	Soil	Dry Weight	
STJ0119-18	SO-2494-SB1 (0-1)-102010	total	Soil	Dry Weight	
STJ0119-19	SO-2494-SB1 (4-5)-102010	total	Soil	Dry Weight	
STJ0119-20	SO-2494-SB1 (14-15)-102010	total	Soil	Dry Weight	
STJ0119-21	SO-2494-FD02-102010	total	Soil	Dry Weight	
STJ0119-22	SO-2494-SB4 (0-1)-102010	total	Soil	Dry Weight	



QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

TBUR

Analysis Batch: 8277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-01	STW-2494-DB1 (2-3)-102010	total	Soil	D2937	8277_P
STJ0119-07	STW-2494-DB2 (5-6)-102010	total	Soil	D2937	8277_P
STJ0119-17	SO-2494-SB5 (14-15)-102010	total	Soil	D2937	8277_P

Prep Batch: 8277_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-01	STW-2494-DB1 (2-3)-102010	total	Soil	NA	
STJ0119-07	STW-2494-DB2 (5-6)-102010	total	Soil	NA	
STJ0119-17	SO-2494-SB5 (14-15)-102010	total	Soil	NA	

Analysis Batch: 8278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-01	STW-2494-DB1 (2-3)-102010	total	Soil	D854	8278_P
STJ0119-07	STW-2494-DB2 (5-6)-102010	total	Soil	D854	8278_P
STJ0119-17	SO-2494-SB5 (14-15)-102010	total	Soil	D854	8278_P

Prep Batch: 8278_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0119-01	STW-2494-DB1 (2-3)-102010	total	Soil	NA	
STJ0119-07	STW-2494-DB2 (5-6)-102010	total	Soil	NA	
STJ0119-17	SO-2494-SB5 (14-15)-102010	total	Soil	NA	

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: STW-2494-DB1 (2-3)-102010

Date Collected: 10/20/10 09:20

Date Received: 10/21/10 09:20

Lab Sample ID: STJ0119-01

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
TCLP	Prep	3010A			74535	10/28/10 10:35	PAB	TestAmerica Seattle
TCLP	Analysis	6010B		1	74679	10/29/10 14:57	SP	TestAmerica Seattle
Total/NA	Prep	3050B			74659	10/29/10 13:51	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74744	10/30/10 10:46	SP	TestAmerica Seattle
TCLP	Leach	1311			74480	10/27/10 14:31	PAB	TestAmerica Seattle
TCLP	Prep	7470A			74541	10/28/10 10:54	PAB	TestAmerica Seattle
TCLP	Analysis	7470A		1	74601	10/28/10 15:54	FCW	TestAmerica Seattle
Total/NA	Prep	7471A			74606	10/29/10 06:58	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		100	74624	10/29/10 10:37	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74634	10/29/10 11:14	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.001	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/25/10 18:13	SW	TestAmerica Portland
total	Analysis	EPA 300.0		10	T003454	10/27/10 19:59	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland
total	Analysis	D2937		1	8277	10/22/10 16:01		TestAmerica Burlington
total	Prep	NA		0	8277_P	10/22/10 16:01		TestAmerica Burlington
total	Analysis	D854		1	8278	10/22/10 16:28		TestAmerica Burlington
total	Prep	NA		0	8278_P	10/22/10 16:28		TestAmerica Burlington

Client Sample ID: SO-2494-DB1 (4-5)-102010

Date Collected: 10/20/10 09:25

Date Received: 10/21/10 09:20

Lab Sample ID: STJ0119-02

Matrix: Soil

Percent Solids: 92.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74659	10/29/10 13:51	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74744	10/30/10 10:07	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74606	10/29/10 06:58	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74624	10/29/10 09:26	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74634	10/29/10 11:14	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.009	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/25/10 19:15	SW	TestAmerica Portland
total	Analysis	EPA 300.0		10	T003454	10/27/10 21:33	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: SO-2494-DB1 (8-9)-102010

Date Collected: 10/20/10 09:30

Date Received: 10/21/10 09:20

Lab Sample ID: STJ0119-03

Matrix: Soil

Percent Solids: 95.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74659	10/29/10 13:51	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74744	10/30/10 10:52	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74606	10/29/10 06:58	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74624	10/29/10 10:27	FCW	TestAmerica Seattle

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: SO-2494-DB1 (8-9)-102010

Lab Sample ID: STJ0119-03

Date Collected: 10/20/10 09:30

Matrix: Soil

Date Received: 10/21/10 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	74634	10/29/10 11:14	ZF	TestAmerica Seattle
total	Prep	Wet Chem		0.9919	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/25/10 19:31	SW	TestAmerica Portland
total	Analysis	EPA 300.0		10	T003454	10/27/10 21:48	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: SO-2494-DB1 (18-19)-102010

Lab Sample ID: STJ0119-04

Date Collected: 10/20/10 09:35

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 97.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74659	10/29/10 13:51	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74744	10/30/10 10:58	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74606	10/29/10 06:58	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74624	10/29/10 09:41	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74634	10/29/10 11:14	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.003	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/25/10 19:46	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: SO-2494-FD01-102010

Lab Sample ID: STJ0119-05

Date Collected: 10/20/10 00:00

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 93.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74659	10/29/10 13:51	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74744	10/30/10 11:03	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74606	10/29/10 06:58	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74624	10/29/10 09:48	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74634	10/29/10 11:14	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.014	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/25/10 20:02	SW	TestAmerica Portland
total	Analysis	EPA 300.0		10	T003454	10/27/10 22:04	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: STW-2494-DB2 (1-2)-102010

Lab Sample ID: STJ0119-06

Date Collected: 10/20/10 10:00

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 76.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74659	10/29/10 13:51	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74744	10/30/10 11:09	SP	TestAmerica Seattle

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: STW-2494-DB2 (1-2)-102010

Lab Sample ID: STJ0119-06

Date Collected: 10/20/10 10:00

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 76.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			74606	10/29/10 06:58	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		20	74624	10/29/10 10:32	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74634	10/29/10 11:14	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.009	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/25/10 20:49	SW	TestAmerica Portland
total	Analysis	EPA 300.0		10	T003454	10/27/10 22:19	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: STW-2494-DB2 (5-6)-102010

Lab Sample ID: STJ0119-07

Date Collected: 10/20/10 10:05

Matrix: Soil

Date Received: 10/21/10 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
TCLP	Prep	3010A			74535	10/28/10 10:35	PAB	TestAmerica Seattle
TCLP	Analysis	6010B		1	74679	10/29/10 15:03	SP	TestAmerica Seattle
Total/NA	Prep	3050B			74659	10/29/10 13:51	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74744	10/30/10 11:16	SP	TestAmerica Seattle
TCLP	Leach	1311			74480	10/27/10 14:31	PAB	TestAmerica Seattle
TCLP	Prep	7470A			74541	10/28/10 10:54	PAB	TestAmerica Seattle
TCLP	Analysis	7470A		1	74601	10/28/10 15:57	FCW	TestAmerica Seattle
Total/NA	Prep	7471A			74606	10/29/10 06:58	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		20	74624	10/29/10 10:35	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74634	10/29/10 11:14	ZF	TestAmerica Seattle
total	Prep	Wet Chem		0.9992	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/25/10 21:04	SW	TestAmerica Portland
total	Analysis	EPA 300.0		10	T003454	10/27/10 22:35	SW	TestAmerica Portland
total	Analysis	EPA 300.0		100	T003454	10/28/10 17:56	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland
total	Analysis	D2937		1	8277	10/22/10 16:01		TestAmerica Burlington
total	Prep	NA		0	8277_P	10/22/10 16:01		TestAmerica Burlington
total	Analysis	D854		1	8278	10/22/10 16:28		TestAmerica Burlington
total	Prep	NA		0	8278_P	10/22/10 16:28		TestAmerica Burlington

Client Sample ID: SO-2494-DB2 (6-7)-102010

Lab Sample ID: STJ0119-08

Date Collected: 10/20/10 10:10

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 95.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74659	10/29/10 13:51	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74744	10/30/10 11:22	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74606	10/29/10 06:58	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74624	10/29/10 09:55	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74634	10/29/10 11:14	ZF	TestAmerica Seattle

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0119
 SDG: STJ0119

Client Sample ID: SO-2494-DB2 (6-7)-102010

Lab Sample ID: STJ0119-08

Date Collected: 10/20/10 10:10

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 94.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
total	Prep	Wet Chem		0.9874	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/25/10 21:20	SW	TestAmerica Portland
total	Analysis	EPA 300.0		10	T003454	10/27/10 22:51	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: SO-2494-DB2 (10-11)-102010

Lab Sample ID: STJ0119-09

Date Collected: 10/20/10 10:15

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 95.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74659	10/29/10 13:51	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74744	10/30/10 11:28	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74606	10/29/10 06:58	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74624	10/29/10 09:58	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74634	10/29/10 11:14	ZF	TestAmerica Seattle
total	Prep	Wet Chem		0.9988	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/25/10 21:36	SW	TestAmerica Portland
total	Analysis	EPA 300.0		10	T003454	10/27/10 23:06	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: SO-2494-DB2 (20-21)-102010

Lab Sample ID: STJ0119-10

Date Collected: 10/20/10 10:20

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 97.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74659	10/29/10 13:51	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74744	10/30/10 11:46	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 11:09	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74711	11/01/10 06:25	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.007	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/25/10 21:51	SW	TestAmerica Portland
total	Analysis	EPA 300.0		10	T003454	10/27/10 23:22	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: SO-2494-MW2 (8-9)-102010

Lab Sample ID: STJ0119-11

Date Collected: 10/20/10 10:55

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 89.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74659	10/29/10 13:51	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74744	10/30/10 11:52	SP	TestAmerica Seattle

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: SO-2494-MW2 (8-9)-102010

Date Collected: 10/20/10 10:55

Date Received: 10/21/10 09:20

Lab Sample ID: STJ0119-11

Matrix: Soil

Percent Solids: 89.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 11:11	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74711	11/01/10 06:25	ZF	TestAmerica Seattle
total	Prep	Wet Chem		0.9911	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/25/10 22:07	SW	TestAmerica Portland
total	Analysis	EPA 300.0		10	T003454	10/27/10 23:37	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: SO-2494-MW2 (12-13)-102010

Date Collected: 10/20/10 11:00

Date Received: 10/21/10 09:20

Lab Sample ID: STJ0119-12

Matrix: Soil

Percent Solids: 89.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74659	10/29/10 13:51	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74744	10/30/10 11:57	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 10:59	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74711	11/01/10 06:25	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.007	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/25/10 22:22	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: SO-2494-MW2 (22-23)-102010

Date Collected: 10/20/10 11:05

Date Received: 10/21/10 09:20

Lab Sample ID: STJ0119-13

Matrix: Soil

Percent Solids: 91.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74659	10/29/10 13:51	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74744	10/30/10 12:15	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 11:14	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74711	11/01/10 06:25	ZF	TestAmerica Seattle
total	Prep	Wet Chem		0.9884	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/25/10 23:09	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: SO-2494-FD03-102010

Date Collected: 10/20/10 00:00

Date Received: 10/21/10 09:20

Lab Sample ID: STJ0119-14

Matrix: Soil

Percent Solids: 87.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74659	10/29/10 13:51	PAB	TestAmerica Seattle

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: SO-2494-FD03-102010

Lab Sample ID: STJ0119-14

Date Collected: 10/20/10 00:00

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 87.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	6010B		1	74744	10/30/10 12:21	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 11:21	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74711	11/01/10 06:25	ZF	TestAmerica Seattle
total	Prep	Wet Chem		0.9996	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/25/10 23:56	SW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/28/10 00:24	SW	TestAmerica Portland
total	Analysis	EPA 300.0		10	T003454	10/28/10 00:40	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: SO-2494-SB5 (0-1)-102010

Lab Sample ID: STJ0119-15

Date Collected: 10/20/10 15:00

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 92.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74659	10/29/10 13:51	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74744	10/30/10 12:26	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		20	74727	10/29/10 12:03	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74711	11/01/10 06:25	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.001	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/26/10 00:12	SW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/28/10 12:55	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: SO-2494-SB5 (4-5)-102010

Lab Sample ID: STJ0119-16

Date Collected: 10/20/10 15:45

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 96.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74659	10/29/10 13:51	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74744	10/30/10 12:32	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 11:26	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74711	11/01/10 06:25	ZF	TestAmerica Seattle
total	Prep	Wet Chem		0.9969	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/26/10 00:27	SW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/26/10 00:27	SW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/28/10 01:11	SW	TestAmerica Portland
total	Analysis	EPA 300.0		10	T003454	10/28/10 01:27	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0119
 SDG: STJ0119

Client Sample ID: SO-2494-SB5 (14-15)-102010

Lab Sample ID: STJ0119-17

Date Collected: 10/20/10 15:50

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 95.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74667	10/29/10 15:08	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74745	10/30/10 13:56	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 11:28	FCW	TestAmerica Seattle
Total/NA	Analysis	9060		1	74500	10/27/10 13:15	BAB	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74388	10/26/10 13:45	KT	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74711	11/01/10 06:25	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.009	10J0809_P	10/25/10 13:21	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/26/10 00:43	SW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003454	10/28/10 01:42	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland
total	Analysis	D2937		1	8277	10/22/10 16:01		TestAmerica Burlington
total	Prep	NA		0	8277_P	10/22/10 16:01		TestAmerica Burlington
total	Analysis	D854		1	8278	10/22/10 16:28		TestAmerica Burlington
total	Prep	NA		0	8278_P	10/22/10 16:28		TestAmerica Burlington

Client Sample ID: SO-2494-SB1 (0-1)-102010

Lab Sample ID: STJ0119-18

Date Collected: 10/20/10 16:05

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 96.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74667	10/29/10 15:08	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74745	10/30/10 14:02	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 11:31	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74711	11/01/10 06:25	ZF	TestAmerica Seattle
total	Prep	Wet Chem		0.9924	10J0949_P	10/28/10 13:55	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003547	10/29/10 16:50	SW	TestAmerica Portland
total	Analysis	EPA 300.0		10	T003547	10/29/10 17:05	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: SO-2494-SB1 (4-5)-102010

Lab Sample ID: STJ0119-19

Date Collected: 10/20/10 16:20

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 96.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74667	10/29/10 15:08	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74745	10/30/10 13:15	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 11:33	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74711	11/01/10 06:25	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.001	10J0949_P	10/28/10 13:55	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003547	10/29/10 18:08	SW	TestAmerica Portland

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: SO-2494-SB1 (4-5)-102010

Date Collected: 10/20/10 16:20

Date Received: 10/21/10 09:20

Lab Sample ID: STJ0119-19

Matrix: Soil

Percent Solids: 95.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: SO-2494-SB1 (14-15)-102010

Date Collected: 10/20/10 16:30

Date Received: 10/21/10 09:20

Lab Sample ID: STJ0119-20

Matrix: Soil

Percent Solids: 94.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74667	10/29/10 15:08	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74745	10/30/10 14:07	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 11:41	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74711	11/01/10 06:25	ZF	TestAmerica Seattle
total	Prep	Wet Chem		0.9984	10J0949_P	10/28/10 13:55	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003547	10/29/10 18:23	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: SO-2494-FD02-102010

Date Collected: 10/20/10 00:00

Date Received: 10/21/10 09:20

Lab Sample ID: STJ0119-21

Matrix: Soil

Percent Solids: 95.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74667	10/29/10 15:08	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74745	10/30/10 14:13	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 11:43	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74711	11/01/10 06:25	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.009	10J0949_P	10/28/10 13:55	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003547	10/29/10 18:39	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

Client Sample ID: SO-2494-SB4 (0-1)-102010

Date Collected: 10/20/10 17:45

Date Received: 10/21/10 09:20

Lab Sample ID: STJ0119-22

Matrix: Soil

Percent Solids: 95.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74667	10/29/10 15:08	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74745	10/30/10 14:19	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 11:50	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74711	11/01/10 06:25	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.018	10J0949_P	10/28/10 13:55	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003547	10/29/10 19:26	SW	TestAmerica Portland

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Client Sample ID: SO-2494-SB4 (0-1)-102010

Lab Sample ID: STJ0119-22

Date Collected: 10/20/10 17:45

Matrix: Soil

Date Received: 10/21/10 09:20

Percent Solids: 96.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
total	Prep	Dry Weight		1	10J0780_P	10/25/10 07:30	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0780	10/27/10 09:10	JJM	TestAmerica Portland

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Certification Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0119
 SDG: STJ0119

Laboratory	Authority	Program	EPA Region	Certification ID	Expiration Date
TestAmerica Burlington		USDA		P330-08-00041	02/25/11
TestAmerica Burlington	ACCLASS	DoD ELAP	0	ADE-1492	10/22/12
TestAmerica Burlington	Connecticut	State Program	1	PH-0751	09/30/11
TestAmerica Burlington	Delaware	State Program	3	DNREC	06/30/11
TestAmerica Burlington	Maine	State Program	1	VT0008	04/17/11
TestAmerica Burlington	Minnesota	State Program	5	050-999-436	03/30/11
TestAmerica Burlington	New Hampshire	NELAC	1	200609	12/18/10
TestAmerica Burlington	New Jersey	NELAC	2	VT972	06/30/11
TestAmerica Burlington	New York	NELAC	2	10391	04/01/11
TestAmerica Burlington	Pennsylvania	NELAC	3	68-00489	04/30/11
TestAmerica Burlington	Rhode Island	State Program	1	LAO00298	12/30/10
TestAmerica Burlington	Vermont	State Program	1	VT-4000	12/31/10
TestAmerica Portland		USDA		P330-07-XXXXXX	11/13/10
TestAmerica Portland	Alaska	Alaska UST	10	UST-012	12/26/10
TestAmerica Portland	Alaska	State Program	10	OR00040	04/21/11
TestAmerica Portland	California	State Program	9	2597	09/30/11
TestAmerica Portland	Oregon	NELAC Primary AB	10	OR100021	01/09/11
TestAmerica Portland	Washington	State Program	10	C586	06/23/11
TestAmerica Seattle		USDA		P330-08-00099	05/22/11
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022	03/04/11
TestAmerica Seattle	California	NELAC Secondary AB	9	1115CA	01/31/11
TestAmerica Seattle	Florida	NELAC Secondary AB	4	E871074	06/30/11
TestAmerica Seattle	L-A-B	DoD ELAP	0	L2236	01/19/13
TestAmerica Seattle	L-A-B	ISO/IEC 17025	0	L2236	01/19/13
TestAmerica Seattle	Montana	State Program	8		04/30/20
TestAmerica Seattle	Oregon	NELAC Primary AB	10	WA100007	12/06/10
TestAmerica Seattle	Washington	State Program	10	C553	02/17/11

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

Method Summary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0119
SDG: STJ0119

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL SEA
7470A	Mercury (CVAA)	SW846	TAL SEA
7471A	Mercury (CVAA)	SW846	TAL SEA
9060	Organic Carbon, Total (TOC)	SW846	TAL SEA
Moisture	Percent Moisture	EPA	TAL SEA
EPA 300.0	Anions per EPA Method 300.0		TAL PTL
ASTM D2216-80	Percent Dry Weight (Solids) per ASTM D2216-80		TAL PTL
D2937	Density of Soil in Place by the Drive-Cylinder Met		TAL BVT
D854	Specific Gravity		TAL BVT

Protocol References:

=

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BVT = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL 802.660.1990

TAL PTL = TestAmerica Portland, 9405 SW Nimbus Ave., Beaverton, OR 97008, TEL 503/906-9200

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

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

CHAIN OF CUSTODY REPORT

Work Order #: **ST50119**

CLIENT: **PBC, LLC**
 REPORT TO: **Tim Nickels**
 ADDRESS:
 PHONE: **512-671-3434** FAX:
 PROJECT NAME: **UPRR Aluminum Recycling**
 PROJECT NUMBER: **3111**
 SAMPLED BY: **Tim Nickels**

INVOICE TO: **UPRR Aluminum Dross II**
 PREPARED BY: **Gary Koenigsmann**
 PRESERVATIVE: _____
 REQUESTED ANALYSES: _____

TURNAROUND REQUEST
 In Business Days*

Organic & Inorganic Analyses
 Petroleum Hydrocarbon Analyses

7 5 4 3 2 1 <1
 STD. STD. STD. STD. STD. STD. STD.

OTHER Specify: _____

*Turnaround Requests less than standard may incur Rush Charges.

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	300.0	6010	7470	TCLP Metals	Geo Tech	DATE	RECEIVED BY:	MATRIX (W, S, O)	# OF CONT.	LOCATON/ COMMENTS	TA WO ID
1 STW-2494-DB1(2-3)-102010	10/20/10 0920	X	X	X	X	X	10/21/10 0920	Det Koenigsmann		2		-01
2 50-2494-DB1(4-5)-102010	0925	X	X	X	X	X				1	MSMS/MSD	-02
3 50-2494-DB1(8-9)-102010	0930	X	X	X	X	X				1		-03
4 50-2494-DB1(18-19)-102010	0935	X	X	X	X	X				1		-04
5 50-2494-FDB1-102010		X	X	X	X	X				1		-05
6 STW-2494-DB2(1-2)-102010	1000	X	X	X	X	X				1		-06
7 STW-2494-DB2(5-6)-102010	1005	X	X	X	X	X				2		-07
8 50-2494-DB2(6-7)-102010	1010	X	X	X	X	X				1		-08
9 50-2494-DB2(10-11)-102010	1015	X	X	X	X	X				1		-09
10 50-2494-DB2(20-21)-102010	1020	X	X	X	X	X				1		-10

RELEASED BY: **Tim Nickels** FIRM: **PBC** DATE: **10/21/10** TIME: **0920**
 RECEIVED BY: **Det Koenigsmann** FIRM: **Test America** DATE: **10/20/10** TIME: **9:20**

ADDITIONAL REMARKS:
STW = Dross Sample 300.0 Cl, Fe, SO₄, NO₃, NO₄
Geo Tech = Bulk Density / Specific Gravity
6010/7470 Al, As, Ba, Cd, Cr, Cu, Pb, Se, Ag, R, B, Hg

PRINT NAME: _____ FIRM: _____ DATE: _____ TIME: _____

TAL-1000(0-108) PAGE 1 OF 3

TestAmerica

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 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

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

CHAIN OF CUSTODY REPORT

Work Order #: **ST5019**

CLIENT: **PRW LLC**
 REPORT TO: **Tim Nickels**
 ADDRESS: **PRW LLC**
 PHONE: **512-671-3234** FAX: **512-671-3234**
 PROJECT NAME: **Upper Aluminum Recycling**
 PROJECT NUMBER: **3171**
 SAMPLED BY: **TMM**

INVOICE TO: **UPRR Aluminum Dress IT**
 PREPARED BY: **Gary Hovey/Alan**
 P.O. NUMBER: **3171**

REQUESTED ANALYSES: **TOC**

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	300.0	6010	7470	Geo Tech	TOC	RESERVATIVE	RECEIVED BY	DATE	TIME	FIRM	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1. SO-2494-102010	10/20/10	X	X						10/21/10	0920	PRW	S	1		-11
2. SO-2494-102010	10/20/10											S	3	ms/mad	-12
3. SO-2494-102010	10/20/10											S	1		-13
4. SO-2494-FD03-102010	10/20/10											S	1		-14
5. SO-2494-SB5(0-1)-102010	10/20/10											S	1		-15
6. SO-2494-SB5(4-5)-102010	10/20/10											S	1		-16
7. SO-2494-SB5(14-15)-102010	10/20/10				X	X						S	1		-17
8. SO-2494-SB1(0-1)-102010	10/20/10											S	1		-18
9. SO-2494-SB1(4-5)-102010	10/20/10											S	3	ms/mad	-19
10. SO-2494-SB1(14-15)-102010	10/20/10					X						S	2		-20

RELEASED BY: **Tim Nickels** FIRM: **PRW**
 PRINT NAME: **Tim Nickels**
 RECEIVED BY: **Carl Stegeman**
 PRINT NAME: **Carl Stegeman**
 DATE: **10/21/10** TIME: **0920**
 FIRM: **Test America** TIME: **9:20**

ADDITIONAL REMARKS: **Added GroTech analyses per Tim Nickels. PR rejected concerned GroTech analyses per Tim Nickels. see idetail**

TURNAROUND REQUEST: **ST5019**
 In Business Days *
 STD Organic & Inorganic Analyses
 STD Petroleum Hydrocarbon Analyses
 OTHER Specify: _____

* Turnaround Request less than standard may incur Rate Changes.

DATE: **10/21/10** TIME: **9:20**
 FIRM: **Test America**
 PAGE **2** OF **3**
 TAL-1000(04/05)



TestAmerica

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

CHAIN OF CUSTODY REPORT

Work Order #: **ST50119**

CLIENT: **PRW LLC**
 REPORT TO: **Tim Nickels**
 ADDRESS:

PHONE: **512-671-3434** FAX:

PROJECT NAME: **UPRR Aluminum Recycling**
 PROJECT NUMBER: **3171**

SAMPLED BY: **Tim Nickels**

INVOICE TO: **UPRR Aluminum Dress II**
Gary Honeyman
 PRESERVATIVE: **ICE**
 P.O. NUMBER:

REQUESTED ANALYSES

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	800-0	6010	7470	MATRIX (M, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1 SD-2494	10/20/10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		S	1		-21
2 SDY6-1102010	10/20/10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		S	1		-22
3								
4								
5								
6								
7								
8								
9								
10								

TURNAROUND REQUEST
 in Business Days *

YTD Organic & Inorganic Analyses
 STD Petroleum Hydrocarbon Analyses

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

RELEASED BY: **[Signature]** DATE: **10/21/10** RECEIVED BY: **[Signature]** DATE: **10-21-10**
 PRINT NAME: **Tim Nickels** FIRM: **PRW** PRINT NAME: **Garrett** FIRM: **Test America**
 RELEASED BY: **[Signature]** DATE: **10/20** RECEIVED BY: **[Signature]** DATE: **9:20**
 PRINT NAME: **Tim Nickels** FIRM: **PRW** PRINT NAME: **Garrett** FIRM: **Test America**

ADDITIONAL REMARKS: **3 of 3**

**TestAmerica Spokane
Sample Receipt Form**

Work Order #: STJ0119	Client: PRW	Project: UAPP
Date/Time Received: 10/20/10 0920	By: CS	
Samples Delivered By: <input type="checkbox"/> Shipping Service <input checked="" type="checkbox"/> Courier <input checked="" type="checkbox"/> Client <input type="checkbox"/> Other: _____		
List Air Bill Number(s) or Attach a photocopy of the Air Bill: 102010		

Receipt Phase	Yes	No	NA	Comments
Were samples received in a cooler:	X			
Custody Seals are present and intact:		X		
Are CoC documents present:	X			
Necessary signatures:	X			

Thermal Preservation Type: Blue Ice Gel Ice Real Ice Dry Ice None Other: _____

Temperature by IR Gun: **2.8** °C Thermometer Serial #81500 (acceptance criteria 0-6 °C)

Temperature out of range: Not enough ice Ice melted w/in 4hrs of collection NA Other: _____

Log-in Phase	Yes	No	NA	Comments
Date/Time: 10/21/10 1127 By: PO				
Are sample labels affixed and completed for each container	X			
Samples containers were received intact:	X			
Do sample IDs match the CoC	X			
Appropriate sample containers were received for tests requested	X			
Are sample volumes adequate for tests requested	X			
Appropriate preservatives were used for the tests requested			X	
pH of inorganic samples checked and is within method specification			X	
Are VOC samples free of bubbles >6mm (1/4" diameter)			X	
Are dissolved parameters field filtered			X	
Do any samples need to be filtered or preserved by the lab			X	
Does this project require quick turnaround analysis		X		
Are there any short hold time tests (see chart below)		X		
Are any samples within 2 days of or past expiration		X		
Was the CoC scanned	X			
Were there Non-conformance issues at login		X		
If yes, was a CAR generated #				

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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

TestAmerica Job ID: STJ0130

TestAmerica Sample Delivery Group: STJ0130

Client Project/Site: 3171

Client Project Description:

UPRR Aluminum Recycling Trentwood

For:

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr. Suite 4004
Round Rock, TX 78664

Attn: Tim Nickels



Authorized for release by:
11/8/2010 2:49 PM

Randee Decker
Project Manager
Randee.Decker@testamericainc.com

LINKS

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



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Case Narrative

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Notes

Receipt

All samples were received in good condition within temperature requirements.

Metals - Method 6010B

For cadmium, copper and selenium, the ICP ICESA standard contains trace impurities derived from the manufacturing process, which may cause these standards to fail method QC criteria. Regrettably, corrective action can not be performed for any outliers other than to note deficiencies in the laboratory's QC report section. The data was qualified "^" and reported.

No other analytical or quality issues were noted.

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Sample Summary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
STJ0130-01	SO-2494-SB2 (1-2)-102110	Soil	10/21/10 14:15	10/22/10 10:35
STJ0130-02	SO-2494-SB2 (5-6)-102110	Soil	10/21/10 14:20	10/22/10 10:35
STJ0130-03	SO-2494-SB2 (15-16)-102110	Soil	10/21/10 14:25	10/22/10 10:35
STJ0130-04	SO-2494-SB3 (0-1)-102110	Soil	10/21/10 13:15	10/22/10 10:35
STJ0130-05	SO-2494-SB3 (4-5)-102110	Soil	10/21/10 13:30	10/22/10 10:35
STJ0130-06	SO-2494-SB3 (14-15)-102110	Soil	10/21/10 13:40	10/22/10 10:35
STJ0130-07	SO-2494-BG1 (0-1)-102110	Soil	10/21/10 15:25	10/22/10 10:35
STJ0130-08	SO-2494-BG1 (4-5)-102110	Soil	10/21/10 15:27	10/22/10 10:35
STJ0130-09	SO-2494-BG1 (14-15)-102110	Soil	10/21/10 15:30	10/22/10 10:35
STJ0130-10	SO-2494-BG2 (0-1)-102110	Soil	10/21/10 15:35	10/22/10 10:35
STJ0130-11	SO-2494-BG2 (4-5)-102110	Soil	10/21/10 15:37	10/22/10 10:35
STJ0130-12	SO-2494-BG2 (14-15)-102110	Soil	10/21/10 15:40	10/22/10 10:35
STJ0130-13	SO-2494-BG3 (0-1)-102110	Soil	10/21/10 15:45	10/22/10 10:35
STJ0130-14	SO-2494-BG3 (4-5)-102110	Soil	10/21/10 15:47	10/22/10 10:35
STJ0130-15	SO-2494-BG3 (14-15)-102110	Soil	10/21/10 15:50	10/22/10 10:35
STJ0130-16	SO-2494-BG4 (0-1)-102110	Soil	10/21/10 15:30	10/22/10 10:35
STJ0130-17	SO-2494-MW3 (0-1)-102110	Soil	10/21/10 08:30	10/22/10 10:35
STJ0130-18	SO-2494-MW3 (4-5)-102110	Soil	10/21/10 09:00	10/22/10 10:35
STJ0130-19	SO-2494-MW3 (14-15)-102110	Soil	10/21/10 09:10	10/22/10 10:35

Qualifier Definition/Glossary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
F	Duplicate RPD exceeds the control limit
F	MS or MSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Wet Chem

Qualifier	Qualifier Description
J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).

Glossary

Glossary	Glossary Description
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.



Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Client Sample ID: SO-2494-SB2 (1-2)-102110

Lab Sample ID: STJ0130-01

Date Collected: 10/21/10 14:15

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 92.8

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	18		1.4	0.11	mg/Kg	☼	10/29/10 15:08	10/30/10 15:00	1
Cadmium	ND	^	0.48	0.076	mg/Kg	☼	10/29/10 15:08	10/30/10 15:00	1
Barium	120		0.48	0.014	mg/Kg	☼	10/29/10 15:08	10/30/10 15:00	1
Silver	ND		0.95	0.043	mg/Kg	☼	10/29/10 15:08	10/30/10 15:00	1
Arsenic	7.9		2.9	0.12	mg/Kg	☼	10/29/10 15:08	10/30/10 15:00	1
Copper	250	^	0.95	0.21	mg/Kg	☼	10/29/10 15:08	10/30/10 15:00	1
Aluminum	21000		29	8.5	mg/Kg	☼	10/29/10 15:08	10/30/10 15:00	1
Selenium	ND	^	4.8	0.11	mg/Kg	☼	10/29/10 15:08	10/30/10 15:00	1
Chromium	20		1.2	0.045	mg/Kg	☼	10/29/10 15:08	10/30/10 15:00	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.070		0.017	0.0053	mg/Kg	☼	10/29/10 08:09	10/29/10 11:53	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.44	J	10.7	0.0172	mg/kg dry	☼	10/28/10 13:55	10/29/10 20:44	1
Fluoride	19.0		10.7	0.0161	mg/kg dry	☼	10/28/10 13:55	10/29/10 20:44	1
Nitrate-Nitrogen	ND		2.15	0.0118	mg/kg dry	☼	10/28/10 13:55	10/29/10 20:44	1
Nitrite-Nitrogen	ND		2.15	0.0172	mg/kg dry	☼	10/28/10 13:55	10/29/10 20:44	1
Sulfate	1380		215	5.49	mg/kg dry	☼	10/28/10 13:55	11/01/10 18:52	10

Client Sample ID: SO-2494-SB2 (5-6)-102110

Lab Sample ID: STJ0130-02

Date Collected: 10/21/10 14:20

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 96.2

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	4.4		1.2	0.098	mg/Kg	☼	10/29/10 15:08	10/30/10 15:05	1
Cadmium	ND	^	0.41	0.065	mg/Kg	☼	10/29/10 15:08	10/30/10 15:05	1
Barium	32		0.41	0.012	mg/Kg	☼	10/29/10 15:08	10/30/10 15:05	1
Silver	ND		0.81	0.037	mg/Kg	☼	10/29/10 15:08	10/30/10 15:05	1
Arsenic	4.0		2.4	0.11	mg/Kg	☼	10/29/10 15:08	10/30/10 15:05	1
Copper	52	^	0.81	0.18	mg/Kg	☼	10/29/10 15:08	10/30/10 15:05	1
Aluminum	7800		24	7.2	mg/Kg	☼	10/29/10 15:08	10/30/10 15:05	1
Selenium	ND	^	4.1	0.098	mg/Kg	☼	10/29/10 15:08	10/30/10 15:05	1
Chromium	6.0		1.1	0.038	mg/Kg	☼	10/29/10 15:08	10/30/10 15:05	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0053	J	0.017	0.0053	mg/Kg	☼	10/29/10 08:09	10/29/10 11:55	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.41	J	10.5	0.0168	mg/kg dry	☼	10/28/10 13:55	10/29/10 21:15	1
Fluoride	30.5		10.5	0.0157	mg/kg dry	☼	10/28/10 13:55	10/29/10 21:15	1
Nitrate-Nitrogen	11.6		2.10	0.0115	mg/kg dry	☼	10/28/10 13:55	10/29/10 21:15	1
Nitrite-Nitrogen	ND		2.10	0.0168	mg/kg dry	☼	10/28/10 13:55	10/29/10 21:15	1
Sulfate	4450		210	5.36	mg/kg dry	☼	10/28/10 13:55	11/01/10 19:23	10

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Client Sample ID: SO-2494-SB2 (15-16)-102110

Lab Sample ID: STJ0130-03

Date Collected: 10/21/10 14:25

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 97.3

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	6.6		1.1	0.090	mg/Kg	☼	10/29/10 15:08	10/30/10 15:11	1
Cadmium	ND	^	0.38	0.060	mg/Kg	☼	10/29/10 15:08	10/30/10 15:11	1
Barium	42		0.38	0.011	mg/Kg	☼	10/29/10 15:08	10/30/10 15:11	1
Silver	ND		0.75	0.034	mg/Kg	☼	10/29/10 15:08	10/30/10 15:11	1
Arsenic	8.5		2.3	0.098	mg/Kg	☼	10/29/10 15:08	10/30/10 15:11	1
Copper	15	^	0.75	0.17	mg/Kg	☼	10/29/10 15:08	10/30/10 15:11	1
Aluminum	5200		23	6.7	mg/Kg	☼	10/29/10 15:08	10/30/10 15:11	1
Selenium	ND	^	3.8	0.090	mg/Kg	☼	10/29/10 15:08	10/30/10 15:11	1
Chromium	9.0		0.98	0.035	mg/Kg	☼	10/29/10 15:08	10/30/10 15:11	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0052	mg/Kg	☼	10/29/10 08:09	10/29/10 11:58	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.62	J	10.1	0.0162	mg/kg dry	☼	10/28/10 13:55	10/29/10 21:30	1
Fluoride	8.09	J	10.1	0.0152	mg/kg dry	☼	10/28/10 13:55	10/29/10 21:30	1
Nitrate-Nitrogen	3.44		2.02	0.0111	mg/kg dry	☼	10/28/10 13:55	10/29/10 21:30	1
Nitrite-Nitrogen	ND		2.02	0.0162	mg/kg dry	☼	10/28/10 13:55	10/29/10 21:30	1
Sulfate	367		20.2	0.517	mg/kg dry	☼	10/28/10 13:55	10/29/10 21:30	1

Client Sample ID: SO-2494-SB3 (0-1)-102110

Lab Sample ID: STJ0130-04

Date Collected: 10/21/10 13:15

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 90.7

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	40		1.6	0.13	mg/Kg	☼	10/29/10 15:08	10/30/10 15:17	1
Cadmium	ND	^	0.53	0.085	mg/Kg	☼	10/29/10 15:08	10/30/10 15:17	1
Barium	150		0.53	0.016	mg/Kg	☼	10/29/10 15:08	10/30/10 15:17	1
Silver	ND		1.1	0.048	mg/Kg	☼	10/29/10 15:08	10/30/10 15:17	1
Arsenic	6.9		3.2	0.14	mg/Kg	☼	10/29/10 15:08	10/30/10 15:17	1
Copper	44	^	1.1	0.24	mg/Kg	☼	10/29/10 15:08	10/30/10 15:17	1
Aluminum	14000		32	9.5	mg/Kg	☼	10/29/10 15:08	10/30/10 15:17	1
Selenium	ND	^	5.3	0.13	mg/Kg	☼	10/29/10 15:08	10/30/10 15:17	1
Chromium	34		1.4	0.050	mg/Kg	☼	10/29/10 15:08	10/30/10 15:17	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.054		0.017	0.0053	mg/Kg	☼	10/29/10 08:09	10/29/10 12:00	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.36	J	10.5	0.0168	mg/kg dry	☼	10/28/10 13:55	10/29/10 21:46	1
Fluoride	15.0		10.5	0.0157	mg/kg dry	☼	10/28/10 13:55	10/29/10 21:46	1
Nitrate-Nitrogen	1.78	J	2.10	0.0115	mg/kg dry	☼	10/28/10 13:55	10/29/10 21:46	1
Nitrite-Nitrogen	ND		2.10	0.0168	mg/kg dry	☼	10/28/10 13:55	10/29/10 21:46	1
Sulfate	6.39	J	21.0	0.536	mg/kg dry	☼	10/28/10 13:55	10/29/10 21:46	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Client Sample ID: SO-2494-SB3 (4-5)-102110

Lab Sample ID: STJ0130-05

Date Collected: 10/21/10 13:30

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 98.8

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	9.2		1.2	0.095	mg/Kg	☼	10/29/10 15:08	10/30/10 15:23	1
Cadmium	ND	^	0.39	0.063	mg/Kg	☼	10/29/10 15:08	10/30/10 15:23	1
Barium	77		0.39	0.012	mg/Kg	☼	10/29/10 15:08	10/30/10 15:23	1
Silver	ND		0.79	0.036	mg/Kg	☼	10/29/10 15:08	10/30/10 15:23	1
Arsenic	8.0		2.4	0.10	mg/Kg	☼	10/29/10 15:08	10/30/10 15:23	1
Copper	23	^	0.79	0.17	mg/Kg	☼	10/29/10 15:08	10/30/10 15:23	1
Aluminum	9000		24	7.0	mg/Kg	☼	10/29/10 15:08	10/30/10 15:23	1
Selenium	ND	^	3.9	0.095	mg/Kg	☼	10/29/10 15:08	10/30/10 15:23	1
Chromium	11		1.0	0.037	mg/Kg	☼	10/29/10 15:08	10/30/10 15:23	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0069	J	0.016	0.0051	mg/Kg	☼	10/29/10 09:56	10/29/10 12:20	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.912	J	10.1	0.0162	mg/kg dry	☼	10/28/10 13:55	10/29/10 22:33	1
Fluoride	26.0		10.1	0.0152	mg/kg dry	☼	10/28/10 13:55	10/29/10 22:33	1
Nitrate-Nitrogen	ND		2.03	0.0111	mg/kg dry	☼	10/28/10 13:55	10/29/10 22:33	1
Nitrite-Nitrogen	ND		2.03	0.0162	mg/kg dry	☼	10/28/10 13:55	10/29/10 22:33	1
Sulfate	15.0	J	20.3	0.518	mg/kg dry	☼	10/28/10 13:55	10/29/10 22:33	1

Client Sample ID: SO-2494-SB3 (14-15)-102110

Lab Sample ID: STJ0130-06

Date Collected: 10/21/10 13:40

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 96.6

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	5.9		1.4	0.11	mg/Kg	☼	10/29/10 15:08	10/30/10 15:28	1
Cadmium	ND	^	0.45	0.072	mg/Kg	☼	10/29/10 15:08	10/30/10 15:28	1
Barium	34		0.45	0.014	mg/Kg	☼	10/29/10 15:08	10/30/10 15:28	1
Silver	ND		0.90	0.041	mg/Kg	☼	10/29/10 15:08	10/30/10 15:28	1
Arsenic	4.2		2.7	0.12	mg/Kg	☼	10/29/10 15:08	10/30/10 15:28	1
Copper	8.8	^	0.90	0.20	mg/Kg	☼	10/29/10 15:08	10/30/10 15:28	1
Aluminum	4900		27	8.0	mg/Kg	☼	10/29/10 15:08	10/30/10 15:28	1
Selenium	ND	^	4.5	0.11	mg/Kg	☼	10/29/10 15:08	10/30/10 15:28	1
Chromium	6.9		1.2	0.042	mg/Kg	☼	10/29/10 15:08	10/30/10 15:28	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.016	0.0052	mg/Kg	☼	10/29/10 09:56	10/29/10 12:30	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.35	J	10.4	0.0166	mg/kg dry	☼	10/28/10 13:55	10/29/10 22:48	1
Fluoride	1.14	J	10.4	0.0156	mg/kg dry	☼	10/28/10 13:55	10/29/10 22:48	1
Nitrate-Nitrogen	0.416	J	2.08	0.0114	mg/kg dry	☼	10/28/10 13:55	10/29/10 22:48	1
Nitrite-Nitrogen	ND		2.08	0.0166	mg/kg dry	☼	10/28/10 13:55	10/29/10 22:48	1
Sulfate	13.6	J	20.8	0.531	mg/kg dry	☼	10/28/10 13:55	10/29/10 22:48	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Client Sample ID: SO-2494-BG1 (0-1)-102110

Lab Sample ID: STJ0130-07

Date Collected: 10/21/10 15:25

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 88.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	9.6		1.1	0.085	mg/Kg	☼	10/29/10 15:08	10/30/10 15:34	1
Cadmium	ND	^	0.35	0.056	mg/Kg	☼	10/29/10 15:08	10/30/10 15:34	1
Barium	66		0.35	0.011	mg/Kg	☼	10/29/10 15:08	10/30/10 15:34	1
Silver	ND		0.71	0.032	mg/Kg	☼	10/29/10 15:08	10/30/10 15:34	1
Arsenic	3.9		2.1	0.092	mg/Kg	☼	10/29/10 15:08	10/30/10 15:34	1
Copper	11	^	0.71	0.16	mg/Kg	☼	10/29/10 15:08	10/30/10 15:34	1
Aluminum	6800		21	6.3	mg/Kg	☼	10/29/10 15:08	10/30/10 15:34	1
Selenium	ND	^	3.5	0.085	mg/Kg	☼	10/29/10 15:08	10/30/10 15:34	1
Chromium	6.9		0.92	0.033	mg/Kg	☼	10/29/10 15:08	10/30/10 15:34	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.015	J	0.018	0.0056	mg/Kg	☼	10/29/10 09:56	10/29/10 12:32	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.411	J	10.3	0.0164	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:04	1
Fluoride	2.16	J	10.3	0.0154	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:04	1
Nitrate-Nitrogen	1.95	J	2.05	0.0113	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:04	1
Nitrite-Nitrogen	0.308	J	2.05	0.0164	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:04	1
Sulfate	9.24	J	20.5	0.524	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:04	1

Client Sample ID: SO-2494-BG1 (4-5)-102110

Lab Sample ID: STJ0130-08

Date Collected: 10/21/10 15:27

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 93.3

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	9.3		1.2	0.096	mg/Kg	☼	10/29/10 15:08	10/30/10 15:40	1
Cadmium	ND	^	0.40	0.064	mg/Kg	☼	10/29/10 15:08	10/30/10 15:40	1
Barium	94		0.40	0.012	mg/Kg	☼	10/29/10 15:08	10/30/10 15:40	1
Silver	ND		0.80	0.036	mg/Kg	☼	10/29/10 15:08	10/30/10 15:40	1
Arsenic	3.2		2.4	0.10	mg/Kg	☼	10/29/10 15:08	10/30/10 15:40	1
Copper	11	^	0.80	0.18	mg/Kg	☼	10/29/10 15:08	10/30/10 15:40	1
Aluminum	12000		24	7.1	mg/Kg	☼	10/29/10 15:08	10/30/10 15:40	1
Selenium	ND	^	4.0	0.096	mg/Kg	☼	10/29/10 15:08	10/30/10 15:40	1
Chromium	10		1.0	0.038	mg/Kg	☼	10/29/10 15:08	10/30/10 15:40	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0064	J	0.017	0.0054	mg/Kg	☼	10/29/10 09:56	10/29/10 12:35	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.415	J	10.4	0.0166	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:20	1
Fluoride	4.78	J	10.4	0.0156	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:20	1
Nitrate-Nitrogen	1.04	J	2.08	0.0114	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:20	1
Nitrite-Nitrogen	ND		2.08	0.0166	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:20	1
Sulfate	6.75	J	20.8	0.531	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:20	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Client Sample ID: SO-2494-BG1 (14-15)-102110

Lab Sample ID: STJ0130-09

Date Collected: 10/21/10 15:30

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 96.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	8.7		1.2	0.095	mg/Kg	☼	11/01/10 09:17	11/02/10 19:05	1
Cadmium	ND		0.40	0.063	mg/Kg	☼	11/01/10 09:17	11/02/10 19:05	1
Barium	77	B	0.40	0.012	mg/Kg	☼	11/01/10 09:17	11/02/10 19:05	1
Silver	ND		0.79	0.036	mg/Kg	☼	11/01/10 09:17	11/02/10 19:05	1
Arsenic	6.2		2.4	0.10	mg/Kg	☼	11/01/10 09:17	11/02/10 19:05	1
Copper	23	B	0.79	0.17	mg/Kg	☼	11/01/10 09:17	11/02/10 19:05	1
Aluminum	9900		24	7.1	mg/Kg	☼	11/01/10 09:17	11/02/10 19:05	1
Selenium	0.34	J B	4.0	0.095	mg/Kg	☼	11/01/10 09:17	11/02/10 19:05	1
Chromium	13		1.0	0.037	mg/Kg	☼	11/01/10 09:17	11/02/10 19:05	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0054	mg/Kg	☼	10/29/10 09:56	10/29/10 12:42	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.927	J	10.3	0.0165	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:35	1
Fluoride	0.721	J	10.3	0.0154	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:35	1
Nitrate-Nitrogen	0.515	J	2.06	0.0113	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:35	1
Nitrite-Nitrogen	ND		2.06	0.0165	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:35	1
Sulfate	4.43	J	20.6	0.526	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:35	1

Client Sample ID: SO-2494-BG2 (0-1)-102110

Lab Sample ID: STJ0130-10

Date Collected: 10/21/10 15:35

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 88.3

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	13		1.3	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 19:10	1
Cadmium	ND		0.44	0.070	mg/Kg	☼	11/01/10 09:17	11/02/10 19:10	1
Barium	140	B	0.44	0.013	mg/Kg	☼	11/01/10 09:17	11/02/10 19:10	1
Silver	ND		0.88	0.039	mg/Kg	☼	11/01/10 09:17	11/02/10 19:10	1
Arsenic	6.8		2.6	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 19:10	1
Copper	18	B	0.88	0.19	mg/Kg	☼	11/01/10 09:17	11/02/10 19:10	1
Aluminum	16000		26	7.8	mg/Kg	☼	11/01/10 09:17	11/02/10 19:10	1
Selenium	ND		4.4	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 19:10	1
Chromium	13		1.1	0.041	mg/Kg	☼	11/01/10 09:17	11/02/10 19:10	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.020		0.019	0.0058	mg/Kg	☼	10/29/10 09:56	10/29/10 12:44	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.786	J	11.2	0.0180	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:51	1
Fluoride	2.92	J	11.2	0.0169	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:51	1
Nitrate-Nitrogen	2.02	J	2.25	0.0124	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:51	1
Nitrite-Nitrogen	0.449	J	2.25	0.0180	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:51	1
Sulfate	5.84	J	22.5	0.574	mg/kg dry	☼	10/28/10 13:55	10/29/10 23:51	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Client Sample ID: SO-2494-BG2 (4-5)-102110

Lab Sample ID: STJ0130-11

Date Collected: 10/21/10 15:37

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 90.4

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	12		1.4	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 19:15	1
Cadmium	ND		0.46	0.073	mg/Kg	☼	11/01/10 09:17	11/02/10 19:15	1
Barium	110	B	0.46	0.014	mg/Kg	☼	11/01/10 09:17	11/02/10 19:15	1
Silver	ND		0.92	0.041	mg/Kg	☼	11/01/10 09:17	11/02/10 19:15	1
Arsenic	4.8		2.7	0.12	mg/Kg	☼	11/01/10 09:17	11/02/10 19:15	1
Copper	13	B	0.92	0.20	mg/Kg	☼	11/01/10 09:17	11/02/10 19:15	1
Aluminum	18000		27	8.2	mg/Kg	☼	11/01/10 09:17	11/02/10 19:15	1
Selenium	ND		4.6	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 19:15	1
Chromium	14		1.2	0.043	mg/Kg	☼	11/01/10 09:17	11/02/10 19:15	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.011	J	0.018	0.0055	mg/Kg	☼	10/29/10 09:56	10/29/10 12:47	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.433	J	10.8	0.0173	mg/kg dry	☼	11/01/10 11:49	11/02/10 01:22	1
Fluoride	5.84	J	10.8	0.0162	mg/kg dry	☼	11/01/10 11:49	11/02/10 01:22	1
Nitrate-Nitrogen	1.08	J	2.16	0.0119	mg/kg dry	☼	11/01/10 11:49	11/02/10 01:22	1
Nitrite-Nitrogen	ND		2.16	0.0173	mg/kg dry	☼	11/01/10 11:49	11/02/10 01:22	1
Sulfate	4.44	J	21.6	0.553	mg/kg dry	☼	11/01/10 11:49	11/02/10 01:22	1

Client Sample ID: SO-2494-BG2 (14-15)-102110

Lab Sample ID: STJ0130-12

Date Collected: 10/21/10 15:40

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 95.9

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	10		1.3	0.10	mg/Kg	☼	11/01/10 09:17	11/02/10 19:20	1
Cadmium	ND		0.43	0.069	mg/Kg	☼	11/01/10 09:17	11/02/10 19:20	1
Barium	54	B	0.43	0.013	mg/Kg	☼	11/01/10 09:17	11/02/10 19:20	1
Silver	ND		0.86	0.039	mg/Kg	☼	11/01/10 09:17	11/02/10 19:20	1
Arsenic	5.1		2.6	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 19:20	1
Copper	37	B	0.86	0.19	mg/Kg	☼	11/01/10 09:17	11/02/10 19:20	1
Aluminum	10000		26	7.7	mg/Kg	☼	11/01/10 09:17	11/02/10 19:20	1
Selenium	ND		4.3	0.10	mg/Kg	☼	11/01/10 09:17	11/02/10 19:20	1
Chromium	11		1.1	0.040	mg/Kg	☼	11/01/10 09:17	11/02/10 19:20	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0055	J	0.017	0.0053	mg/Kg	☼	10/29/10 09:56	10/29/10 12:49	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.38	J	10.6	0.0170	mg/kg dry	☼	11/01/10 11:49	11/02/10 01:37	1
Fluoride	0.744	J	10.6	0.0159	mg/kg dry	☼	11/01/10 11:49	11/02/10 01:37	1
Nitrate-Nitrogen	0.532	J	2.13	0.0117	mg/kg dry	☼	11/01/10 11:49	11/02/10 01:37	1
Nitrite-Nitrogen	ND		2.13	0.0170	mg/kg dry	☼	11/01/10 11:49	11/02/10 01:37	1
Sulfate	5.95	J	21.3	0.543	mg/kg dry	☼	11/01/10 11:49	11/02/10 01:37	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Client Sample ID: SO-2494-BG3 (0-1)-102110

Lab Sample ID: STJ0130-13

Date Collected: 10/21/10 15:45

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 96.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	11		1.4	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 19:25	1
Cadmium	ND		0.46	0.073	mg/Kg	☼	11/01/10 09:17	11/02/10 19:25	1
Barium	84	B	0.46	0.014	mg/Kg	☼	11/01/10 09:17	11/02/10 19:25	1
Silver	ND		0.92	0.041	mg/Kg	☼	11/01/10 09:17	11/02/10 19:25	1
Arsenic	7.0		2.8	0.12	mg/Kg	☼	11/01/10 09:17	11/02/10 19:25	1
Copper	19	B	0.92	0.20	mg/Kg	☼	11/01/10 09:17	11/02/10 19:25	1
Aluminum	12000		28	8.2	mg/Kg	☼	11/01/10 09:17	11/02/10 19:25	1
Selenium	ND		4.6	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 19:25	1
Chromium	11		1.2	0.043	mg/Kg	☼	11/01/10 09:17	11/02/10 19:25	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.014	J	0.016	0.0052	mg/Kg	☼	10/29/10 09:56	10/29/10 12:52	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.16	J	10.6	0.0169	mg/kg dry	☼	11/01/10 11:49	11/02/10 01:53	1
Fluoride	2.43	J	10.6	0.0158	mg/kg dry	☼	11/01/10 11:49	11/02/10 01:53	1
Nitrate-Nitrogen	1.27	J	2.11	0.0116	mg/kg dry	☼	11/01/10 11:49	11/02/10 01:53	1
Nitrite-Nitrogen	0.528	J	2.11	0.0169	mg/kg dry	☼	11/01/10 11:49	11/02/10 01:53	1
Sulfate	4.54	J	21.1	0.539	mg/kg dry	☼	11/01/10 11:49	11/02/10 01:53	1

Client Sample ID: SO-2494-BG3 (4-5)-102110

Lab Sample ID: STJ0130-14

Date Collected: 10/21/10 15:47

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 91.6

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	11		1.2	0.099	mg/Kg	☼	11/01/10 09:17	11/02/10 19:40	1
Cadmium	ND		0.41	0.066	mg/Kg	☼	11/01/10 09:17	11/02/10 19:40	1
Barium	100	B	0.41	0.012	mg/Kg	☼	11/01/10 09:17	11/02/10 19:40	1
Silver	ND		0.83	0.037	mg/Kg	☼	11/01/10 09:17	11/02/10 19:40	1
Arsenic	5.6		2.5	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 19:40	1
Copper	18	B	0.83	0.18	mg/Kg	☼	11/01/10 09:17	11/02/10 19:40	1
Aluminum	17000		25	7.4	mg/Kg	☼	11/01/10 09:17	11/02/10 19:40	1
Selenium	ND		4.1	0.099	mg/Kg	☼	11/01/10 09:17	11/02/10 19:40	1
Chromium	14		1.1	0.039	mg/Kg	☼	11/01/10 09:17	11/02/10 19:40	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0065	J	0.018	0.0056	mg/Kg	☼	10/29/10 09:56	10/29/10 12:54	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.49	J	10.6	0.0170	mg/kg dry	☼	11/01/10 11:49	11/02/10 02:08	1
Fluoride	1.60	J	10.6	0.0160	mg/kg dry	☼	11/01/10 11:49	11/02/10 02:08	1
Nitrate-Nitrogen	ND		2.13	0.0117	mg/kg dry	☼	11/01/10 11:49	11/02/10 02:08	1
Nitrite-Nitrogen	ND		2.13	0.0170	mg/kg dry	☼	11/01/10 11:49	11/02/10 02:08	1
Sulfate	4.05	J	21.3	0.544	mg/kg dry	☼	11/01/10 11:49	11/02/10 02:08	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Client Sample ID: SO-2494-BG3 (14-15)-102110

Lab Sample ID: STJ0130-15

Date Collected: 10/21/10 15:50

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 96.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	7.8		1.4	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 19:45	1
Cadmium	ND		0.47	0.075	mg/Kg	☼	11/01/10 09:17	11/02/10 19:45	1
Barium	38	B	0.47	0.014	mg/Kg	☼	11/01/10 09:17	11/02/10 19:45	1
Silver	ND		0.94	0.042	mg/Kg	☼	11/01/10 09:17	11/02/10 19:45	1
Arsenic	9.0		2.8	0.12	mg/Kg	☼	11/01/10 09:17	11/02/10 19:45	1
Copper	47	B	0.94	0.21	mg/Kg	☼	11/01/10 09:17	11/02/10 19:45	1
Aluminum	6600		28	8.4	mg/Kg	☼	11/01/10 09:17	11/02/10 19:45	1
Selenium	0.13	J B	4.7	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 19:45	1
Chromium	7.7		1.2	0.044	mg/Kg	☼	11/01/10 09:17	11/02/10 19:45	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.016	0.0051	mg/Kg	☼	10/29/10 09:56	10/29/10 12:57	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.38	J	10.6	0.0170	mg/kg dry	☼	11/01/10 11:49	11/02/10 02:55	1
Fluoride	0.638	J	10.6	0.0160	mg/kg dry	☼	11/01/10 11:49	11/02/10 02:55	1
Nitrate-Nitrogen	ND		2.13	0.0117	mg/kg dry	☼	11/01/10 11:49	11/02/10 02:55	1
Nitrite-Nitrogen	ND		2.13	0.0170	mg/kg dry	☼	11/01/10 11:49	11/02/10 02:55	1
Sulfate	3.94	J	21.3	0.544	mg/kg dry	☼	11/01/10 11:49	11/02/10 02:55	1

Client Sample ID: SO-2494-BG4 (0-1)-102110

Lab Sample ID: STJ0130-16

Date Collected: 10/21/10 15:30

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 99.8

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	13		1.4	0.12	mg/Kg	☼	11/01/10 09:17	11/02/10 19:51	1
Cadmium	ND		0.48	0.077	mg/Kg	☼	11/01/10 09:17	11/02/10 19:51	1
Barium	84	B	0.48	0.014	mg/Kg	☼	11/01/10 09:17	11/02/10 19:51	1
Silver	ND		0.96	0.043	mg/Kg	☼	11/01/10 09:17	11/02/10 19:51	1
Arsenic	6.8		2.9	0.12	mg/Kg	☼	11/01/10 09:17	11/02/10 19:51	1
Copper	20	B	0.96	0.21	mg/Kg	☼	11/01/10 09:17	11/02/10 19:51	1
Aluminum	12000		29	8.5	mg/Kg	☼	11/01/10 09:17	11/02/10 19:51	1
Selenium	ND		4.8	0.12	mg/Kg	☼	11/01/10 09:17	11/02/10 19:51	1
Chromium	11		1.2	0.045	mg/Kg	☼	11/01/10 09:17	11/02/10 19:51	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.011	J	0.016	0.0049	mg/Kg	☼	10/29/10 09:56	10/29/10 12:59	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.429	J	10.7	0.0171	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:11	1
Fluoride	1.29	J	10.7	0.0161	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:11	1
Nitrate-Nitrogen	0.857	J	2.14	0.0118	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:11	1
Nitrite-Nitrogen	ND		2.14	0.0171	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:11	1
Sulfate	4.50	J	21.4	0.548	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:11	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Client Sample ID: SO-2494-MW3 (0-1)-102110

Lab Sample ID: STJ0130-17

Date Collected: 10/21/10 08:30

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 87.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	31		1.3	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 19:56	1
Cadmium	ND		0.44	0.071	mg/Kg	☼	11/01/10 09:17	11/02/10 19:56	1
Barium	160	B	0.44	0.013	mg/Kg	☼	11/01/10 09:17	11/02/10 19:56	1
Silver	ND		0.89	0.040	mg/Kg	☼	11/01/10 09:17	11/02/10 19:56	1
Arsenic	6.9		2.7	0.12	mg/Kg	☼	11/01/10 09:17	11/02/10 19:56	1
Copper	110	B	0.89	0.20	mg/Kg	☼	11/01/10 09:17	11/02/10 19:56	1
Aluminum	25000		27	7.9	mg/Kg	☼	11/01/10 09:17	11/02/10 19:56	1
Selenium	ND		4.4	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 19:56	1
Chromium	18		1.2	0.042	mg/Kg	☼	11/01/10 09:17	11/02/10 19:56	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.098		0.019	0.0060	mg/Kg	☼	10/29/10 09:56	10/29/10 13:01	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.31	J	11.6	0.0185	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:26	1
Fluoride	16.8		11.6	0.0174	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:26	1
Nitrate-Nitrogen	1.62	J	2.31	0.0127	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:26	1
Nitrite-Nitrogen	ND		2.31	0.0185	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:26	1
Sulfate	9.03	J	23.1	0.591	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:26	1

Client Sample ID: SO-2494-MW3 (4-5)-102110

Lab Sample ID: STJ0130-18

Date Collected: 10/21/10 09:00

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 97.7

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	15		1.3	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 20:01	1
Cadmium	ND		0.44	0.070	mg/Kg	☼	11/01/10 09:17	11/02/10 20:01	1
Barium	41	B	0.44	0.013	mg/Kg	☼	11/01/10 09:17	11/02/10 20:01	1
Silver	ND		0.88	0.040	mg/Kg	☼	11/01/10 09:17	11/02/10 20:01	1
Arsenic	5.1		2.6	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 20:01	1
Copper	15	B	0.88	0.19	mg/Kg	☼	11/01/10 09:17	11/02/10 20:01	1
Aluminum	10000		26	7.8	mg/Kg	☼	11/01/10 09:17	11/02/10 20:01	1
Selenium	ND		4.4	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 20:01	1
Chromium	11		1.1	0.041	mg/Kg	☼	11/01/10 09:17	11/02/10 20:01	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0053	mg/Kg	☼	10/29/10 09:56	10/29/10 13:04	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.515	J	10.3	0.0165	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:42	1
Fluoride	0.617	J	10.3	0.0154	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:42	1
Nitrate-Nitrogen	0.412	J	2.06	0.0113	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:42	1
Nitrite-Nitrogen	ND		2.06	0.0165	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:42	1
Sulfate	3.50	J	20.6	0.526	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:42	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0130
 SDG: STJ0130

Client Sample ID: SO-2494-MW3 (14-15)-102110

Lab Sample ID: STJ0130-19

Date Collected: 10/21/10 09:10

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 94.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	6.5		1.3	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 20:07	1
Cadmium	ND		0.45	0.071	mg/Kg	☼	11/01/10 09:17	11/02/10 20:07	1
Barium	58	B	0.45	0.013	mg/Kg	☼	11/01/10 09:17	11/02/10 20:07	1
Silver	ND		0.89	0.040	mg/Kg	☼	11/01/10 09:17	11/02/10 20:07	1
Arsenic	7.5		2.7	0.12	mg/Kg	☼	11/01/10 09:17	11/02/10 20:07	1
Copper	14	B	0.89	0.20	mg/Kg	☼	11/01/10 09:17	11/02/10 20:07	1
Aluminum	5900		27	7.9	mg/Kg	☼	11/01/10 09:17	11/02/10 20:07	1
Selenium	ND		4.5	0.11	mg/Kg	☼	11/01/10 09:17	11/02/10 20:07	1
Chromium	8.6		1.2	0.042	mg/Kg	☼	11/01/10 09:17	11/02/10 20:07	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0053	mg/Kg	☼	10/29/10 09:56	10/29/10 13:11	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.79	J	10.5	0.0168	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:58	1
Fluoride	1.47	J	10.5	0.0158	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:58	1
Nitrate-Nitrogen	ND		2.10	0.0116	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:58	1
Nitrite-Nitrogen	ND		2.10	0.0168	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:58	1
Sulfate	6.84	J	21.0	0.538	mg/kg dry	☼	11/01/10 11:49	11/02/10 03:58	1

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Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-74667/22-A
Matrix: Solid
Analysis Batch: 74745

Client Sample ID: MB 580-74667/22-A
Prep Type: Total/NA
Prep Batch: 74667

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lead	ND		1.5	0.12	mg/Kg		10/29/10 15:08	10/30/10 12:50	1
Cadmium	ND	^	0.50	0.080	mg/Kg		10/29/10 15:08	10/30/10 12:50	1
Barium	ND		0.50	0.015	mg/Kg		10/29/10 15:08	10/30/10 12:50	1
Silver	0.0843	J	1.0	0.045	mg/Kg		10/29/10 15:08	10/30/10 12:50	1
Arsenic	ND		3.0	0.13	mg/Kg		10/29/10 15:08	10/30/10 12:50	1
Copper	ND	^	1.0	0.22	mg/Kg		10/29/10 15:08	10/30/10 12:50	1
Aluminum	ND		30	8.9	mg/Kg		10/29/10 15:08	10/30/10 12:50	1
Selenium	ND	^	5.0	0.12	mg/Kg		10/29/10 15:08	10/30/10 12:50	1
Chromium	ND		1.3	0.047	mg/Kg		10/29/10 15:08	10/30/10 12:50	1

Lab Sample ID: LCS 580-74667/23-A
Matrix: Solid
Analysis Batch: 74745

Client Sample ID: LCS 580-74667/23-A
Prep Type: Total/NA
Prep Batch: 74667

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	RPD
Lead	50.0	48.0		mg/Kg		96	80 - 120	
Cadmium	5.00	4.71	^	mg/Kg		94	80 - 120	
Barium	200	197		mg/Kg		99	80 - 120	
Silver	30.0	28.2		mg/Kg		94	75 - 120	
Arsenic	200	186		mg/Kg		93	80 - 120	
Copper	25.0	24.2	^	mg/Kg		97	80 - 120	
Aluminum	200	200		mg/Kg		100	80 - 120	
Selenium	200	182	^	mg/Kg		91	80 - 120	
Chromium	20.0	19.5		mg/Kg		98	80 - 120	

Lab Sample ID: LCSD 580-74667/24-A
Matrix: Solid
Analysis Batch: 74745

Client Sample ID: LCSD 580-74667/24-A
Prep Type: Total/NA
Prep Batch: 74667

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD
							Limits	RPD	Limit
Lead	50.0	49.5		mg/Kg		99	80 - 120	3	20
Cadmium	5.00	4.86	^	mg/Kg		97	80 - 120	3	20
Barium	200	200		mg/Kg		100	80 - 120	1	20
Silver	30.0	28.4		mg/Kg		95	75 - 120	1	20
Arsenic	200	192		mg/Kg		96	80 - 120	3	20
Copper	25.0	24.5	^	mg/Kg		98	80 - 120	1	20
Aluminum	200	205		mg/Kg		103	80 - 120	2	20
Selenium	200	188	^	mg/Kg		94	80 - 120	3	20
Chromium	20.0	19.8		mg/Kg		99	80 - 120	1	20

Lab Sample ID: 580-22471-A-19-F MS
Matrix: Solid
Analysis Batch: 74745

Client Sample ID: 580-22471-A-19-F MS
Prep Type: Total/NA
Prep Batch: 74667

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec.	
									Limits	RPD
Lead	6.2		45.8	45.0		mg/Kg	✱	85	80 - 120	
Cadmium	ND	^	4.58	3.58	^ F	mg/Kg	✱	78	80 - 120	
Barium	36		183	194		mg/Kg	✱	86	80 - 120	
Silver	ND		27.5	24.6		mg/Kg	✱	90	75 - 120	
Arsenic	6.7		183	170		mg/Kg	✱	89	80 - 120	

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0130
 SDG: STJ0130

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 580-22471-A-19-F MS
Matrix: Solid
Analysis Batch: 74745

Client Sample ID: 580-22471-A-19-F MS
Prep Type: Total/NA
Prep Batch: 74667

Analyte	Sample	Sample	Spike	MS		Unit	D	% Rec	% Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Copper	8.9	^	22.9	27.4	^	mg/Kg	☼	81		80 - 120
Aluminum	3700		183	4560	4	mg/Kg	☼	494		80 - 120
Selenium	ND	^	183	159	^	mg/Kg	☼	87		80 - 120
Chromium	3.7		18.3	21.5		mg/Kg	☼	97		80 - 120

Lab Sample ID: 580-22471-A-19-G MSD
Matrix: Solid
Analysis Batch: 74745

Client Sample ID: 580-22471-A-19-G MSD
Prep Type: Total/NA
Prep Batch: 74667

Analyte	Sample	Sample	Spike	MSD		Unit	D	% Rec	% Rec.	Limits	RPD	
	Result	Qualifier		Result	Qualifier						RPD	Limit
Lead	6.2		46.0	48.8		mg/Kg	☼	93		80 - 120	8	20
Cadmium	ND	^	4.60	3.44	^ F	mg/Kg	☼	75		80 - 120	4	20
Barium	36		184	198		mg/Kg	☼	88		80 - 120	2	20
Silver	ND		27.6	24.9		mg/Kg	☼	90		75 - 120	1	20
Arsenic	6.7		184	175		mg/Kg	☼	91		80 - 120	3	20
Copper	8.9	^	23.0	31.1	^	mg/Kg	☼	97		80 - 120	13	20
Aluminum	3700		184	5600	4 F	mg/Kg	☼	1058		80 - 120	21	20
Selenium	ND	^	184	161	^	mg/Kg	☼	88		80 - 120	1	20
Chromium	3.7		18.4	21.9		mg/Kg	☼	99		80 - 120	2	20

Lab Sample ID: 580-22471-A-19-E DU
Matrix: Solid
Analysis Batch: 74745

Client Sample ID: 580-22471-A-19-E DU
Prep Type: Total/NA
Prep Batch: 74667

Analyte	Sample	Sample	DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Lead	6.2		4.25	F	mg/Kg	☼	37	20
Cadmium	ND	^	ND	^	mg/Kg	☼	NC	20
Barium	36		24.0	F	mg/Kg	☼	39	20
Silver	ND		ND		mg/Kg	☼	NC	20
Arsenic	6.7		6.35		mg/Kg	☼	5	20
Copper	8.9	^	7.22	^ F	mg/Kg	☼	21	20
Aluminum	3700		4260		mg/Kg	☼	15	20
Selenium	ND	^	ND	^	mg/Kg	☼	NC	20
Chromium	3.7		4.57		mg/Kg	☼	20	20

Lab Sample ID: MB 580-74735/24-A
Matrix: Solid
Analysis Batch: 74943

Client Sample ID: MB 580-74735/24-A
Prep Type: Total/NA
Prep Batch: 74735

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lead	ND		1.5	0.12	mg/Kg		11/01/10 09:17	11/02/10 17:53	1
Cadmium	ND		0.50	0.080	mg/Kg		11/01/10 09:17	11/02/10 17:53	1
Barium	0.0529	J	0.50	0.015	mg/Kg		11/01/10 09:17	11/02/10 17:53	1
Silver	ND		1.0	0.045	mg/Kg		11/01/10 09:17	11/02/10 17:53	1
Arsenic	ND		3.0	0.13	mg/Kg		11/01/10 09:17	11/02/10 17:53	1
Copper	0.954	J	1.0	0.22	mg/Kg		11/01/10 09:17	11/02/10 17:53	1
Aluminum	ND		30	8.9	mg/Kg		11/01/10 09:17	11/02/10 17:53	1
Selenium	0.165	J	5.0	0.12	mg/Kg		11/01/10 09:17	11/02/10 17:53	1
Chromium	ND		1.3	0.047	mg/Kg		11/01/10 09:17	11/02/10 17:53	1

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0130
 SDG: STJ0130

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 580-74735/25-A

Matrix: Solid

Analysis Batch: 74943

Client Sample ID: LCS 580-74735/25-A

Prep Type: Total/NA

Prep Batch: 74735

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	RPD
Lead	50.0	51.9		mg/Kg		104	80 - 120	
Cadmium	5.00	5.10		mg/Kg		102	80 - 120	
Barium	200	209		mg/Kg		105	80 - 120	
Silver	30.0	29.8		mg/Kg		99	75 - 120	
Arsenic	200	200		mg/Kg		100	80 - 120	
Copper	25.0	25.5		mg/Kg		102	80 - 120	
Aluminum	200	205		mg/Kg		103	80 - 120	
Selenium	200	197		mg/Kg		98	80 - 120	
Chromium	20.0	20.9		mg/Kg		105	80 - 120	

Lab Sample ID: LCSD 580-74735/26-A

Matrix: Solid

Analysis Batch: 74943

Client Sample ID: LCSD 580-74735/26-A

Prep Type: Total/NA

Prep Batch: 74735

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD	
		Result	Qualifier				Limits	RPD	Limit	
Lead	50.0	51.3		mg/Kg		103	80 - 120	1	20	
Cadmium	5.00	5.05		mg/Kg		101	80 - 120	1	20	
Barium	200	208		mg/Kg		104	80 - 120	1	20	
Silver	30.0	29.5		mg/Kg		98	75 - 120	1	20	
Arsenic	200	199		mg/Kg		99	80 - 120	1	20	
Copper	25.0	25.4		mg/Kg		101	80 - 120	0	20	
Aluminum	200	204		mg/Kg		102	80 - 120	1	20	
Selenium	200	196		mg/Kg		98	80 - 120	0	20	
Chromium	20.0	20.8		mg/Kg		104	80 - 120	1	20	

Lab Sample ID: 580-22485-A-1-D MS

Matrix: Solid

Analysis Batch: 74943

Client Sample ID: 580-22485-A-1-D MS

Prep Type: Total/NA

Prep Batch: 74735

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	% Rec	% Rec.	
				Result	Qualifier				Limits	RPD
Lead	15		53.4	59.1		mg/Kg	✱	82	80 - 120	
Cadmium	ND		5.34	4.46		mg/Kg	✱	83	80 - 120	
Barium	110	B	214	285		mg/Kg	✱	83	80 - 120	
Silver	ND		32.0	29.8		mg/Kg	✱	93	75 - 120	
Arsenic	7.5		214	201		mg/Kg	✱	90	80 - 120	
Copper	20	B	26.7	49.5		mg/Kg	✱	111	80 - 120	
Aluminum	13000		214	14800	4	mg/Kg	✱	803	80 - 120	
Selenium	ND		214	192		mg/Kg	✱	90	80 - 120	
Chromium	9.3		21.4	29.8		mg/Kg	✱	96	80 - 120	

Lab Sample ID: 580-22485-A-1-E MSD

Matrix: Solid

Analysis Batch: 74943

Client Sample ID: 580-22485-A-1-E MSD

Prep Type: Total/NA

Prep Batch: 74735

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	% Rec	% Rec.		RPD
				Result	Qualifier				Limits	RPD	
Lead	15		49.5	57.1		mg/Kg	✱	85	80 - 120	3	20
Cadmium	ND		4.95	4.15		mg/Kg	✱	84	80 - 120	7	20
Barium	110	B	198	278		mg/Kg	✱	85	80 - 120	3	20
Silver	ND		29.7	28.3		mg/Kg	✱	95	75 - 120	5	20
Arsenic	7.5		198	192		mg/Kg	✱	93	80 - 120	4	20



Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0130
 SDG: STJ0130

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 580-22485-A-1-E MSD
 Matrix: Solid
 Analysis Batch: 74943

Client Sample ID: 580-22485-A-1-E MSD
 Prep Type: Total/NA
 Prep Batch: 74735

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	% Rec	% Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits		
Copper	20	B	24.8	54.6	F	mg/Kg	☼	140	80 - 120	10	20
Aluminum	13000		198	15900	4	mg/Kg	☼	1397	80 - 120	7	20
Selenium	ND		198	183		mg/Kg	☼	92	80 - 120	5	20
Chromium	9.3		19.8	28.6		mg/Kg	☼	98	80 - 120	4	20

Lab Sample ID: 580-22485-A-1-C DU
 Matrix: Solid
 Analysis Batch: 74943

Client Sample ID: 580-22485-A-1-C DU
 Prep Type: Total/NA
 Prep Batch: 74735

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier		Result				
Lead	15		15.2		mg/Kg	☼	0.6	20
Cadmium	ND		ND		mg/Kg	☼	NC	20
Barium	110	B	98.9		mg/Kg	☼	10	20
Silver	ND		0.148	J	mg/Kg	☼	NC	20
Arsenic	7.5		7.29		mg/Kg	☼	3	20
Copper	20	B	28.8	F	mg/Kg	☼	36	20
Aluminum	13000		14200		mg/Kg	☼	8	20
Selenium	ND		ND		mg/Kg	☼	NC	20
Chromium	9.3		10.8		mg/Kg	☼	15	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-74610/21-A
 Matrix: Solid
 Analysis Batch: 74727

Client Sample ID: MB 580-74610/21-A
 Prep Type: Total/NA
 Prep Batch: 74610

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.017	0.0052	mg/Kg		10/29/10 08:09	10/29/10 10:52	1

Lab Sample ID: LCS 580-74610/22-A
 Matrix: Solid
 Analysis Batch: 74727

Client Sample ID: LCS 580-74610/22-A
 Prep Type: Total/NA
 Prep Batch: 74610

Analyte	Spike Added	LCS	LCS	Unit	D	% Rec	% Rec.
		Result	Qualifier				Limits
Mercury	0.167	0.163		mg/Kg		98	80 - 120

Lab Sample ID: LCSD 580-74610/23-A
 Matrix: Solid
 Analysis Batch: 74727

Client Sample ID: LCSD 580-74610/23-A
 Prep Type: Total/NA
 Prep Batch: 74610

Analyte	Spike Added	LCSD	LCSD	Unit	D	% Rec	% Rec.	RPD	Limit
		Result	Qualifier				Limits		
Mercury	0.167	0.159		mg/Kg		95	80 - 120	2	20

Lab Sample ID: 580-22471-A-19-B MS
 Matrix: Solid
 Analysis Batch: 74727

Client Sample ID: 580-22471-A-19-B MS
 Prep Type: Total/NA
 Prep Batch: 74610

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	% Rec	% Rec.
	Result	Qualifier		Result	Qualifier				Limits
Mercury	ND		0.169	0.169		mg/Kg	☼	100	80 - 120

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: 580-22471-A-19-C MSD
Matrix: Solid
Analysis Batch: 74727

Client Sample ID: 580-22471-A-19-C MSD
Prep Type: Total/NA
Prep Batch: 74610

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	% Rec	% Rec.	RPD	
	Result	Qualifier		Result	Qualifier				Limits	RPD	Limit
Mercury	ND		0.169	0.165		mg/Kg	☼	98	80 - 120	2	20

Lab Sample ID: 580-22471-A-12-B DU
Matrix: Solid
Analysis Batch: 74727

Client Sample ID: 580-22471-A-12-B DU
Prep Type: Total/NA
Prep Batch: 74610

Analyte	Sample	Sample	DU		Unit	D	RPD	RPD	
	Result	Qualifier	Result	Qualifier				Limit	Limit
Mercury	ND		0.0146	J	mg/Kg	☼	NC	20	

Lab Sample ID: MB 580-74617/22-A
Matrix: Solid
Analysis Batch: 74727

Client Sample ID: MB 580-74617/22-A
Prep Type: Total/NA
Prep Batch: 74617

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.017	0.0052	mg/Kg		10/29/10 09:56	10/29/10 12:12	1

Lab Sample ID: LCS 580-74617/23-A
Matrix: Solid
Analysis Batch: 74727

Client Sample ID: LCS 580-74617/23-A
Prep Type: Total/NA
Prep Batch: 74617

Analyte	Spike Added	LCS	LCS	Unit	D	% Rec	% Rec.
		Result	Qualifier				Limits
Mercury	0.167	0.164		mg/Kg		98	80 - 120

Lab Sample ID: LCSD 580-74617/24-A
Matrix: Solid
Analysis Batch: 74727

Client Sample ID: LCSD 580-74617/24-A
Prep Type: Total/NA
Prep Batch: 74617

Analyte	Spike Added	LCSD	LCSD	Unit	D	% Rec	% Rec.	RPD	
		Result	Qualifier				Limits	RPD	Limit
Mercury	0.167	0.156		mg/Kg		94	80 - 120	4	20

Lab Sample ID: 580-22473-5 MS
Matrix: Solid
Analysis Batch: 74727

Client Sample ID: STJ0130-05
Prep Type: Total/NA
Prep Batch: 74617

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	% Rec	% Rec.
	Result	Qualifier		Result	Qualifier				Limits
Mercury	0.0069	J	0.163	0.165		mg/Kg	☼	97	80 - 120

Lab Sample ID: 580-22473-5 MSD
Matrix: Solid
Analysis Batch: 74727

Client Sample ID: STJ0130-05
Prep Type: Total/NA
Prep Batch: 74617

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	% Rec	% Rec.	RPD	
	Result	Qualifier		Result	Qualifier				Limits	RPD	Limit
Mercury	0.0069	J	0.163	0.170		mg/Kg	☼	100	80 - 120	3	20

Lab Sample ID: 580-22473-5 DU
Matrix: Solid
Analysis Batch: 74727

Client Sample ID: STJ0130-05
Prep Type: Total/NA
Prep Batch: 74617

Analyte	Sample	Sample	DU		Unit	D	RPD	RPD	
	Result	Qualifier	Result	Qualifier				Limit	Limit
Mercury	0.0069	J	0.00953	J	mg/Kg	☼	32	20	

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Method: EPA 300.0 - Anions per EPA Method 300.0

Lab Sample ID: 10J0949-BLK1
Matrix: Soil
Analysis Batch: T003547

Client Sample ID: 10J0949-BLK1
Prep Type: total
Prep Batch: 10J0949_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		10.0	0.0160	mg/kg wet		10/28/10 13:55	10/29/10 16:18	1
Fluoride	ND		10.0	0.0150	mg/kg wet		10/28/10 13:55	10/29/10 16:18	1
Nitrate-Nitrogen	ND		2.00	0.0110	mg/kg wet		10/28/10 13:55	10/29/10 16:18	1
Nitrite-Nitrogen	ND		2.00	0.0160	mg/kg wet		10/28/10 13:55	10/29/10 16:18	1
Sulfate	ND		20.0	0.511	mg/kg wet		10/28/10 13:55	10/29/10 16:18	1

Lab Sample ID: 10J0949-BS1
Matrix: Soil
Analysis Batch: T003547

Client Sample ID: 10J0949-BS1
Prep Type: total
Prep Batch: 10J0949_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Chloride	100	102		mg/kg wet		102	90 - 110
Fluoride	40.0	38.3		mg/kg wet		95.8	90 - 110
Nitrate-Nitrogen	50.0	49.7		mg/kg wet		99.4	90 - 110
Nitrite-Nitrogen	50.0	49.9		mg/kg wet		99.8	90 - 110
Sulfate	300	311		mg/kg wet		104	90 - 110

Lab Sample ID: 10J0949-MS1
Matrix: Soil
Analysis Batch: T003547

Client Sample ID: PTJ0731-19
Prep Type: total
Prep Batch: 10J0949_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Chloride	0.842		20.8	22.5		mg/kg dry	⊛	104	75 - 125
Fluoride	6.95		20.8	27.6		mg/kg dry	⊛	99.1	75 - 125
Nitrate-Nitrogen	1.26		20.8	22.2		mg/kg dry	⊛	101	75 - 125
Nitrite-Nitrogen	ND		20.8	21.6		mg/kg dry	⊛	104	75 - 125
Sulfate	33.7		41.6	77.4		mg/kg dry	⊛	105	75 - 125

Lab Sample ID: 10J0949-MS2
Matrix: Soil
Analysis Batch: T003547

Client Sample ID: SO-2494-SB2 (1-2)-102110
Prep Type: total
Prep Batch: 10J0949_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Chloride	3.44	J	20.9	24.7		mg/kg dry	⊛	102	75 - 125
Fluoride	19.0		20.9	48.0	M7	mg/kg dry	⊛	139	75 - 125
Nitrate-Nitrogen	ND		20.9	21.2		mg/kg dry	⊛	101	75 - 125
Nitrite-Nitrogen	ND		20.9	21.7		mg/kg dry	⊛	103	75 - 125

Lab Sample ID: 10J0949-MS3
Matrix: Soil
Analysis Batch: 10J0949

Client Sample ID: SO-2494-SB2 (1-2)-102110
Prep Type: total
Prep Batch: 10J0949_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Sulfate	1380		419	1620	M8	mg/kg dry	⊛	58.4	75 - 125

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0130
 SDG: STJ0130

Method: EPA 300.0 - Anions per EPA Method 300.0 (Continued)

Lab Sample ID: 10J0949-MSD1

Matrix: Soil

Analysis Batch: T003547

Client Sample ID: PTJ0731-19

Prep Type: total

Prep Batch: 10J0949_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Chloride	0.842		21.0	22.4		mg/kg dry	*	103	75 - 125	0.49	7	40
Fluoride	6.95		21.0	25.8		mg/kg dry	*	89.9	75 - 125	6.65		40
Nitrate-Nitrogen	1.26		21.0	21.9		mg/kg dry	*	98.4	75 - 125	1.47		40
Nitrite-Nitrogen	ND		21.0	21.6		mg/kg dry	*	103	75 - 125	0.04	94	40
Sulfate	33.7		42.0	67.8		mg/kg dry	*	81.3	75 - 125	13.2		40

Lab Sample ID: 10J0949-DUP1

Matrix: Soil

Analysis Batch: T003547

Client Sample ID: PTJ0731-19

Prep Type: total

Prep Batch: 10J0949_P

Analyte	Sample	Sample	Duplicate		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Chloride	0.842		0.736	J	mg/kg dry	*	13.5	40
Fluoride	6.95		7.04	J	mg/kg dry	*	1.36	40
Nitrate-Nitrogen	1.26		1.26	J	mg/kg dry	*	0.14	40
Nitrite-Nitrogen	ND		ND		mg/kg dry	*	0	40
Sulfate	33.7		33.7		mg/kg dry	*	0.17	40
							2	

Lab Sample ID: 10K0020-BLK1

Matrix: Soil

Analysis Batch: 10K0020

Client Sample ID: 10K0020-BLK1

Prep Type: total

Prep Batch: 10K0020_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	ND		10.0	0.0160	mg/kg wet		11/01/10 11:49	11/01/10 20:41	1
Fluoride	ND		10.0	0.0150	mg/kg wet		11/01/10 11:49	11/01/10 20:41	1
Nitrate-Nitrogen	ND		2.00	0.0110	mg/kg wet		11/01/10 11:49	11/01/10 20:41	1
Nitrite-Nitrogen	ND		2.00	0.0160	mg/kg wet		11/01/10 11:49	11/01/10 20:41	1
Sulfate	ND		20.0	0.511	mg/kg wet		11/01/10 11:49	11/01/10 20:41	1

Lab Sample ID: 10K0020-BS1

Matrix: Soil

Analysis Batch: 10K0020

Client Sample ID: 10K0020-BS1

Prep Type: total

Prep Batch: 10K0020_P

Analyte	Spike	LCS	LCS	Unit	D	% Rec	% Rec.	
							Added	Result
Chloride	100	101		mg/kg wet		101	90 - 110	
Fluoride	40.0	37.8		mg/kg wet		94.5	90 - 110	
Nitrate-Nitrogen	50.0	49.2		mg/kg wet		98.4	90 - 110	
Nitrite-Nitrogen	50.0	49.2		mg/kg wet		98.4	90 - 110	
Sulfate	300	308		mg/kg wet		103	90 - 110	

Lab Sample ID: 10K0020-MS1

Matrix: Soil

Analysis Batch: 10K0020

Client Sample ID: SO-2494-BG2 (4-5)-102110

Prep Type: total

Prep Batch: 10K0020_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Chloride	0.433	J	21.7	22.2		mg/kg dry	*	100	75 - 125	
Fluoride	5.84	J	21.7	26.1		mg/kg dry	*	93.6	75 - 125	
Nitrate-Nitrogen	1.08	J	21.7	22.3		mg/kg dry	*	98.0	75 - 125	
Nitrite-Nitrogen	ND		21.7	22.0		mg/kg dry	*	101	75 - 125	

TestAmerica Spokane

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Method: EPA 300.0 - Anions per EPA Method 300.0 (Continued)

Lab Sample ID: 10K0020-MS1

Matrix: Soil

Analysis Batch: 10K0020

Client Sample ID: SO-2494-BG2 (4-5)-102110

Prep Type: total

Prep Batch: 10K0020_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Sulfate	4.44	J	43.3	45.8		mg/kg dry	☼	95.5	75 - 125	

Lab Sample ID: 10K0020-MS2

Matrix: Soil

Analysis Batch: 10K0020

Client Sample ID: SO-2494-MW3 (14-15)-102110

Prep Type: total

Prep Batch: 10K0020_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Chloride	1.79	J	20.9	23.0		mg/kg dry	☼	102	75 - 125	
Fluoride	1.47	J	20.9	21.1		mg/kg dry	☼	94.2	75 - 125	
Nitrate-Nitrogen	ND		20.9	20.9		mg/kg dry	☼	100	75 - 125	
Nitrite-Nitrogen	ND		20.9	21.4		mg/kg dry	☼	103	75 - 125	
Sulfate	6.84	J	41.7	48.2		mg/kg dry	☼	99.2	75 - 125	

Lab Sample ID: 10K0020-MSD1

Matrix: Soil

Analysis Batch: 10K0020

Client Sample ID: SO-2494-BG2 (4-5)-102110

Prep Type: total

Prep Batch: 10K0020_P

Analyte	Sample	Sample	Spike	Matrix Spike Dup	Matrix Spike Dup	Unit	D	% Rec	% Rec.		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	
Chloride	0.433	J	21.2	21.6		mg/kg dry	☼	99.7	75 - 125	2.70	40	
Fluoride	5.84	J	21.2	25.7		mg/kg dry	☼	93.4	75 - 125	1.72	40	
Nitrate-Nitrogen	1.08	J	21.2	21.7		mg/kg dry	☼	97.2	75 - 125	2.70	40	
Nitrite-Nitrogen	ND		21.2	21.5		mg/kg dry	☼	101	75 - 125	2.21	40	
Sulfate	4.44	J	42.5	45.5		mg/kg dry	☼	96.6	75 - 125	0.77	40	

Lab Sample ID: 10K0020-DUP1

Matrix: Soil

Analysis Batch: 10K0020

Client Sample ID: SO-2494-BG2 (4-5)-102110

Prep Type: total

Prep Batch: 10K0020_P

Analyte	Sample	Sample	Duplicate		Duplicate		Unit	D	RPD	RPD	
	Result	Qualifier	Result	Qualifier	Result	Qualifier				RPD	Limit
Chloride	0.433	J	0.432	J			mg/kg dry	☼	0.18	40	
Fluoride	5.84	J	7.45	J			mg/kg dry	☼	24.2	40	
Nitrate-Nitrogen	1.08	J	1.30	J			mg/kg dry	☼	18.0	40	
Nitrite-Nitrogen	ND		ND				mg/kg dry	☼		40	
Sulfate	4.44	J	4.54	J			mg/kg dry	☼	2.23	40	

QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0130
 SDG: STJ0130

Metals

Prep Batch: 74610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0130-01	SO-2494-SB2 (1-2)-102110	Total/NA	Soil	7471A	
STJ0130-02	SO-2494-SB2 (5-6)-102110	Total/NA	Soil	7471A	
STJ0130-03	SO-2494-SB2 (15-16)-102110	Total/NA	Soil	7471A	
580-22471-A-12-B DU	580-22471-A-12-B DU	Total/NA	Solid	7471A	
STJ0130-04	SO-2494-SB3 (0-1)-102110	Total/NA	Soil	7471A	
MB 580-74610/21-A	MB 580-74610/21-A	Total/NA	Solid	7471A	
LCS 580-74610/22-A	LCS 580-74610/22-A	Total/NA	Solid	7471A	
LCSD 580-74610/23-A	LCSD 580-74610/23-A	Total/NA	Solid	7471A	
580-22471-A-19-B MS	580-22471-A-19-B MS	Total/NA	Solid	7471A	
580-22471-A-19-C MSD	580-22471-A-19-C MSD	Total/NA	Solid	7471A	

Prep Batch: 74617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0130-05	SO-2494-SB3 (4-5)-102110	Total/NA	Soil	7471A	
STJ0130-11	SO-2494-BG2 (4-5)-102110	Total/NA	Soil	7471A	
STJ0130-12	SO-2494-BG2 (14-15)-102110	Total/NA	Soil	7471A	
STJ0130-13	SO-2494-BG3 (0-1)-102110	Total/NA	Soil	7471A	
STJ0130-14	SO-2494-BG3 (4-5)-102110	Total/NA	Soil	7471A	
STJ0130-15	SO-2494-BG3 (14-15)-102110	Total/NA	Soil	7471A	
STJ0130-16	SO-2494-BG4 (0-1)-102110	Total/NA	Soil	7471A	
STJ0130-17	SO-2494-MW3 (0-1)-102110	Total/NA	Soil	7471A	
STJ0130-18	SO-2494-MW3 (4-5)-102110	Total/NA	Soil	7471A	
STJ0130-19	SO-2494-MW3 (14-15)-102110	Total/NA	Soil	7471A	
580-22473-5 DU	STJ0130-05	Total/NA	Solid	7471A	
MB 580-74617/22-A	MB 580-74617/22-A	Total/NA	Solid	7471A	
LCS 580-74617/23-A	LCS 580-74617/23-A	Total/NA	Solid	7471A	
LCSD 580-74617/24-A	LCSD 580-74617/24-A	Total/NA	Solid	7471A	
580-22473-5 MS	STJ0130-05	Total/NA	Solid	7471A	
580-22473-5 MSD	STJ0130-05	Total/NA	Solid	7471A	
STJ0130-06	SO-2494-SB3 (14-15)-102110	Total/NA	Soil	7471A	
STJ0130-07	SO-2494-BG1 (0-1)-102110	Total/NA	Soil	7471A	
STJ0130-08	SO-2494-BG1 (4-5)-102110	Total/NA	Soil	7471A	
STJ0130-09	SO-2494-BG1 (14-15)-102110	Total/NA	Soil	7471A	
STJ0130-10	SO-2494-BG2 (0-1)-102110	Total/NA	Soil	7471A	

Prep Batch: 74667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0130-01	SO-2494-SB2 (1-2)-102110	Total/NA	Soil	3050B	
STJ0130-02	SO-2494-SB2 (5-6)-102110	Total/NA	Soil	3050B	
STJ0130-03	SO-2494-SB2 (15-16)-102110	Total/NA	Soil	3050B	
STJ0130-04	SO-2494-SB3 (0-1)-102110	Total/NA	Soil	3050B	
STJ0130-05	SO-2494-SB3 (4-5)-102110	Total/NA	Soil	3050B	
STJ0130-06	SO-2494-SB3 (14-15)-102110	Total/NA	Soil	3050B	
580-22471-A-19-E DU	580-22471-A-19-E DU	Total/NA	Solid	3050B	
STJ0130-07	SO-2494-BG1 (0-1)-102110	Total/NA	Soil	3050B	
STJ0130-08	SO-2494-BG1 (4-5)-102110	Total/NA	Soil	3050B	
MB 580-74667/22-A	MB 580-74667/22-A	Total/NA	Solid	3050B	
LCS 580-74667/23-A	LCS 580-74667/23-A	Total/NA	Solid	3050B	
LCSD 580-74667/24-A	LCSD 580-74667/24-A	Total/NA	Solid	3050B	
580-22471-A-19-F MS	580-22471-A-19-F MS	Total/NA	Solid	3050B	
580-22471-A-19-G MSD	580-22471-A-19-G MSD	Total/NA	Solid	3050B	

QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0130
 SDG: STJ0130

Metals (Continued)

Analysis Batch: 74727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-74610/21-A	MB 580-74610/21-A	Total/NA	Solid	7471A	74610
580-22471-A-19-B MS	580-22471-A-19-B MS	Total/NA	Solid	7471A	74610
580-22471-A-19-C MSD	580-22471-A-19-C MSD	Total/NA	Solid	7471A	74610
LCS 580-74610/22-A	LCS 580-74610/22-A	Total/NA	Solid	7471A	74610
STJ0130-01	SO-2494-SB2 (1-2)-102110	Total/NA	Soil	7471A	74610
STJ0130-02	SO-2494-SB2 (5-6)-102110	Total/NA	Soil	7471A	74610
STJ0130-03	SO-2494-SB2 (15-16)-102110	Total/NA	Soil	7471A	74610
STJ0130-04	SO-2494-SB3 (0-1)-102110	Total/NA	Soil	7471A	74610
MB 580-74617/22-A	MB 580-74617/22-A	Total/NA	Solid	7471A	74617
LCS 580-74617/23-A	LCS 580-74617/23-A	Total/NA	Solid	7471A	74617
LCSD 580-74617/24-A	LCSD 580-74617/24-A	Total/NA	Solid	7471A	74617
STJ0130-05	SO-2494-SB3 (4-5)-102110	Total/NA	Soil	7471A	74617
LCSD 580-74610/23-A	LCSD 580-74610/23-A	Total/NA	Solid	7471A	74610
580-22473-5 DU	STJ0130-05	Total/NA	Solid	7471A	74617
580-22473-5 MS	STJ0130-05	Total/NA	Solid	7471A	74617
580-22473-5 MSD	STJ0130-05	Total/NA	Solid	7471A	74617
STJ0130-06	SO-2494-SB3 (14-15)-102110	Total/NA	Soil	7471A	74617
STJ0130-07	SO-2494-BG1 (0-1)-102110	Total/NA	Soil	7471A	74617
STJ0130-08	SO-2494-BG1 (4-5)-102110	Total/NA	Soil	7471A	74617
STJ0130-09	SO-2494-BG1 (14-15)-102110	Total/NA	Soil	7471A	74617
STJ0130-10	SO-2494-BG2 (0-1)-102110	Total/NA	Soil	7471A	74617
STJ0130-11	SO-2494-BG2 (4-5)-102110	Total/NA	Soil	7471A	74617
STJ0130-12	SO-2494-BG2 (14-15)-102110	Total/NA	Soil	7471A	74617
STJ0130-13	SO-2494-BG3 (0-1)-102110	Total/NA	Soil	7471A	74617
STJ0130-14	SO-2494-BG3 (4-5)-102110	Total/NA	Soil	7471A	74617
STJ0130-15	SO-2494-BG3 (14-15)-102110	Total/NA	Soil	7471A	74617
STJ0130-16	SO-2494-BG4 (0-1)-102110	Total/NA	Soil	7471A	74617
STJ0130-17	SO-2494-MW3 (0-1)-102110	Total/NA	Soil	7471A	74617
STJ0130-18	SO-2494-MW3 (4-5)-102110	Total/NA	Soil	7471A	74617
STJ0130-19	SO-2494-MW3 (14-15)-102110	Total/NA	Soil	7471A	74617
580-22471-A-12-B DU	580-22471-A-12-B DU	Total/NA	Solid	7471A	74610

Prep Batch: 74735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0130-12	SO-2494-BG2 (14-15)-102110	Total/NA	Soil	3050B	
STJ0130-13	SO-2494-BG3 (0-1)-102110	Total/NA	Soil	3050B	
STJ0130-14	SO-2494-BG3 (4-5)-102110	Total/NA	Soil	3050B	
STJ0130-15	SO-2494-BG3 (14-15)-102110	Total/NA	Soil	3050B	
STJ0130-16	SO-2494-BG4 (0-1)-102110	Total/NA	Soil	3050B	
STJ0130-17	SO-2494-MW3 (0-1)-102110	Total/NA	Soil	3050B	
STJ0130-18	SO-2494-MW3 (4-5)-102110	Total/NA	Soil	3050B	
STJ0130-19	SO-2494-MW3 (14-15)-102110	Total/NA	Soil	3050B	
580-22485-A-1-C DU	580-22485-A-1-C DU	Total/NA	Solid	3050B	
MB 580-74735/24-A	MB 580-74735/24-A	Total/NA	Solid	3050B	
LCS 580-74735/25-A	LCS 580-74735/25-A	Total/NA	Solid	3050B	
LCSD 580-74735/26-A	LCSD 580-74735/26-A	Total/NA	Solid	3050B	
580-22485-A-1-D MS	580-22485-A-1-D MS	Total/NA	Solid	3050B	
580-22485-A-1-E MSD	580-22485-A-1-E MSD	Total/NA	Solid	3050B	
STJ0130-09	SO-2494-BG1 (14-15)-102110	Total/NA	Soil	3050B	
STJ0130-10	SO-2494-BG2 (0-1)-102110	Total/NA	Soil	3050B	
STJ0130-11	SO-2494-BG2 (4-5)-102110	Total/NA	Soil	3050B	



QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0130
 SDG: STJ0130

Metals (Continued)

Analysis Batch: 74745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-74667/22-A	MB 580-74667/22-A	Total/NA	Solid	6010B	74667
LCS 580-74667/23-A	LCS 580-74667/23-A	Total/NA	Solid	6010B	74667
LCSD 580-74667/24-A	LCSD 580-74667/24-A	Total/NA	Solid	6010B	74667
580-22471-A-19-E DU	580-22471-A-19-E DU	Total/NA	Solid	6010B	74667
580-22471-A-19-F MS	580-22471-A-19-F MS	Total/NA	Solid	6010B	74667
580-22471-A-19-G MSD	580-22471-A-19-G MSD	Total/NA	Solid	6010B	74667
STJ0130-01	SO-2494-SB2 (1-2)-102110	Total/NA	Soil	6010B	74667
STJ0130-02	SO-2494-SB2 (5-6)-102110	Total/NA	Soil	6010B	74667
STJ0130-03	SO-2494-SB2 (15-16)-102110	Total/NA	Soil	6010B	74667
STJ0130-04	SO-2494-SB3 (0-1)-102110	Total/NA	Soil	6010B	74667
STJ0130-05	SO-2494-SB3 (4-5)-102110	Total/NA	Soil	6010B	74667
STJ0130-06	SO-2494-SB3 (14-15)-102110	Total/NA	Soil	6010B	74667
STJ0130-07	SO-2494-BG1 (0-1)-102110	Total/NA	Soil	6010B	74667
STJ0130-08	SO-2494-BG1 (4-5)-102110	Total/NA	Soil	6010B	74667

Analysis Batch: 74943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-74735/24-A	MB 580-74735/24-A	Total/NA	Solid	6010B	74735
STJ0130-09	SO-2494-BG1 (14-15)-102110	Total/NA	Soil	6010B	74735
STJ0130-10	SO-2494-BG2 (0-1)-102110	Total/NA	Soil	6010B	74735
STJ0130-11	SO-2494-BG2 (4-5)-102110	Total/NA	Soil	6010B	74735
STJ0130-12	SO-2494-BG2 (14-15)-102110	Total/NA	Soil	6010B	74735
STJ0130-13	SO-2494-BG3 (0-1)-102110	Total/NA	Soil	6010B	74735
STJ0130-14	SO-2494-BG3 (4-5)-102110	Total/NA	Soil	6010B	74735
STJ0130-15	SO-2494-BG3 (14-15)-102110	Total/NA	Soil	6010B	74735
STJ0130-16	SO-2494-BG4 (0-1)-102110	Total/NA	Soil	6010B	74735
STJ0130-17	SO-2494-MW3 (0-1)-102110	Total/NA	Soil	6010B	74735
STJ0130-18	SO-2494-MW3 (4-5)-102110	Total/NA	Soil	6010B	74735
LCS 580-74735/25-A	LCS 580-74735/25-A	Total/NA	Solid	6010B	74735
STJ0130-19	SO-2494-MW3 (14-15)-102110	Total/NA	Soil	6010B	74735
LCSD 580-74735/26-A	LCSD 580-74735/26-A	Total/NA	Solid	6010B	74735
580-22485-A-1-C DU	580-22485-A-1-C DU	Total/NA	Solid	6010B	74735
580-22485-A-1-D MS	580-22485-A-1-D MS	Total/NA	Solid	6010B	74735
580-22485-A-1-E MSD	580-22485-A-1-E MSD	Total/NA	Solid	6010B	74735

General Chemistry

Analysis Batch: 74721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0130-05	SO-2494-SB3 (4-5)-102110	Total/NA	Soil	Moisture	
STJ0130-06	SO-2494-SB3 (14-15)-102110	Total/NA	Soil	Moisture	
STJ0130-07	SO-2494-BG1 (0-1)-102110	Total/NA	Soil	Moisture	
STJ0130-08	SO-2494-BG1 (4-5)-102110	Total/NA	Soil	Moisture	
STJ0130-09	SO-2494-BG1 (14-15)-102110	Total/NA	Soil	Moisture	
STJ0130-10	SO-2494-BG2 (0-1)-102110	Total/NA	Soil	Moisture	
STJ0130-11	SO-2494-BG2 (4-5)-102110	Total/NA	Soil	Moisture	
580-22473-A-11 DU	580-22473-A-11 DU	Total/NA	Solid	Moisture	
STJ0130-12	SO-2494-BG2 (14-15)-102110	Total/NA	Soil	Moisture	
STJ0130-13	SO-2494-BG3 (0-1)-102110	Total/NA	Soil	Moisture	
STJ0130-14	SO-2494-BG3 (4-5)-102110	Total/NA	Soil	Moisture	
STJ0130-15	SO-2494-BG3 (14-15)-102110	Total/NA	Soil	Moisture	
STJ0130-16	SO-2494-BG4 (0-1)-102110	Total/NA	Soil	Moisture	

QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0130
 SDG: STJ0130

General Chemistry (Continued)

Analysis Batch: 74721 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0130-17	SO-2494-MW3 (0-1)-102110	Total/NA	Soil	Moisture	
STJ0130-18	SO-2494-MW3 (4-5)-102110	Total/NA	Soil	Moisture	
STJ0130-19	SO-2494-MW3 (14-15)-102110	Total/NA	Soil	Moisture	
STJ0130-01	SO-2494-SB2 (1-2)-102110	Total/NA	Soil	Moisture	
580-22473-1 DU	STJ0130-01	Total/NA	Solid	Moisture	
STJ0130-02	SO-2494-SB2 (5-6)-102110	Total/NA	Soil	Moisture	
STJ0130-03	SO-2494-SB2 (15-16)-102110	Total/NA	Soil	Moisture	
STJ0130-04	SO-2494-SB3 (0-1)-102110	Total/NA	Soil	Moisture	

Wet Chem

Analysis Batch: 10J0949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0949-MS3	SO-2494-SB2 (1-2)-102110	total	Soil	EPA 300.0	10J0949_P

Prep Batch: 10J0949_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0949-BLK1	10J0949-BLK1	total	Soil	Wet Chem	
10J0949-BS1	10J0949-BS1	total	Soil	Wet Chem	
10J0949-DUP1	PTJ0731-19	total	Soil	Wet Chem	
10J0949-MS1	PTJ0731-19	total	Soil	Wet Chem	
10J0949-MSD1	PTJ0731-19	total	Soil	Wet Chem	
STJ0130-01	SO-2494-SB2 (1-2)-102110	total	Soil	Wet Chem	
10J0949-MS2	SO-2494-SB2 (1-2)-102110	total	Soil	Wet Chem	
STJ0130-02	SO-2494-SB2 (5-6)-102110	total	Soil	Wet Chem	
STJ0130-03	SO-2494-SB2 (15-16)-102110	total	Soil	Wet Chem	
STJ0130-04	SO-2494-SB3 (0-1)-102110	total	Soil	Wet Chem	
STJ0130-05	SO-2494-SB3 (4-5)-102110	total	Soil	Wet Chem	
STJ0130-06	SO-2494-SB3 (14-15)-102110	total	Soil	Wet Chem	
STJ0130-07	SO-2494-BG1 (0-1)-102110	total	Soil	Wet Chem	
STJ0130-08	SO-2494-BG1 (4-5)-102110	total	Soil	Wet Chem	
STJ0130-09	SO-2494-BG1 (14-15)-102110	total	Soil	Wet Chem	
STJ0130-10	SO-2494-BG2 (0-1)-102110	total	Soil	Wet Chem	
STJ0130-01	SO-2494-SB2 (1-2)-102110	total	Soil	Wet Chem	
10J0949-MS3	SO-2494-SB2 (1-2)-102110	total	Soil	Wet Chem	
STJ0130-02	SO-2494-SB2 (5-6)-102110	total	Soil	Wet Chem	

Analysis Batch: 10K0020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10K0020-BLK1	10K0020-BLK1	total	Soil	EPA 300.0	10K0020_P
10K0020-BS1	10K0020-BS1	total	Soil	EPA 300.0	10K0020_P
10K0020-DUP1	SO-2494-BG2 (4-5)-102110	total	Soil	EPA 300.0	10K0020_P
10K0020-MS1	SO-2494-BG2 (4-5)-102110	total	Soil	EPA 300.0	10K0020_P
10K0020-MSD1	SO-2494-BG2 (4-5)-102110	total	Soil	EPA 300.0	10K0020_P
STJ0130-11	SO-2494-BG2 (4-5)-102110	total	Soil	EPA 300.0	10K0020_P
STJ0130-12	SO-2494-BG2 (14-15)-102110	total	Soil	EPA 300.0	10K0020_P
STJ0130-13	SO-2494-BG3 (0-1)-102110	total	Soil	EPA 300.0	10K0020_P
STJ0130-14	SO-2494-BG3 (4-5)-102110	total	Soil	EPA 300.0	10K0020_P
STJ0130-15	SO-2494-BG3 (14-15)-102110	total	Soil	EPA 300.0	10K0020_P
STJ0130-16	SO-2494-BG4 (0-1)-102110	total	Soil	EPA 300.0	10K0020_P
STJ0130-17	SO-2494-MW3 (0-1)-102110	total	Soil	EPA 300.0	10K0020_P
STJ0130-18	SO-2494-MW3 (4-5)-102110	total	Soil	EPA 300.0	10K0020_P

QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0130
 SDG: STJ0130

Wet Chem (Continued)

Analysis Batch: 10K0020 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0130-19	SO-2494-MW3 (14-15)-102110	total	Soil	EPA 300.0	10K0020_P
10K0020-MS2	SO-2494-MW3 (14-15)-102110	total	Soil	EPA 300.0	10K0020_P

Prep Batch: 10K0020_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10K0020-BLK1	10K0020-BLK1	total	Soil	Wet Chem	
10K0020-BS1	10K0020-BS1	total	Soil	Wet Chem	
10K0020-DUP1	SO-2494-BG2 (4-5)-102110	total	Soil	Wet Chem	
10K0020-MS1	SO-2494-BG2 (4-5)-102110	total	Soil	Wet Chem	
10K0020-MSD1	SO-2494-BG2 (4-5)-102110	total	Soil	Wet Chem	
STJ0130-11	SO-2494-BG2 (4-5)-102110	total	Soil	Wet Chem	
STJ0130-12	SO-2494-BG2 (14-15)-102110	total	Soil	Wet Chem	
STJ0130-13	SO-2494-BG3 (0-1)-102110	total	Soil	Wet Chem	
STJ0130-14	SO-2494-BG3 (4-5)-102110	total	Soil	Wet Chem	
STJ0130-15	SO-2494-BG3 (14-15)-102110	total	Soil	Wet Chem	
STJ0130-16	SO-2494-BG4 (0-1)-102110	total	Soil	Wet Chem	
STJ0130-17	SO-2494-MW3 (0-1)-102110	total	Soil	Wet Chem	
STJ0130-18	SO-2494-MW3 (4-5)-102110	total	Soil	Wet Chem	
STJ0130-19	SO-2494-MW3 (14-15)-102110	total	Soil	Wet Chem	
10K0020-MS2	SO-2494-MW3 (14-15)-102110	total	Soil	Wet Chem	

Analysis Batch: T003547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0949-BLK1	10J0949-BLK1	total	Soil	EPA 300.0	10J0949_P
10J0949-BS1	10J0949-BS1	total	Soil	EPA 300.0	10J0949_P
10J0949-DUP1	PTJ0731-19	total	Soil	EPA 300.0	10J0949_P
10J0949-MS1	PTJ0731-19	total	Soil	EPA 300.0	10J0949_P
10J0949-MSD1	PTJ0731-19	total	Soil	EPA 300.0	10J0949_P
STJ0130-01	SO-2494-SB2 (1-2)-102110	total	Soil	EPA 300.0	10J0949_P
10J0949-MS2	SO-2494-SB2 (1-2)-102110	total	Soil	EPA 300.0	10J0949_P
STJ0130-02	SO-2494-SB2 (5-6)-102110	total	Soil	EPA 300.0	10J0949_P
STJ0130-03	SO-2494-SB2 (15-16)-102110	total	Soil	EPA 300.0	10J0949_P
STJ0130-04	SO-2494-SB3 (0-1)-102110	total	Soil	EPA 300.0	10J0949_P
STJ0130-05	SO-2494-SB3 (4-5)-102110	total	Soil	EPA 300.0	10J0949_P
STJ0130-06	SO-2494-SB3 (14-15)-102110	total	Soil	EPA 300.0	10J0949_P
STJ0130-07	SO-2494-BG1 (0-1)-102110	total	Soil	EPA 300.0	10J0949_P
STJ0130-08	SO-2494-BG1 (4-5)-102110	total	Soil	EPA 300.0	10J0949_P
STJ0130-09	SO-2494-BG1 (14-15)-102110	total	Soil	EPA 300.0	10J0949_P
STJ0130-10	SO-2494-BG2 (0-1)-102110	total	Soil	EPA 300.0	10J0949_P
STJ0130-01	SO-2494-SB2 (1-2)-102110	total	Soil	EPA 300.0	10J0949_P
STJ0130-02	SO-2494-SB2 (5-6)-102110	total	Soil	EPA 300.0	10J0949_P

Sample Control

Analysis Batch: 10J0973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0973-DUP1	PTJ0808-01	total	Soil	ASTM D2216-80	10J0973_P
10J0973-DUP2	PTJ0808-02	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-01	SO-2494-SB2 (1-2)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-02	SO-2494-SB2 (5-6)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-03	SO-2494-SB2 (15-16)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-04	SO-2494-SB3 (0-1)-102110	total	Soil	ASTM D2216-80	10J0973_P



QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0130
 SDG: STJ0130

Sample Control (Continued)

Analysis Batch: 10J0973 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0130-05	SO-2494-SB3 (4-5)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-06	SO-2494-SB3 (14-15)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-07	SO-2494-BG1 (0-1)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-08	SO-2494-BG1 (4-5)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-09	SO-2494-BG1 (14-15)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-10	SO-2494-BG2 (0-1)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-11	SO-2494-BG2 (4-5)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-12	SO-2494-BG2 (14-15)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-13	SO-2494-BG3 (0-1)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-14	SO-2494-BG3 (4-5)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-15	SO-2494-BG3 (14-15)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-16	SO-2494-BG4 (0-1)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-17	SO-2494-MW3 (0-1)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-18	SO-2494-MW3 (4-5)-102110	total	Soil	ASTM D2216-80	10J0973_P
STJ0130-19	SO-2494-MW3 (14-15)-102110	total	Soil	ASTM D2216-80	10J0973_P

Prep Batch: 10J0973_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0973-DUP1	PTJ0808-01	total	Soil	Dry Weight	
10J0973-DUP2	PTJ0808-02	total	Soil	Dry Weight	
STJ0130-01	SO-2494-SB2 (1-2)-102110	total	Soil	Dry Weight	
STJ0130-02	SO-2494-SB2 (5-6)-102110	total	Soil	Dry Weight	
STJ0130-03	SO-2494-SB2 (15-16)-102110	total	Soil	Dry Weight	
STJ0130-04	SO-2494-SB3 (0-1)-102110	total	Soil	Dry Weight	
STJ0130-05	SO-2494-SB3 (4-5)-102110	total	Soil	Dry Weight	
STJ0130-06	SO-2494-SB3 (14-15)-102110	total	Soil	Dry Weight	
STJ0130-07	SO-2494-BG1 (0-1)-102110	total	Soil	Dry Weight	
STJ0130-08	SO-2494-BG1 (4-5)-102110	total	Soil	Dry Weight	
STJ0130-09	SO-2494-BG1 (14-15)-102110	total	Soil	Dry Weight	
STJ0130-10	SO-2494-BG2 (0-1)-102110	total	Soil	Dry Weight	
STJ0130-11	SO-2494-BG2 (4-5)-102110	total	Soil	Dry Weight	
STJ0130-12	SO-2494-BG2 (14-15)-102110	total	Soil	Dry Weight	
STJ0130-13	SO-2494-BG3 (0-1)-102110	total	Soil	Dry Weight	
STJ0130-14	SO-2494-BG3 (4-5)-102110	total	Soil	Dry Weight	
STJ0130-15	SO-2494-BG3 (14-15)-102110	total	Soil	Dry Weight	
STJ0130-16	SO-2494-BG4 (0-1)-102110	total	Soil	Dry Weight	
STJ0130-17	SO-2494-MW3 (0-1)-102110	total	Soil	Dry Weight	
STJ0130-18	SO-2494-MW3 (4-5)-102110	total	Soil	Dry Weight	
STJ0130-19	SO-2494-MW3 (14-15)-102110	total	Soil	Dry Weight	



Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Client Sample ID: SO-2494-SB2 (1-2)-102110

Lab Sample ID: STJ0130-01

Date Collected: 10/21/10 14:15

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 92.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74667	10/29/10 15:08	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74745	10/30/10 15:00	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 11:53	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.021	10J0949_P	10/28/10 13:55	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003547	10/29/10 20:44	SW	TestAmerica Portland
total	Analysis	EPA 300.0		10	T003547	11/01/10 18:52	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Client Sample ID: SO-2494-SB2 (5-6)-102110

Lab Sample ID: STJ0130-02

Date Collected: 10/21/10 14:20

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 96.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74667	10/29/10 15:08	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74745	10/30/10 15:05	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 11:55	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.009	10J0949_P	10/28/10 13:55	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003547	10/29/10 21:15	SW	TestAmerica Portland
total	Analysis	EPA 300.0		10	T003547	11/01/10 19:23	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Client Sample ID: SO-2494-SB2 (15-16)-102110

Lab Sample ID: STJ0130-03

Date Collected: 10/21/10 14:25

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 97.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74667	10/29/10 15:08	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74745	10/30/10 15:11	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 11:58	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		0.9929	10J0949_P	10/28/10 13:55	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003547	10/29/10 21:30	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0130
 SDG: STJ0130

Client Sample ID: SO-2494-SB3 (0-1)-102110

Lab Sample ID: STJ0130-04

Date Collected: 10/21/10 13:15

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74667	10/29/10 15:08	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74745	10/30/10 15:17	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74610	10/29/10 08:09	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 12:00	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.003	10J0949_P	10/28/10 13:55	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003547	10/29/10 21:46	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Client Sample ID: SO-2494-SB3 (4-5)-102110

Lab Sample ID: STJ0130-05

Date Collected: 10/21/10 13:30

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 98.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74667	10/29/10 15:08	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74745	10/30/10 15:23	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74617	10/29/10 09:56	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 12:20	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		0.9984	10J0949_P	10/28/10 13:55	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003547	10/29/10 22:33	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Client Sample ID: SO-2494-SB3 (14-15)-102110

Lab Sample ID: STJ0130-06

Date Collected: 10/21/10 13:40

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 96.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74667	10/29/10 15:08	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74745	10/30/10 15:28	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74617	10/29/10 09:56	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 12:30	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.001	10J0949_P	10/28/10 13:55	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003547	10/29/10 22:48	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Client Sample ID: SO-2494-BG1 (0-1)-102110

Lab Sample ID: STJ0130-07

Date Collected: 10/21/10 15:25

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 88.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74667	10/29/10 15:08	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74745	10/30/10 15:34	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74617	10/29/10 09:56	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 12:32	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.006	10J0949_P	10/28/10 13:55	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003547	10/29/10 23:04	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Client Sample ID: SO-2494-BG1 (4-5)-102110

Lab Sample ID: STJ0130-08

Date Collected: 10/21/10 15:27

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 93.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74667	10/29/10 15:08	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74745	10/30/10 15:40	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74617	10/29/10 09:56	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 12:35	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.001	10J0949_P	10/28/10 13:55	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003547	10/29/10 23:20	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Client Sample ID: SO-2494-BG1 (14-15)-102110

Lab Sample ID: STJ0130-09

Date Collected: 10/21/10 15:30

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 96.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74735	11/01/10 09:17	ZF	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74943	11/02/10 19:05	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74617	10/29/10 09:56	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 12:42	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.003	10J0949_P	10/28/10 13:55	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003547	10/29/10 23:35	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0130
 SDG: STJ0130

Client Sample ID: SO-2494-BG2 (0-1)-102110

Lab Sample ID: STJ0130-10

Date Collected: 10/21/10 15:35

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 88.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74735	11/01/10 09:17	ZF	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74943	11/02/10 19:10	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74617	10/29/10 09:56	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 12:44	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.008	10J0949_P	10/28/10 13:55	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	T003547	10/29/10 23:51	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Client Sample ID: SO-2494-BG2 (4-5)-102110

Lab Sample ID: STJ0130-11

Date Collected: 10/21/10 15:37

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 90.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74735	11/01/10 09:17	ZF	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74943	11/02/10 19:15	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74617	10/29/10 09:56	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 12:47	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.007	10K0020_P	11/01/10 11:49	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	10K0020	11/02/10 01:22	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Client Sample ID: SO-2494-BG2 (14-15)-102110

Lab Sample ID: STJ0130-12

Date Collected: 10/21/10 15:40

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 95.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74735	11/01/10 09:17	ZF	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74943	11/02/10 19:20	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74617	10/29/10 09:56	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 12:49	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.011	10K0020_P	11/01/10 11:49	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	10K0020	11/02/10 01:37	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Client Sample ID: SO-2494-BG3 (0-1)-102110

Lab Sample ID: STJ0130-13

Date Collected: 10/21/10 15:45

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 96.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74735	11/01/10 09:17	ZF	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74943	11/02/10 19:25	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74617	10/29/10 09:56	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 12:52	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.01	10K0020_P	11/01/10 11:49	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	10K0020	11/02/10 01:53	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Client Sample ID: SO-2494-BG3 (4-5)-102110

Lab Sample ID: STJ0130-14

Date Collected: 10/21/10 15:47

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 91.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74735	11/01/10 09:17	ZF	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74943	11/02/10 19:40	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74617	10/29/10 09:56	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 12:54	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.002	10K0020_P	11/01/10 11:49	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	10K0020	11/02/10 02:08	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Client Sample ID: SO-2494-BG3 (14-15)-102110

Lab Sample ID: STJ0130-15

Date Collected: 10/21/10 15:50

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 96.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74735	11/01/10 09:17	ZF	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74943	11/02/10 19:45	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74617	10/29/10 09:56	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 12:57	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.006	10K0020_P	11/01/10 11:49	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	10K0020	11/02/10 02:55	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Client Sample ID: SO-2494-BG4 (0-1)-102110

Date Collected: 10/21/10 15:30

Date Received: 10/22/10 10:35

Lab Sample ID: STJ0130-16

Matrix: Soil

Percent Solids: 99.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74735	11/01/10 09:17	ZF	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74943	11/02/10 19:51	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74617	10/29/10 09:56	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 12:59	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		0.9954	10K0020_P	11/01/10 11:49	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	10K0020	11/02/10 03:11	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Client Sample ID: SO-2494-MW3 (0-1)-102110

Date Collected: 10/21/10 08:30

Date Received: 10/22/10 10:35

Lab Sample ID: STJ0130-17

Matrix: Soil

Percent Solids: 87.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74735	11/01/10 09:17	ZF	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74943	11/02/10 19:56	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74617	10/29/10 09:56	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 13:01	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.018	10K0020_P	11/01/10 11:49	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	10K0020	11/02/10 03:26	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Client Sample ID: SO-2494-MW3 (4-5)-102110

Date Collected: 10/21/10 09:00

Date Received: 10/22/10 10:35

Lab Sample ID: STJ0130-18

Matrix: Soil

Percent Solids: 97.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74735	11/01/10 09:17	ZF	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74943	11/02/10 20:01	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74617	10/29/10 09:56	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 13:04	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.004	10K0020_P	11/01/10 11:49	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	10K0020	11/02/10 03:42	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0130
 SDG: STJ0130

Client Sample ID: SO-2494-MW3 (14-15)-102110

Lab Sample ID: STJ0130-19

Date Collected: 10/21/10 09:10

Matrix: Soil

Date Received: 10/22/10 10:35

Percent Solids: 94.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			74735	11/01/10 09:17	ZF	TestAmerica Seattle
Total/NA	Analysis	6010B		1	74943	11/02/10 20:07	SP	TestAmerica Seattle
Total/NA	Prep	7471A			74617	10/29/10 09:56	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74727	10/29/10 13:11	FCW	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74721	11/01/10 07:17	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1	10K0020_P	11/01/10 11:49	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		1	10K0020	11/02/10 03:58	SW	TestAmerica Portland
total	Prep	Dry Weight		1	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

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Certification Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0130
 SDG: STJ0130

Laboratory	Authority	Program	EPA Region	Certification ID	Expiration Date
TestAmerica Portland		USDA		P330-07-XXXXXX	11/13/10
TestAmerica Portland	Alaska	Alaska UST	10	UST-012	12/26/10
TestAmerica Portland	Alaska	State Program	10	OR00040	04/21/11
TestAmerica Portland	California	State Program	9	2597	09/30/11
TestAmerica Portland	Oregon	NELAC Primary AB	10	OR100021	01/09/11
TestAmerica Portland	Washington	State Program	10	C586	06/23/11
TestAmerica Seattle		USDA		P330-08-00099	05/22/11
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022	03/04/11
TestAmerica Seattle	California	NELAC Secondary AB	9	1115CA	01/31/11
TestAmerica Seattle	Florida	NELAC Secondary AB	4	E871074	06/30/11
TestAmerica Seattle	L-A-B	DoD ELAP	0	L2236	01/19/13
TestAmerica Seattle	L-A-B	ISO/IEC 17025	0	L2236	01/19/13
TestAmerica Seattle	Montana	State Program	8		04/30/20
TestAmerica Seattle	Oregon	NELAC Primary AB	10	WA100007	12/06/10
TestAmerica Seattle	Washington	State Program	10	C553	02/17/11

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



Method Summary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0130
SDG: STJ0130

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL SEA
7471A	Mercury (CVAA)	SW846	TAL SEA
Moisture	Percent Moisture	EPA	TAL SEA
EPA 300.0	Anions per EPA Method 300.0		TAL PTL
ASTM D2216-80	Percent Dry Weight (Solids) per ASTM D2216-80		TAL PTL

Protocol References:

=

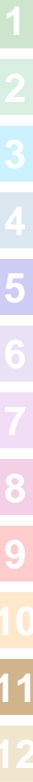
EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PTL = TestAmerica Portland, 9405 SW Nimbus Ave., Beaverton, OR 97008, TEL 503/906-9200

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310



TestAmerica Spokane
Sample Receipt Form

Work Order #: STJO130	Client: PBW	Project: UPRR Aluminum Rel.		
Date/Time Received: 10-22-10 10:35	By: CS			
Samples Delivered By: <input type="checkbox"/> Shipping Service <input type="checkbox"/> Courier <input checked="" type="checkbox"/> Client <input type="checkbox"/> Other: _____				
List Air Bill Number(s) or Attach a photocopy of the Air Bill:				
Receipt Phase	Yes	No	NA	Comments
Were samples received in a cooler:	X			
Custody Seals are present and intact:			X	
Are CoC documents present:	X			
Necessary signatures:	X			
Thermal Preservation Type: <input type="checkbox"/> Blue Ice <input type="checkbox"/> Gel Ice <input checked="" type="checkbox"/> Real Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None <input type="checkbox"/> Other: _____				
Temperature by IR Gun: 3.1 °C Thermometer Serial #81500 (acceptance criteria 0-6 °C)				
Temperature out of range: <input type="checkbox"/> Not enough ice <input type="checkbox"/> Ice melted <input type="checkbox"/> w/in 4hrs of collection <input type="checkbox"/> NA <input type="checkbox"/> Other: _____				
Log-in Phase	Yes	No	NA	Comments
Date/Time: 10-22-10 11:17 By: CA				
Are sample labels affixed and completed for each container	X			
Samples containers were received intact:	X			
Do sample IDs match the CoC	X			
Appropriate sample containers were received for tests requested	X			
Are sample volumes adequate for tests requested				
Appropriate preservatives were used for the tests requested			X	
pH of inorganic samples checked and is within method specification			X	
Are VOC samples free of bubbles >6mm (1/4" diameter)			X	
Are dissolved parameters field filtered			X	
Do any samples need to be filtered or preserved by the lab			X	
Does this project require quick turnaround analysis		X		
Are there any short hold time tests (see chart below)		X		
Are any samples within 2 days of or past expiration		X		
Was the CoC scanned	X			
Were there Non-conformance issues at login		X		
If yes, was a CAR generated #			X	

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

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

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

CHAIN OF CUSTODY REPORT

Work Order #: **500130**

CLIENT: paw, LLC	INVOICE TO: UPRR Aluminum Dress II	TURNAROUND REQUEST
REPORT TO: Tom Nuckles	Gary Honeyman	<input checked="" type="checkbox"/> STD. <input type="checkbox"/> Organic & Inorganic Analyses <input type="checkbox"/> Petroleum Hydrocarbon Analyses
PHONE: 512-671-3484 FAX:	P.O. NUMBER:	<input type="checkbox"/> OTHER Specify: _____
PROJECT NAME: UPRR Aluminum Recycling		* Turnaround Requests less than standard may incur Rush Charges.
PROJECT NUMBER: 3171		
SAMPLED BY: Kevin Dworsky		
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	MATRIX (W, S, O)
1 50-2494-582 (01-2) - 102110	10/21/10 1415	
2 50-2494-582 (5-6) - 102110	1420	
3 50-2494-582 (15-16) - 102110	1425	
4 50-2494-583 (0-1) - 102110	1315	
5 50-2494-583 (4-5) - 102110	1330	
6 50-2494-583 (14-15) - 102110	1340	
7 50-2494-061 (0-1) - 102110	1525	
8 50-2494-061 (4-5) - 102110	1527	
9 50-2494-062 (14-15) - 102110	1530	
10 50-2494-062 (0-1) - 102110	1535	
RELEASED BY:	DATE: 10/22/10	DATE: 10-22-10
PRINT NAME: KEVIN DWORSKY	TIME: 1035	TIME: 10:35
RECEIVED BY: City Station	FIRM: paw	FIRM: Test America
PRINT NAME: Pat Stapleton	DATE: _____	DATE: _____
RECEIVED BY:	TIME: _____	TIME: _____
PRINT NAME:	FIRM: _____	FIRM: _____
ADDITIONAL REMARKS:	TEMP: 3.1	PAGE 1 OF 1



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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 503-906-9200 FAX 906-9210
 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **STJOB0**

CLIENT: POW, LLC		INVOICE TO: UPRR Aluminum Dress II		TURNAROUND REQUEST			
REPORT TO: Tom NITZELS		P.O. NUMBER:		<input checked="" type="checkbox"/> STD. <input type="checkbox"/> Organic & Inorganic Analyses <input type="checkbox"/> Petroleum Hydrocarbon Analyses			
PHONE: 512-671-3434 FAX:		PRESERVATIVE		in Business Days * 7 5 4 3 2 1 <1 5 4 3 2 1 <1			
PROJECT NAME: UPRR Aluminum Recycling		REQUESTED ANALYSES		OTHER Specify:			
PROJECT NUMBER: 3171		SAMPLED BY: Kevin Dworsky		* Turnaround Requests less than standard may incur Rush Charges.			
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	FILE	ICE	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1 50-2494-B62 (4-5) - 102110	10/21/10 1537	003	1470	X	X		
2 50-2494-B62 (14-15) - 102110	1540						
3 50-2494-B63 (6-1) - 102110	1545						
4 50-2494-B63 (4-5) - 102110	1547						
5 50-2494-B63 (14-15) - 102110	1550						
6 50-2494-B64 (6-1) - 102110	1530						
7 50-2494-MW3 (6-1) - 102110	830						
8 50-2494-MW3 (4-5) - 102110	900						
9 50-2494-MW3 (14-15) - 102110	910						
10							

RECEIVED BY: **Kevin Dworsky** DATE: **10/22/10**
 PRINT NAME: **Kevin Dworsky** FIRM: **Test America** TIME: **10:35**
 RECEIVED BY: **Cat Stapleton** DATE: **10/22/10**
 PRINT NAME: **Cat Stapleton** FIRM: **Test America** TIME: **10:35**

TEMP: **3.1** PAGE **2** OF **2**
 ADDITIONAL REMARKS:



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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

TestAmerica Job ID: STJ0141

TestAmerica Sample Delivery Group: STJ0141

Client Project/Site: 3171

Client Project Description:

UPRR Aluminum Recycling Trentwood

For:

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr. Suite 4004
Round Rock, TX 78664

Attn: Tim Nickels



Authorized for release by:
12/1/2010 3:08 PM

Randee Decker
Project Manager
Randee.Decker@testamericainc.com

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Case Narrative

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0141
SDG: STJ0141

Notes

Receipt

All samples were received in good condition.

Metals - Method 6010B

For cadmium and copper, the ICP ICSA standard contains trace impurities derived from the manufacturing process, which may cause these standards to fail method QC criteria. Regrettably corrective action can not be performed for any outliers other than to note deficiencies in the laboratory's QC report section. The data was qualified "^" and reported.

No other analytical or quality issues were noted.

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Sample Summary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0141

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
STJ0141-01	STW-2494-Dross Grey -102510	Soil	10/25/10 09:15	10/25/10 13:30
STJ0141-02	STW-2494-Dross Tan -102510	Soil	10/25/10 09:17	10/25/10 13:30

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- 11
- 12

Qualifier Definition/Glossary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0141
SDG: STJ0141

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
F	MS or MSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Wet Chem

Qualifier	Qualifier Description
J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
RL1	Reporting limit raised due to sample matrix effects.

Glossary

Glossary	Glossary Description
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.

- 1
- 2
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- 11
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Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0141
SDG: STJ0141

Client Sample ID: STW-2494-Dross Grey -102510

Lab Sample ID: STJ0141-01

Date Collected: 10/25/10 09:15

Matrix: Soil

Date Received: 10/25/10 13:30

Percent Solids: 76.2

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.2	J	3.8	0.17	mg/Kg	☼	11/03/10 14:37	11/03/10 23:50	1
Potassium	830	J	2100	210	mg/Kg	☼	11/29/10 11:31	11/29/10 20:15	10
Barium	140		0.64	0.019	mg/Kg	☼	11/03/10 14:37	11/03/10 23:50	1
Sodium	4100		1300	88	mg/Kg	☼	11/29/10 11:31	11/29/10 20:15	10
Cadmium	ND	^	0.64	0.10	mg/Kg	☼	11/03/10 14:37	11/03/10 23:50	1
Chromium	32		1.7	0.060	mg/Kg	☼	11/03/10 14:37	11/03/10 23:50	1
Lead	53		1.9	0.15	mg/Kg	☼	11/03/10 14:37	11/03/10 23:50	1
Selenium	ND		6.4	0.15	mg/Kg	☼	11/03/10 14:37	11/03/10 23:50	1
Silver	0.17	J	1.3	0.057	mg/Kg	☼	11/03/10 14:37	11/03/10 23:50	1
Copper	200	^	1.3	0.28	mg/Kg	☼	11/03/10 14:37	11/03/10 23:50	1
Aluminum	58000		38	11	mg/Kg	☼	11/03/10 14:37	11/03/10 23:50	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	4.6		0.41	0.13	mg/Kg	☼	10/29/10 14:44	11/01/10 10:13	20

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	76.1	RL1, J	131	0.210	mg/kg dry	☼	11/01/10 11:49	11/01/10 23:01	10
Fluoride	1050		131	0.197	mg/kg dry	☼	11/01/10 11:49	11/01/10 23:01	10
Nitrate-Nitrogen	0.525	J	2.62	0.0144	mg/kg dry	☼	11/01/10 11:49	11/01/10 23:48	1
Sulfate	30000		2620	67.1	mg/kg dry	☼	11/01/10 11:49	11/02/10 12:20	100

Client Sample ID: STW-2494-Dross Tan -102510

Lab Sample ID: STJ0141-02

Date Collected: 10/25/10 09:17

Matrix: Soil

Date Received: 10/25/10 13:30

Percent Solids: 82.5

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.4		3.3	0.14	mg/Kg	☼	11/03/10 14:37	11/03/10 23:57	1
Potassium	6300		1700	170	mg/Kg	☼	11/29/10 11:31	11/29/10 20:23	10
Barium	94		0.56	0.017	mg/Kg	☼	11/03/10 14:37	11/03/10 23:57	1
Sodium	9800		1100	72	mg/Kg	☼	11/29/10 11:31	11/29/10 20:23	10
Cadmium	ND	^	0.56	0.089	mg/Kg	☼	11/03/10 14:37	11/03/10 23:57	1
Chromium	210		1.4	0.052	mg/Kg	☼	11/03/10 14:37	11/03/10 23:57	1
Lead	44		1.7	0.13	mg/Kg	☼	11/03/10 14:37	11/03/10 23:57	1
Selenium	ND		5.6	0.13	mg/Kg	☼	11/03/10 14:37	11/03/10 23:57	1
Silver	0.11	J	1.1	0.050	mg/Kg	☼	11/03/10 14:37	11/03/10 23:57	1
Copper	1700	^	1.1	0.25	mg/Kg	☼	11/03/10 14:37	11/03/10 23:57	1
Aluminum	ND		33	9.9	mg/Kg	☼	11/03/10 14:37	11/03/10 23:57	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.38		0.018	0.0058	mg/Kg	☼	10/29/10 14:44	11/01/10 09:45	1

Method: EPA 300.0 - Anions per EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8650		1230	1.97	mg/kg dry	☼	11/01/10 11:49	11/02/10 12:36	100
Fluoride	112	J	123	0.184	mg/kg dry	☼	11/01/10 11:49	11/02/10 00:19	10
Nitrate-Nitrogen	914		24.6	0.135	mg/kg dry	☼	11/01/10 11:49	11/02/10 00:19	10
Sulfate	6160		246	6.29	mg/kg dry	☼	11/01/10 11:49	11/02/10 00:19	10

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0141
SDG: STJ0141

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-74986/12-A
Matrix: Solid
Analysis Batch: 75025

Client Sample ID: MB 580-74986/12-A
Prep Type: Total/NA
Prep Batch: 74986

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0	0.13	mg/Kg		11/03/10 14:37	11/03/10 21:48	1
Barium	ND		0.50	0.015	mg/Kg		11/03/10 14:37	11/03/10 21:48	1
Cadmium	ND	^	0.50	0.080	mg/Kg		11/03/10 14:37	11/03/10 21:48	1
Chromium	ND		1.3	0.047	mg/Kg		11/03/10 14:37	11/03/10 21:48	1
Lead	ND		1.5	0.12	mg/Kg		11/03/10 14:37	11/03/10 21:48	1
Selenium	ND		5.0	0.12	mg/Kg		11/03/10 14:37	11/03/10 21:48	1
Silver	ND		1.0	0.045	mg/Kg		11/03/10 14:37	11/03/10 21:48	1
Copper	ND		1.0	0.22	mg/Kg		11/03/10 14:37	11/03/10 21:48	1
Aluminum	ND		30	8.9	mg/Kg		11/03/10 14:37	11/03/10 21:48	1

Lab Sample ID: LCS 580-74986/13-A
Matrix: Solid
Analysis Batch: 75025

Client Sample ID: LCS 580-74986/13-A
Prep Type: Total/NA
Prep Batch: 74986

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Arsenic	200	192		mg/Kg		96	80 - 120	
Barium	200	200		mg/Kg		100	80 - 120	
Cadmium	5.00	4.87	^	mg/Kg		97	80 - 120	
Chromium	20.0	19.8		mg/Kg		99	80 - 120	
Lead	50.0	49.7		mg/Kg		99	80 - 120	
Selenium	200	190		mg/Kg		95	80 - 120	
Silver	30.0	28.2		mg/Kg		94	75 - 120	
Copper	25.0	24.5		mg/Kg		98	80 - 120	
Aluminum	200	196		mg/Kg		98	80 - 120	

Lab Sample ID: LCSD 580-74986/14-A
Matrix: Solid
Analysis Batch: 75025

Client Sample ID: LCSD 580-74986/14-A
Prep Type: Total/NA
Prep Batch: 74986

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD
							Limits	RPD	Limit
Arsenic	200	189		mg/Kg		94	80 - 120	2	20
Barium	200	198		mg/Kg		99	80 - 120	1	20
Cadmium	5.00	4.77	^	mg/Kg		95	80 - 120	2	20
Chromium	20.0	19.5		mg/Kg		98	80 - 120	1	20
Lead	50.0	48.7		mg/Kg		97	80 - 120	2	20
Selenium	200	187		mg/Kg		93	80 - 120	2	20
Silver	30.0	28.0		mg/Kg		93	75 - 120	1	20
Copper	25.0	24.3		mg/Kg		97	80 - 120	1	20
Aluminum	200	196		mg/Kg		98	80 - 120	0	20

Lab Sample ID: LCSSRM 580-74986/15-A
Matrix: Solid
Analysis Batch: 75025

Client Sample ID: LCSSRM 580-74986/15-A
Prep Type: Total/NA
Prep Batch: 74986

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Arsenic	225	224		mg/Kg		99	71.1 - 128.9	
Barium	565	541		mg/Kg		96	74.7 - 125.5	
Cadmium	69.1	70.1	^	mg/Kg		101	73.2 - 126.8	

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0141
SDG: STJ0141

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCSSRM 580-74986/15-A
Matrix: Solid
Analysis Batch: 75025

Client Sample ID: LCSSRM 580-74986/15-A
Prep Type: Total/NA
Prep Batch: 74986

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	% Rec	% Rec. Limits
Chromium	124	121		mg/Kg		97	69.9 - 129.8
Lead	223	217		mg/Kg		97	75.3 - 125.1
Selenium	147	146		mg/Kg		100	67.1 - 132.7
Silver	35.2	34.6		mg/Kg		98	65.6 - 134.4
Copper	66.7	68.5		mg/Kg		103	73.2 - 126.8
Aluminum	10600	8660		mg/Kg		82	46.0 - 153.8

Lab Sample ID: 580-22692-A-1-C MS
Matrix: Solid
Analysis Batch: 75025

Client Sample ID: 580-22692-A-1-C MS
Prep Type: Total/NA
Prep Batch: 74986

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic	50		193	229		mg/Kg	✱	93	80 - 120
Barium	54		193	238		mg/Kg	✱	95	80 - 120
Cadmium	1.1	^	4.82	5.27	^	mg/Kg	✱	86	80 - 120
Chromium	18		19.3	37.3		mg/Kg	✱	99	80 - 120
Lead	78		48.2	125		mg/Kg	✱	98	80 - 120
Selenium	ND		193	171		mg/Kg	✱	89	80 - 120
Silver	ND		28.9	26.0		mg/Kg	✱	89	75 - 120
Copper	96		24.1	130	F	mg/Kg	✱	142	80 - 120
Aluminum	12000		193	14500	4	mg/Kg	✱	1477	80 - 120

Lab Sample ID: 580-22692-A-1-D MSD
Matrix: Solid
Analysis Batch: 75025

Client Sample ID: 580-22692-A-1-D MSD
Prep Type: Total/NA
Prep Batch: 74986

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Arsenic	50		152	181	F	mg/Kg	✱	86	80 - 120	23	20
Barium	54		152	191	F	mg/Kg	✱	89	80 - 120	22	20
Cadmium	1.1	^	3.81	4.21	^ F	mg/Kg	✱	81	80 - 120	23	20
Chromium	18		15.2	32.0		mg/Kg	✱	91	80 - 120	15	20
Lead	78		38.1	97.6	F	mg/Kg	✱	52	80 - 120	25	20
Selenium	ND		152	132	F	mg/Kg	✱	86	80 - 120	26	20
Silver	ND		22.9	20.7	F	mg/Kg	✱	90	75 - 120	23	20
Copper	96		19.0	104	4 F	mg/Kg	✱	42	80 - 120	22	20
Aluminum	12000		152	12000	4	mg/Kg	✱	236	80 - 120	19	20

Lab Sample ID: 580-22692-A-1-B DU
Matrix: Solid
Analysis Batch: 75025

Client Sample ID: 580-22692-A-1-B DU
Prep Type: Total/NA
Prep Batch: 74986

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	50		58.9		mg/Kg	✱	17	20
Barium	54		54.4		mg/Kg	✱	0.3	20
Cadmium	1.1	^	1.40	^	mg/Kg	✱	21	20
Chromium	18		18.8		mg/Kg	✱	4	20
Lead	78		80.2		mg/Kg	✱	3	20

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0141
 SDG: STJ0141

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 580-22692-A-1-B DU
Matrix: Solid
Analysis Batch: 75025

Client Sample ID: 580-22692-A-1-B DU
Prep Type: Total/NA
Prep Batch: 74986

Analyte	Sample	Sample	DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Selenium	ND		0.496	J	mg/Kg	☼	18	20
Silver	ND		0.127	J	mg/Kg	☼	16	20
Copper	96		99.8		mg/Kg	☼	4	20
Aluminum	12000		11700		mg/Kg	☼	0.6	20

Lab Sample ID: MB 580-76373/20-A
Matrix: Solid
Analysis Batch: 76429

Client Sample ID: MB 580-76373/20-A
Prep Type: Total/NA
Prep Batch: 76373

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Potassium	ND		160	16	mg/Kg		11/29/10 10:37	11/29/10 20:29	1
Sodium	ND		100	6.8	mg/Kg		11/29/10 10:37	11/29/10 20:29	1

Lab Sample ID: LCS 580-76373/21-A
Matrix: Solid
Analysis Batch: 76429

Client Sample ID: LCS 580-76373/21-A
Prep Type: Total/NA
Prep Batch: 76373

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	RPD
Potassium	1000	1020		mg/Kg		102	80 - 120	
Sodium	1000	934		mg/Kg		93	80 - 120	

Lab Sample ID: LCSD 580-76373/22-A
Matrix: Solid
Analysis Batch: 76429

Client Sample ID: LCSD 580-76373/22-A
Prep Type: Total/NA
Prep Batch: 76373

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	Limit
							Limits	RPD		
Potassium	1000	957		mg/Kg		96	80 - 120	7	20	
Sodium	1000	915		mg/Kg		91	80 - 120	2	20	

Lab Sample ID: 580-22957-A-53-D MS
Matrix: Solid
Analysis Batch: 76429

Client Sample ID: 580-22957-A-53-D MS
Prep Type: Total/NA
Prep Batch: 76373

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec.	
	Result	Qualifier							Limits	RPD
Potassium	130	J	1150	1420		mg/Kg	☼	112	80 - 120	
Sodium	2400		1150	3720		mg/Kg	☼	117	80 - 120	

Lab Sample ID: 580-22957-A-53-E MSD
Matrix: Solid
Analysis Batch: 76429

Client Sample ID: 580-22957-A-53-E MSD
Prep Type: Total/NA
Prep Batch: 76373

Analyte	Sample	Sample	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier							Limits	RPD		
Potassium	130	J	1180	1490		mg/Kg	☼	115	80 - 120	5	20	
Sodium	2400		1180	3820	F	mg/Kg	☼	122	80 - 120	3	20	

Lab Sample ID: 580-22957-A-53-C DU
Matrix: Solid
Analysis Batch: 76429

Client Sample ID: 580-22957-A-53-C DU
Prep Type: Total/NA
Prep Batch: 76373

Analyte	Sample	Sample	DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Potassium	130	J	132	J	mg/Kg	☼	2	20

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0141
 SDG: STJ0141

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 580-22957-A-53-C DU
 Matrix: Solid
 Analysis Batch: 74829

Client Sample ID: 580-22957-A-53-C DU
 Prep Type: Total/NA
 Prep Batch: 76373

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sodium	2400		2310		mg/Kg	✱	3	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-74661/21-A
 Matrix: Solid
 Analysis Batch: 74823

Client Sample ID: MB 580-74661/21-A
 Prep Type: Total/NA
 Prep Batch: 74661

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0052	mg/Kg		10/29/10 14:44	11/01/10 09:04	1

Lab Sample ID: LCS 580-74661/22-A
 Matrix: Solid
 Analysis Batch: 74823

Client Sample ID: LCS 580-74661/22-A
 Prep Type: Total/NA
 Prep Batch: 74661

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.167	0.142		mg/Kg		85	80 - 120

Lab Sample ID: LCSD 580-74661/23-A
 Matrix: Solid
 Analysis Batch: 74823

Client Sample ID: LCSD 580-74661/23-A
 Prep Type: Total/NA
 Prep Batch: 74661

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.167	0.138		mg/Kg		83	80 - 120	3	20

Lab Sample ID: LCSSRM 580-74661/24-A
 Matrix: Solid
 Analysis Batch: 74823

Client Sample ID: LCSSRM 580-74661/24-A
 Prep Type: Total/NA
 Prep Batch: 74661

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	5.15	5.11		mg/Kg		99	51.1 - 148.9

Lab Sample ID: 580-22147-B-3-I MS
 Matrix: Solid
 Analysis Batch: 74823

Client Sample ID: 580-22147-B-3-I MS
 Prep Type: Total/NA
 Prep Batch: 74661

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.015	J	0.206	0.216		mg/Kg	✱	97	80 - 120

Lab Sample ID: 580-22147-B-3-J MSD
 Matrix: Solid
 Analysis Batch: 74823

Client Sample ID: 580-22147-B-3-J MSD
 Prep Type: Total/NA
 Prep Batch: 74661

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.015	J	0.200	0.221		mg/Kg	✱	103	80 - 120	2	20

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0141
SDG: STJ0141

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: 580-22147-B-3-H DU
Matrix: Solid
Analysis Batch: 74823

Client Sample ID: 580-22147-B-3-H DU
Prep Type: Total/NA
Prep Batch: 74661

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
Mercury	0.015	J	0.0173	J	mg/Kg	*	14	14	20

Method: EPA 300.0 - Anions per EPA Method 300.0

Lab Sample ID: 10K0020-BLK1
Matrix: Soil
Analysis Batch: 10K0020

Client Sample ID: 10K0020-BLK1
Prep Type: total
Prep Batch: 10K0020_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	ND		10.0	0.0160	mg/kg wet		11/01/10 11:49	11/01/10 20:41	1
Fluoride	ND		10.0	0.0150	mg/kg wet		11/01/10 11:49	11/01/10 20:41	1
Nitrate-Nitrogen	ND		2.00	0.0110	mg/kg wet		11/01/10 11:49	11/01/10 20:41	1
Sulfate	ND		20.0	0.511	mg/kg wet		11/01/10 11:49	11/01/10 20:41	1

Lab Sample ID: 10K0020-BS1
Matrix: Soil
Analysis Batch: 10K0020

Client Sample ID: 10K0020-BS1
Prep Type: total
Prep Batch: 10K0020_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec	Limits
Chloride	100	101		mg/kg wet		101	101	90 - 110
Fluoride	40.0	37.8		mg/kg wet		94.5	94.5	90 - 110
Nitrate-Nitrogen	50.0	49.2		mg/kg wet		98.4	98.4	90 - 110
Sulfate	300	308		mg/kg wet		103	103	90 - 110

Lab Sample ID: 10K0020-MS1
Matrix: Soil
Analysis Batch: 10K0020

Client Sample ID: PTJ0810-11
Prep Type: total
Prep Batch: 10K0020_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Chloride	0.433		21.7	22.2		mg/kg dry	*	100	100	75 - 125
Fluoride	5.84		21.7	26.1		mg/kg dry	*	93.6	93.6	75 - 125
Nitrate-Nitrogen	1.08		21.7	22.3		mg/kg dry	*	98.0	98.0	75 - 125
Sulfate	4.44		43.3	45.8		mg/kg dry	*	95.5	95.5	75 - 125

Lab Sample ID: 10K0020-MS2
Matrix: Soil
Analysis Batch: 10K0020

Client Sample ID: PTJ0810-19
Prep Type: total
Prep Batch: 10K0020_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Chloride	1.79		20.9	23.0		mg/kg dry	*	102	102	75 - 125
Fluoride	1.47		20.9	21.1		mg/kg dry	*	94.2	94.2	75 - 125
Nitrate-Nitrogen	ND		20.9	20.9		mg/kg dry	*	100	100	75 - 125
Sulfate	6.84		41.7	48.2		mg/kg dry	*	99.2	99.2	75 - 125

Lab Sample ID: 10K0020-MSD1
Matrix: Soil
Analysis Batch: 10K0020

Client Sample ID: PTJ0810-11
Prep Type: total
Prep Batch: 10K0020_P

Analyte	Sample	Sample	Spike	Matrix Spike Dup	Matrix Spike Dup	Unit	D	% Rec	% Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Chloride	0.433		21.2	21.6		mg/kg dry	*	99.7	99.7	75 - 125	2.70	40

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0141
 SDG: STJ0141

Method: EPA 300.0 - Anions per EPA Method 300.0 (Continued)

Lab Sample ID: 10K0020-MSD1

Matrix: Soil

Analysis Batch: 10K0020

Client Sample ID: PTJ0810-11

Prep Type: total

Prep Batch: 10K0020_P

Analyte	Sample	Sample	Spike	Matrix Spike Dup	Matrix Spike Dup	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Fluoride	5.84		21.2	25.7		mg/kg dry	⊛	93.4	75 - 125	1.72	40	
Nitrate-Nitrogen	1.08		21.2	21.7		mg/kg dry	⊛	97.2	75 - 125	2.70	40	
Sulfate	4.44		42.5	45.5		mg/kg dry	⊛	96.6	75 - 125	0.77	40	
										2		

Lab Sample ID: 10K0020-DUP1

Matrix: Soil

Analysis Batch: 10K0020

Client Sample ID: PTJ0810-11

Prep Type: total

Prep Batch: 10K0020_P

Analyte	Sample	Sample	Duplicate	Duplicate	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Chloride	0.433		0.432	J	mg/kg dry	⊛	0.18	40
Fluoride	5.84		7.45	J	mg/kg dry	⊛	3	24.2
Nitrate-Nitrogen	1.08		1.30	J	mg/kg dry	⊛	18.0	40
Sulfate	4.44		4.54	J	mg/kg dry	⊛	2.23	40



QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0141
 SDG: STJ0141

Metals

Prep Batch: 74661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0141-01	STW-2494-Dross Grey -102510	Total/NA	Soil	7471A	
STJ0141-02	STW-2494-Dross Tan -102510	Total/NA	Soil	7471A	
580-22147-B-3-H DU	580-22147-B-3-H DU	Total/NA	Solid	7471A	
MB 580-74661/21-A	MB 580-74661/21-A	Total/NA	Solid	7471A	
LCS 580-74661/22-A	LCS 580-74661/22-A	Total/NA	Solid	7471A	
LCSD 580-74661/23-A	LCSD 580-74661/23-A	Total/NA	Solid	7471A	
LCSSRM 580-74661/24-A	LCSSRM 580-74661/24-A	Total/NA	Solid	7471A	
580-22147-B-3-I MS	580-22147-B-3-I MS	Total/NA	Solid	7471A	
580-22147-B-3-J MSD	580-22147-B-3-J MSD	Total/NA	Solid	7471A	

Analysis Batch: 74823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-74661/21-A	MB 580-74661/21-A	Total/NA	Solid	7471A	74661
LCS 580-74661/22-A	LCS 580-74661/22-A	Total/NA	Solid	7471A	74661
LCSD 580-74661/23-A	LCSD 580-74661/23-A	Total/NA	Solid	7471A	74661
LCSSRM 580-74661/24-A	LCSSRM 580-74661/24-A	Total/NA	Solid	7471A	74661
580-22147-B-3-H DU	580-22147-B-3-H DU	Total/NA	Solid	7471A	74661
580-22147-B-3-I MS	580-22147-B-3-I MS	Total/NA	Solid	7471A	74661
580-22147-B-3-J MSD	580-22147-B-3-J MSD	Total/NA	Solid	7471A	74661
STJ0141-02	STW-2494-Dross Tan -102510	Total/NA	Soil	7471A	74661
STJ0141-01	STW-2494-Dross Grey -102510	Total/NA	Soil	7471A	74661

Prep Batch: 74986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0141-01	STW-2494-Dross Grey -102510	Total/NA	Soil	3050B	
STJ0141-02	STW-2494-Dross Tan -102510	Total/NA	Soil	3050B	
MB 580-74986/12-A	MB 580-74986/12-A	Total/NA	Solid	3050B	
LCS 580-74986/13-A	LCS 580-74986/13-A	Total/NA	Solid	3050B	
LCSD 580-74986/14-A	LCSD 580-74986/14-A	Total/NA	Solid	3050B	
LCSSRM 580-74986/15-A	LCSSRM 580-74986/15-A	Total/NA	Solid	3050B	
580-22692-A-1-B DU	580-22692-A-1-B DU	Total/NA	Solid	3050B	
580-22692-A-1-C MS	580-22692-A-1-C MS	Total/NA	Solid	3050B	
580-22692-A-1-D MSD	580-22692-A-1-D MSD	Total/NA	Solid	3050B	

Analysis Batch: 75025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-74986/12-A	MB 580-74986/12-A	Total/NA	Solid	6010B	74986
LCS 580-74986/13-A	LCS 580-74986/13-A	Total/NA	Solid	6010B	74986
LCSD 580-74986/14-A	LCSD 580-74986/14-A	Total/NA	Solid	6010B	74986
LCSSRM 580-74986/15-A	LCSSRM 580-74986/15-A	Total/NA	Solid	6010B	74986
580-22692-A-1-B DU	580-22692-A-1-B DU	Total/NA	Solid	6010B	74986
580-22692-A-1-C MS	580-22692-A-1-C MS	Total/NA	Solid	6010B	74986
580-22692-A-1-D MSD	580-22692-A-1-D MSD	Total/NA	Solid	6010B	74986
STJ0141-01	STW-2494-Dross Grey -102510	Total/NA	Soil	6010B	74986
STJ0141-02	STW-2494-Dross Tan -102510	Total/NA	Soil	6010B	74986

Prep Batch: 76373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-22957-A-53-C DU	580-22957-A-53-C DU	Total/NA	Solid	3050B	
MB 580-76373/20-A	MB 580-76373/20-A	Total/NA	Solid	3050B	
LCS 580-76373/21-A	LCS 580-76373/21-A	Total/NA	Solid	3050B	
LCSD 580-76373/22-A	LCSD 580-76373/22-A	Total/NA	Solid	3050B	



QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0141
SDG: STJ0141

Metals (Continued)

Prep Batch: 76373 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0141-01	STW-2494-Dross Grey -102510	Total/NA	Soil	3050B	
STJ0141-02	STW-2494-Dross Tan -102510	Total/NA	Soil	3050B	
580-22957-A-53-D MS	580-22957-A-53-D MS	Total/NA	Solid	3050B	
580-22957-A-53-E MSD	580-22957-A-53-E MSD	Total/NA	Solid	3050B	

Analysis Batch: 76429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0141-01	STW-2494-Dross Grey -102510	Total/NA	Soil	6010B	76373
STJ0141-02	STW-2494-Dross Tan -102510	Total/NA	Soil	6010B	76373
MB 580-76373/20-A	MB 580-76373/20-A	Total/NA	Solid	6010B	76373
LCS 580-76373/21-A	LCS 580-76373/21-A	Total/NA	Solid	6010B	76373
LCSD 580-76373/22-A	LCSD 580-76373/22-A	Total/NA	Solid	6010B	76373
580-22957-A-53-C DU	580-22957-A-53-C DU	Total/NA	Solid	6010B	76373
580-22957-A-53-D MS	580-22957-A-53-D MS	Total/NA	Solid	6010B	76373
580-22957-A-53-E MSD	580-22957-A-53-E MSD	Total/NA	Solid	6010B	76373

General Chemistry

Analysis Batch: 74824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0141-01	STW-2494-Dross Grey -102510	Total/NA	Soil	Moisture	
STJ0141-02	STW-2494-Dross Tan -102510	Total/NA	Soil	Moisture	
580-22623-A-1 DU	580-22623-A-1 DU	Total/NA	Solid	Moisture	
580-22623-A-1 MS	580-22623-A-1 MS	Total/NA	Solid	Moisture	
580-22623-A-1 MSD	580-22623-A-1 MSD	Total/NA	Solid	Moisture	

Wet Chem

Analysis Batch: 10K0020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10K0020-BLK1	10K0020-BLK1	total	Soil	EPA 300.0	10K0020_P
10K0020-BS1	10K0020-BS1	total	Soil	EPA 300.0	10K0020_P
STJ0141-01	STW-2494-Dross Grey -102510	total	Soil	EPA 300.0	10K0020_P
STJ0141-01	STW-2494-Dross Grey -102510	total	Soil	EPA 300.0	10K0020_P
STJ0141-02	STW-2494-Dross Tan -102510	total	Soil	EPA 300.0	10K0020_P
10K0020-DUP1	PTJ0810-11	total	Soil	EPA 300.0	10K0020_P
10K0020-MS1	PTJ0810-11	total	Soil	EPA 300.0	10K0020_P
10K0020-MSD1	PTJ0810-11	total	Soil	EPA 300.0	10K0020_P
10K0020-MS2	PTJ0810-19	total	Soil	EPA 300.0	10K0020_P
STJ0141-01	STW-2494-Dross Grey -102510	total	Soil	EPA 300.0	10K0020_P
STJ0141-02	STW-2494-Dross Tan -102510	total	Soil	EPA 300.0	10K0020_P

Prep Batch: 10K0020_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10K0020-BLK1	10K0020-BLK1	total	Soil	Wet Chem	
10K0020-BS1	10K0020-BS1	total	Soil	Wet Chem	
STJ0141-01	STW-2494-Dross Grey -102510	total	Soil	Wet Chem	
STJ0141-01	STW-2494-Dross Grey -102510	total	Soil	Wet Chem	
STJ0141-02	STW-2494-Dross Tan -102510	total	Soil	Wet Chem	
10K0020-DUP1	PTJ0810-11	total	Soil	Wet Chem	
10K0020-MS1	PTJ0810-11	total	Soil	Wet Chem	
10K0020-MSD1	PTJ0810-11	total	Soil	Wet Chem	

QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0141
SDG: STJ0141

Wet Chem (Continued)

Prep Batch: 10K0020_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10K0020-MS2	PTJ0810-19	total	Soil	Wet Chem	
STJ0141-01	STW-2494-Dross Grey -102510	total	Soil	Wet Chem	
STJ0141-02	STW-2494-Dross Tan -102510	total	Soil	Wet Chem	

Sample Control

Analysis Batch: 10J0973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0973-DUP1	STW-2494-Dross Grey -102510	total	Soil	ASTM D2216-80	10J0973_P
10J0973-DUP2	STW-2494-Dross Tan -102510	total	Soil	ASTM D2216-80	10J0973_P
STJ0141-01	STW-2494-Dross Grey -102510	total	Soil	ASTM D2216-80	10J0973_P
STJ0141-02	STW-2494-Dross Tan -102510	total	Soil	ASTM D2216-80	10J0973_P

Prep Batch: 10J0973_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0973-DUP1	STW-2494-Dross Grey -102510	total	Soil	Dry Weight	
10J0973-DUP2	STW-2494-Dross Tan -102510	total	Soil	Dry Weight	
STJ0141-01	STW-2494-Dross Grey -102510	total	Soil	Dry Weight	
STJ0141-02	STW-2494-Dross Tan -102510	total	Soil	Dry Weight	



Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0141
SDG: STJ0141

Client Sample ID: STW-2494-Dross Grey -102510

Lab Sample ID: STJ0141-01

Date Collected: 10/25/10 09:15

Matrix: Soil

Date Received: 10/25/10 13:30

Percent Solids: 76.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			74661	10/29/10 14:44	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		20	74823	11/01/10 10:13	FCW	TestAmerica Seattle
Total/NA	Prep	3050B			74986	11/03/10 14:37	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	75025	11/03/10 23:50	SP	TestAmerica Seattle
Total/NA	Prep	3050B			76373	11/29/10 11:31	ZF	TestAmerica Seattle
Total/NA	Analysis	6010B		10	76429	11/29/10 20:15	SP	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74824	11/02/10 07:19	ZF	TestAmerica Seattle
total	Prep	Wet Chem		0.999	10K0020_P	11/01/10 11:49	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		10	10K0020	11/01/10 23:01	SW	TestAmerica Portland
total	Analysis	EPA 300.0		1	10K0020	11/01/10 23:48	SW	TestAmerica Portland
total	Analysis	EPA 300.0		100	10K0020	11/02/10 12:20	SW	TestAmerica Portland
total	Prep	Dry Weight		1.00	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Client Sample ID: STW-2494-Dross Tan -102510

Lab Sample ID: STJ0141-02

Date Collected: 10/25/10 09:17

Matrix: Soil

Date Received: 10/25/10 13:30

Percent Solids: 82.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			74661	10/29/10 14:44	ZF	TestAmerica Seattle
Total/NA	Analysis	7471A		1	74823	11/01/10 09:45	FCW	TestAmerica Seattle
Total/NA	Prep	3050B			74986	11/03/10 14:37	PAB	TestAmerica Seattle
Total/NA	Analysis	6010B		1	75025	11/03/10 23:57	SP	TestAmerica Seattle
Total/NA	Prep	3050B			76373	11/29/10 11:31	ZF	TestAmerica Seattle
Total/NA	Analysis	6010B		10	76429	11/29/10 20:23	SP	TestAmerica Seattle
Total/NA	Analysis	Moisture		1	74824	11/02/10 07:19	ZF	TestAmerica Seattle
total	Prep	Wet Chem		1.01	10K0020_P	11/01/10 11:49	SVW	TestAmerica Portland
total	Analysis	EPA 300.0		100	10K0020	11/02/10 12:36	SW	TestAmerica Portland
total	Analysis	EPA 300.0		10	10K0020	11/02/10 00:19	SW	TestAmerica Portland
total	Prep	Dry Weight		1.00	10J0973_P	10/29/10 08:17	JJM	TestAmerica Portland
total	Analysis	ASTM D2216-80		1	10J0973	10/31/10 09:30	JJM	TestAmerica Portland

Certification Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0141
 SDG: STJ0141

Laboratory	Authority	Program	EPA Region	Certification ID	Expiration Date
TestAmerica Spokane	Alaska	Alaska UST	10	UST-071	10/31/11
TestAmerica Spokane	Washington	State Program	10	C569	01/06/11
TestAmerica Portland	Alaska	Alaska UST	10	UST-012	12/26/10
TestAmerica Portland	Alaska	State Program	10	OR00040	04/21/11
TestAmerica Portland	California	State Program	9	2597	09/30/11
TestAmerica Portland	Oregon	NELAC Primary AB	10	OR100021	01/09/11
TestAmerica Portland	Washington	State Program	10	C586	06/23/11
TestAmerica Seattle		USDA		P330-08-00099	05/22/11
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022	03/04/11
TestAmerica Seattle	California	NELAC Secondary AB	9	1115CA	01/31/11
TestAmerica Seattle	Florida	NELAC Secondary AB	4	E871074	06/30/11
TestAmerica Seattle	L-A-B	DoD ELAP	0	L2236	01/19/13
TestAmerica Seattle	L-A-B	ISO/IEC 17025	0	L2236	01/19/13
TestAmerica Seattle	Montana	State Program	8		04/30/20
TestAmerica Seattle	Oregon	NELAC Primary AB	10	WA100007	12/06/10
TestAmerica Seattle	Washington	State Program	10	C553	02/17/11

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



Method Summary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0141
SDG: STJ0141

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL SEA
7471A	Mercury (CVAA)	SW846	TAL SEA
Moisture	Percent Moisture	EPA	TAL SEA
EPA 300.0	Anions per EPA Method 300.0		TAL PTL
ASTM D2216-80	Percent Dry Weight (Solids) per ASTM D2216-80		TAL PTL

Protocol References:

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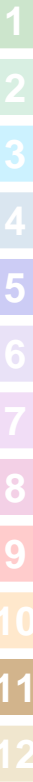
EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PTL = TestAmerica Portland, 9405 SW Nimbus Ave., Beaverton, OR 97008, TEL 503/906-9200

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310



**TestAmerica Spokane
Sample Receipt Form**

Work Order #: STJ0141	Client: PBW	Project: UPRR		
Date/Time Received: 10-25-10 13:30		By: CS		
Samples Delivered By: <input type="checkbox"/> Shipping Service <input type="checkbox"/> Courier <input checked="" type="checkbox"/> Client <input type="checkbox"/> Other: _____				
List Air Bill Number(s) or Attach a photocopy of the Air Bill:				
Receipt Phase	Yes	No	NA	Comments
Were samples received in a cooler:		X		
Custody Seals are present and intact:			X	
Are CoC documents present:	X			
Necessary signatures:	X			
Thermal Preservation Type: <input type="checkbox"/> Blue Ice <input type="checkbox"/> Gel Ice <input type="checkbox"/> Real Ice <input type="checkbox"/> Dry Ice <input checked="" type="checkbox"/> None <input type="checkbox"/> Other: _____				
Temperature by IR Gun: 10-4 °C Thermometer Serial #81500 (acceptance criteria 0-6 °C)				
Temperature out of range: <input type="checkbox"/> Not enough ice <input type="checkbox"/> Ice melted <input type="checkbox"/> w/in 4hrs of collection <input type="checkbox"/> NA <input type="checkbox"/> Other: _____				
Log-in Phase	Yes	No	NA	Comments
Date/Time: 10-25-10 13:44 By: CS				
Are sample labels affixed and completed for each container	X			
Samples containers were received intact:	X			
Do sample IDs match the CoC	X			
Appropriate sample containers were received for tests requested	X			
Are sample volumes adequate for tests requested	X			
Appropriate preservatives were used for the tests requested			X	
pH of inorganic samples checked and is within method specification			X	
Are VOC samples free of bubbles >6mm (1/4" diameter)			X	
Are dissolved parameters field filtered			X	
Do any samples need to be filtered or preserved by the lab		X		
Does this project require quick turnaround analysis		X		
Are there any short hold time tests (see chart below)		X		
Are any samples within 2 days of or past expiration		X		
Was the CoC scanned	X			
Were there Non-conformance issues at login		X		
If yes, was a CAR generated #			X	

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

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

CHAIN OF CUSTODY REPORT

Work Order #: **513014**

CLIENT: **PBW LLC**

REPORT TO: **Tim MUELS**

ADDRESS:

PHONE: **512-671-3434** FAX:

PROJECT NAME: **UPRR Aluminum Recycling Tremwood**

PROJECT NUMBER: **3171**

SAMPLED BY: **Kevin Dworsky**

CLIENT SAMPLE IDENTIFICATION

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRECIPITATION	REQUESTED ANALYSES
STW - 2494 -	915		
1 Dress Gilet - 102510	10/25/10		
STW - 2494 -	917		
2 Dress Taw - 102510	10/25/10		
3			
4			
5			
6			
7			
8			
9			
10			

INVOICE TO: **UPRR Aluminum Dress II**

GARY HOWEYMAN

TURNAROUND REQUEST

in Business Days *

Organic & Inorganic Analyses

Petroleum Hydrocarbon Analyses

STD. 7 5 4 3 2 1 <1

STD. 5 4 3 2 1 <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
S	1		
S	1		

RECEIVED BY: **Kevin Dworsky** FIRM: **PBW** DATE: **10/25/10** TIME: **1330**

PRINT NAME: **Kevin Dworsky**

RECEIVED BY: **John Skopelton** FIRM: **Test America** DATE: **10-25-10** TIME: **13:30**

PRINT NAME: **John Skopelton**

ADDITIONAL REMARKS:
300.0 Cl, Fe, SO4, NO3, NO4 6010/7470 Al, As, Ba, Cd, Cr, Cu, Pb 5E, Ag, Hg



TH

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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

TestAmerica Job ID: STJ0175

TestAmerica Sample Delivery Group: STJ0175

Client Project/Site: 3171

Client Project Description:

UPRR Aluminum Recycling Trentwood

For:

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr. Suite 4004
Round Rock, TX 78664

Attn: Tim Nickels



Authorized for release by:
11/10/2010 10:16 AM

Randee Decker
Project Manager
Randee.Decker@testamericainc.com

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



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Sample Summary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0175
SDG: STJ0175

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
STJ0175-01	WG-2494-MW1-102610	Water	10/26/10 12:45	10/26/10 16:00
STJ0175-02	WG-2494-MW2-102610	Water	10/26/10 11:41	10/26/10 16:00
STJ0175-03	WG-2494-FD04-102610	Water	10/26/10 11:41	10/26/10 16:00
STJ0175-04	WG-2494-MW03-102610	Water	10/26/10 09:42	10/26/10 16:00
STJ0175-05	WG-2494-Pump-102610	Water	10/26/10 11:00	10/26/10 16:00

- 1
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- 8
- 9
- 10

Qualifier Definition/Glossary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0175
SDG: STJ0175

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Wet Chem

Qualifier	Qualifier Description
E	Concentration exceeds the calibration range and therefore result is semi-quantitative.
M3	Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
R4	Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

Glossary

Glossary	Glossary Description
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.



Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0175
SDG: STJ0175

Client Sample ID: WG-2494-MW1-102610

Lab Sample ID: STJ0175-01

Date Collected: 10/26/10 12:45

Matrix: Water

Date Received: 10/26/10 16:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.66	J	1.0	0.31	mg/L		11/03/10 10:11	11/04/10 13:09	1
Calcium	33		1.1	0.028	mg/L		11/03/10 10:11	11/04/10 13:09	1
Copper	ND		0.020	0.0033	mg/L		11/03/10 10:11	11/04/10 13:09	1
Magnesium	14		1.1	0.23	mg/L		11/03/10 10:11	11/04/10 13:09	1
Potassium	1.9	J	3.3	0.41	mg/L		11/03/10 10:11	11/04/10 13:09	1
Sodium	3.2		2.0	0.18	mg/L		11/03/10 10:11	11/04/10 13:09	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020	0.00024	mg/L		11/03/10 10:11	11/04/10 10:37	5
Barium	0.035		0.0060	0.00027	mg/L		11/03/10 10:11	11/04/10 10:37	5
Cadmium	ND		0.0020	0.00014	mg/L		11/03/10 10:11	11/04/10 10:37	5
Chromium	0.011	B	0.0020	0.00037	mg/L		11/03/10 10:11	11/04/10 10:37	5
Lead	0.0059		0.0020	0.00017	mg/L		11/03/10 10:11	11/04/10 10:37	5
Selenium	ND		0.0020	0.00034	mg/L		11/03/10 10:11	11/04/10 10:37	5
Silver	ND		0.0020	0.00015	mg/L		11/03/10 10:11	11/04/10 10:37	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		11/03/10 07:49	11/03/10 10:41	1

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.16		0.800		mg/l		10/27/10 10:30	10/27/10 20:22	1
Fluoride	ND		0.500		mg/l		10/27/10 10:30	10/27/10 20:22	1
Nitrate-Nitrogen	0.940		0.500		mg/l		10/27/10 10:30	10/27/10 20:22	1
Nitrite-Nitrogen	ND		0.200		mg/l		10/27/10 10:30	10/27/10 20:22	1
Sulfate	13.3		0.500		mg/l		10/27/10 10:30	10/27/10 20:22	1

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity	142		4.00		mg/l		11/04/10 14:13	11/04/10 16:19	1
Carbonate Alkalinity	ND		4.00		mg/l		11/04/10 14:13	11/04/10 16:19	1

Method: SM 4500-NH3 C - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia-Nitrogen	ND		1.00		mg/l		11/09/10 06:19	11/09/10 15:24	1

Method: SM4500NC - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.800		mg/l		11/01/10 08:43	11/01/10 12:58	1

Client Sample ID: WG-2494-MW2-102610

Lab Sample ID: STJ0175-02

Date Collected: 10/26/10 11:41

Matrix: Water

Date Received: 10/26/10 16:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0	0.31	mg/L		11/03/10 10:11	11/04/10 13:15	1
Calcium	32		1.1	0.028	mg/L		11/03/10 10:11	11/04/10 13:15	1
Copper	ND		0.020	0.0033	mg/L		11/03/10 10:11	11/04/10 13:15	1
Magnesium	14		1.1	0.23	mg/L		11/03/10 10:11	11/04/10 13:15	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0175
SDG: STJ0175

Client Sample ID: WG-2494-MW2-102610

Lab Sample ID: STJ0175-02

Date Collected: 10/26/10 11:41

Matrix: Water

Date Received: 10/26/10 16:00

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	1.9	J	3.3	0.41	mg/L		11/03/10 10:11	11/04/10 13:15	1
Sodium	3.2		2.0	0.18	mg/L		11/03/10 10:11	11/04/10 13:15	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020	0.00024	mg/L		11/03/10 10:11	11/04/10 10:41	5
Barium	0.024		0.0060	0.00027	mg/L		11/03/10 10:11	11/04/10 10:41	5
Cadmium	ND		0.0020	0.00014	mg/L		11/03/10 10:11	11/04/10 10:41	5
Chromium	0.0084	B	0.0020	0.00037	mg/L		11/03/10 10:11	11/04/10 10:41	5
Lead	ND		0.0020	0.00017	mg/L		11/03/10 10:11	11/04/10 10:41	5
Selenium	ND		0.0020	0.00034	mg/L		11/03/10 10:11	11/04/10 10:41	5
Silver	ND		0.0020	0.00015	mg/L		11/03/10 10:11	11/04/10 10:41	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		11/03/10 07:49	11/03/10 10:51	1

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.26		0.800		mg/l		10/27/10 10:30	10/27/10 20:41	1
Fluoride	ND		0.500		mg/l		10/27/10 10:30	10/27/10 20:41	1
Nitrate-Nitrogen	0.960		0.500		mg/l		10/27/10 10:30	10/27/10 20:41	1
Nitrite-Nitrogen	ND		0.200		mg/l		10/27/10 10:30	10/27/10 20:41	1
Sulfate	13.6		0.500		mg/l		10/27/10 10:30	10/27/10 20:41	1

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity	137		4.00		mg/l		11/04/10 14:13	11/04/10 16:19	1
Carbonate Alkalinity	ND		4.00		mg/l		11/04/10 14:13	11/04/10 16:19	1

Method: SM 4500-NH3 C - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia-Nitrogen	ND		1.00		mg/l		11/09/10 06:19	11/09/10 15:24	1

Method: SM4500NC - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.800		mg/l		11/01/10 08:43	11/01/10 12:58	1

Client Sample ID: WG-2494-FD04-102610

Lab Sample ID: STJ0175-03

Date Collected: 10/26/10 11:41

Matrix: Water

Date Received: 10/26/10 16:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0	0.31	mg/L		11/03/10 10:11	11/04/10 13:31	1
Calcium	32		1.1	0.028	mg/L		11/03/10 10:11	11/04/10 13:31	1
Copper	ND		0.020	0.0033	mg/L		11/03/10 10:11	11/04/10 13:31	1
Magnesium	14		1.1	0.23	mg/L		11/03/10 10:11	11/04/10 13:31	1
Potassium	2.0	J	3.3	0.41	mg/L		11/03/10 10:11	11/04/10 13:31	1
Sodium	3.1		2.0	0.18	mg/L		11/03/10 10:11	11/04/10 13:31	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0175
SDG: STJ0175

Client Sample ID: WG-2494-FD04-102610

Lab Sample ID: STJ0175-03

Date Collected: 10/26/10 11:41

Matrix: Water

Date Received: 10/26/10 16:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020	0.00024	mg/L		11/03/10 10:11	11/04/10 10:45	5
Barium	0.024		0.0060	0.00027	mg/L		11/03/10 10:11	11/04/10 10:45	5
Cadmium	ND		0.0020	0.00014	mg/L		11/03/10 10:11	11/04/10 10:45	5
Chromium	0.0079	B	0.0020	0.00037	mg/L		11/03/10 10:11	11/04/10 10:45	5
Lead	0.00020	J	0.0020	0.00017	mg/L		11/03/10 10:11	11/04/10 10:45	5
Selenium	ND		0.0020	0.00034	mg/L		11/03/10 10:11	11/04/10 10:45	5
Silver	ND		0.0020	0.00015	mg/L		11/03/10 10:11	11/04/10 10:45	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		11/03/10 07:49	11/03/10 10:54	1

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.17		0.800		mg/l		10/27/10 10:30	10/27/10 21:35	1
Fluoride	ND		0.500		mg/l		10/27/10 10:30	10/27/10 21:35	1
Nitrate-Nitrogen	0.950		0.500		mg/l		10/27/10 10:30	10/27/10 21:35	1
Nitrite-Nitrogen	ND		0.200		mg/l		10/27/10 10:30	10/27/10 21:35	1
Sulfate	13.6		0.500		mg/l		10/27/10 10:30	10/27/10 21:35	1

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity	135		4.00		mg/l		11/04/10 14:13	11/04/10 16:19	1
Carbonate Alkalinity	ND		4.00		mg/l		11/04/10 14:13	11/04/10 16:19	1

Method: SM 4500-NH3 C - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia-Nitrogen	ND		1.00		mg/l		11/09/10 06:19	11/09/10 15:24	1

Method: SM4500NC - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.800		mg/l		11/01/10 08:43	11/01/10 12:58	1

Client Sample ID: WG-2494-MW03-102610

Lab Sample ID: STJ0175-04

Date Collected: 10/26/10 09:42

Matrix: Water

Date Received: 10/26/10 16:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0	0.31	mg/L		11/03/10 10:11	11/04/10 13:36	1
Calcium	34		1.1	0.028	mg/L		11/03/10 10:11	11/04/10 13:36	1
Copper	ND		0.020	0.0033	mg/L		11/03/10 10:11	11/04/10 13:36	1
Magnesium	14		1.1	0.23	mg/L		11/03/10 10:11	11/04/10 13:36	1
Potassium	2.5	J	3.3	0.41	mg/L		11/03/10 10:11	11/04/10 13:36	1
Sodium	3.2		2.0	0.18	mg/L		11/03/10 10:11	11/04/10 13:36	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020	0.00024	mg/L		11/03/10 10:11	11/04/10 10:58	5
Barium	0.023		0.0060	0.00027	mg/L		11/03/10 10:11	11/04/10 10:58	5
Cadmium	ND		0.0020	0.00014	mg/L		11/03/10 10:11	11/04/10 10:58	5
Chromium	0.0063	B	0.0020	0.00037	mg/L		11/03/10 10:11	11/04/10 10:58	5

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0175
SDG: STJ0175

Client Sample ID: WG-2494-MW03-102610

Lab Sample ID: STJ0175-04

Date Collected: 10/26/10 09:42

Matrix: Water

Date Received: 10/26/10 16:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00032	J	0.0020	0.00017	mg/L		11/03/10 10:11	11/04/10 10:58	5
Selenium	ND		0.0020	0.00034	mg/L		11/03/10 10:11	11/04/10 10:58	5
Silver	ND		0.0020	0.00015	mg/L		11/03/10 10:11	11/04/10 10:58	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		11/03/10 07:49	11/03/10 10:56	1

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.21		0.800		mg/l		10/27/10 10:30	10/27/10 20:59	1
Fluoride	ND		0.500		mg/l		10/27/10 10:30	10/27/10 20:59	1
Nitrate-Nitrogen	0.970		0.500		mg/l		10/27/10 10:30	10/27/10 20:59	1
Nitrite-Nitrogen	ND		0.200		mg/l		10/27/10 10:30	10/27/10 20:59	1
Sulfate	15.2		0.500		mg/l		10/27/10 10:30	10/27/10 20:59	1

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity	135		4.00		mg/l		11/04/10 14:13	11/04/10 16:19	1
Carbonate Alkalinity	ND		4.00		mg/l		11/04/10 14:13	11/04/10 16:19	1

Method: SM 4500-NH3 C - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia-Nitrogen	ND		1.00		mg/l		11/09/10 06:19	11/09/10 15:24	1

Method: SM4500NC - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.800		mg/l		11/01/10 08:43	11/01/10 12:58	1

Client Sample ID: WG-2494-Pump-102610

Lab Sample ID: STJ0175-05

Date Collected: 10/26/10 11:00

Matrix: Water

Date Received: 10/26/10 16:00

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0	0.31	mg/L		11/03/10 10:11	11/04/10 13:42	1
Calcium	0.091	J	1.1	0.028	mg/L		11/03/10 10:11	11/04/10 13:42	1
Copper	ND		0.020	0.0033	mg/L		11/03/10 10:11	11/04/10 13:42	1
Magnesium	ND		1.1	0.23	mg/L		11/03/10 10:11	11/04/10 13:42	1
Potassium	ND		3.3	0.41	mg/L		11/03/10 10:11	11/04/10 13:42	1
Sodium	ND		2.0	0.18	mg/L		11/03/10 10:11	11/04/10 13:42	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020	0.00024	mg/L		11/03/10 10:11	11/04/10 11:02	5
Barium	0.0012	J	0.0060	0.00027	mg/L		11/03/10 10:11	11/04/10 11:02	5
Cadmium	ND		0.0020	0.00014	mg/L		11/03/10 10:11	11/04/10 11:02	5
Chromium	0.0064	B	0.0020	0.00037	mg/L		11/03/10 10:11	11/04/10 11:02	5
Lead	0.00020	J	0.0020	0.00017	mg/L		11/03/10 10:11	11/04/10 11:02	5
Selenium	ND		0.0020	0.00034	mg/L		11/03/10 10:11	11/04/10 11:02	5
Silver	ND		0.0020	0.00015	mg/L		11/03/10 10:11	11/04/10 11:02	5

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0175
 SDG: STJ0175

Client Sample ID: WG-2494-Pump-102610

Lab Sample ID: STJ0175-05

Date Collected: 10/26/10 11:00

Matrix: Water

Date Received: 10/26/10 16:00

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		11/03/10 07:49	11/03/10 10:58	1

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.800		mg/l		10/27/10 10:30	10/27/10 21:17	1
Fluoride	ND		0.500		mg/l		10/27/10 10:30	10/27/10 21:17	1
Nitrate-Nitrogen	ND		0.500		mg/l		10/27/10 10:30	10/27/10 21:17	1
Nitrite-Nitrogen	ND		0.200		mg/l		10/27/10 10:30	10/27/10 21:17	1
Sulfate	ND		0.500		mg/l		10/27/10 10:30	10/27/10 21:17	1

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity	ND		4.00		mg/l		11/04/10 14:13	11/04/10 16:19	1
Carbonate Alkalinity	ND		4.00		mg/l		11/04/10 14:13	11/04/10 16:19	1

Method: SM 4500-NH3 C - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia-Nitrogen	ND		1.00		mg/l		11/09/10 06:19	11/09/10 15:24	1

Method: SM4500NC - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.800		mg/l		11/01/10 08:43	11/01/10 12:58	1



Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0175
SDG: STJ0175

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-74942/18-A
Matrix: Water
Analysis Batch: 75084

Client Sample ID: MB 580-74942/18-A
Prep Type: Total Recoverable
Prep Batch: 74942

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aluminum	ND		1.0	0.31	mg/L		11/03/10 10:11	11/04/10 11:21	1
Calcium	ND		1.1	0.028	mg/L		11/03/10 10:11	11/04/10 11:21	1
Copper	ND		0.020	0.0033	mg/L		11/03/10 10:11	11/04/10 11:21	1
Magnesium	ND		1.1	0.23	mg/L		11/03/10 10:11	11/04/10 11:21	1
Potassium	ND		3.3	0.41	mg/L		11/03/10 10:11	11/04/10 11:21	1
Sodium	ND		2.0	0.18	mg/L		11/03/10 10:11	11/04/10 11:21	1

Lab Sample ID: LCS 580-74942/19-A
Matrix: Water
Analysis Batch: 75084

Client Sample ID: LCS 580-74942/19-A
Prep Type: Total Recoverable
Prep Batch: 74942

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Aluminum	4.00	4.10		mg/L		103	80 - 120	
Calcium	20.0	19.8		mg/L		99	80 - 120	
Copper	0.500	0.480		mg/L		96	80 - 120	
Magnesium	20.0	19.8		mg/L		99	80 - 120	
Potassium	20.0	19.7		mg/L		98	80 - 120	
Sodium	20.0	20.1		mg/L		100	80 - 120	

Lab Sample ID: LCSD 580-74942/20-A
Matrix: Water
Analysis Batch: 75084

Client Sample ID: LCSD 580-74942/20-A
Prep Type: Total Recoverable
Prep Batch: 74942

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	
							Limits	RPD	Limit	
Aluminum	4.00	4.13		mg/L		103	80 - 120	1	20	
Calcium	20.0	19.8		mg/L		99	80 - 120	0	20	
Copper	0.500	0.476		mg/L		95	80 - 120	1	20	
Magnesium	20.0	19.7		mg/L		98	80 - 120	1	20	
Potassium	20.0	19.7		mg/L		98	80 - 120	0	20	
Sodium	20.0	20.0		mg/L		100	80 - 120	0	20	

Lab Sample ID: LCSSRM 580-74942/21-A
Matrix: Water
Analysis Batch: 75084

Client Sample ID: LCSSRM 580-74942/21-A
Prep Type: Total Recoverable
Prep Batch: 74942

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Aluminum	4.00	4.10		mg/L		103	80 - 120	
Calcium	20.0	19.8		mg/L		99	80 - 120	
Copper	0.500	0.472		mg/L		94	80 - 120	
Magnesium	20.0	20.0		mg/L		100	80 - 120	
Potassium	20.0	19.7		mg/L		98	80 - 120	
Sodium	20.0	20.1		mg/L		100	80 - 120	

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0175
SDG: STJ0175

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 580-74942/18-A
Matrix: Water
Analysis Batch: 75110

Client Sample ID: MB 580-74942/18-A
Prep Type: Total Recoverable
Prep Batch: 74942

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		0.00040	0.000048	mg/L		11/03/10 10:11	11/04/10 09:22	1
Barium	ND		0.0012	0.000054	mg/L		11/03/10 10:11	11/04/10 09:22	1
Cadmium	ND		0.00040	0.000028	mg/L		11/03/10 10:11	11/04/10 09:22	1
Chromium	0.000158	J	0.00040	0.000074	mg/L		11/03/10 10:11	11/04/10 09:22	1
Lead	ND		0.00040	0.000034	mg/L		11/03/10 10:11	11/04/10 09:22	1
Selenium	ND		0.00040	0.000068	mg/L		11/03/10 10:11	11/04/10 09:22	1
Silver	ND		0.00040	0.000030	mg/L		11/03/10 10:11	11/04/10 09:22	1

Lab Sample ID: LCS 580-74942/19-A
Matrix: Water
Analysis Batch: 75110

Client Sample ID: LCS 580-74942/19-A
Prep Type: Total Recoverable
Prep Batch: 74942

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Arsenic	4.00	4.03		mg/L		101	80 - 120	
Barium	4.00	3.95		mg/L		99	80 - 120	
Cadmium	0.100	0.0950		mg/L		95	80 - 120	
Chromium	0.400	0.393		mg/L		98	80 - 120	
Lead	1.00	1.02		mg/L		102	80 - 120	
Selenium	4.00	3.99		mg/L		100	80 - 120	
Silver	0.600	0.608		mg/L		101	80 - 120	

Lab Sample ID: LCSD 580-74942/20-A
Matrix: Water
Analysis Batch: 75110

Client Sample ID: LCSD 580-74942/20-A
Prep Type: Total Recoverable
Prep Batch: 74942

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD
							Limits	RPD	Limit
Arsenic	4.00	4.00		mg/L		100	80 - 120	1	20
Barium	4.00	3.91		mg/L		98	80 - 120	1	20
Cadmium	0.100	0.0982		mg/L		98	80 - 120	3	20
Chromium	0.400	0.401		mg/L		100	80 - 120	2	20
Lead	1.00	1.03		mg/L		103	80 - 120	1	20
Selenium	4.00	4.05		mg/L		101	80 - 120	2	20
Silver	0.600	0.615		mg/L		102	80 - 120	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-74914/19-A
Matrix: Water
Analysis Batch: 74973

Client Sample ID: MB 580-74914/19-A
Prep Type: Total/NA
Prep Batch: 74914

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.00020	0.000041	mg/L		11/03/10 07:49	11/03/10 10:21	1

Lab Sample ID: LCS 580-74914/20-A
Matrix: Water
Analysis Batch: 74973

Client Sample ID: LCS 580-74914/20-A
Prep Type: Total/NA
Prep Batch: 74914

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Mercury	0.00200	0.00204		mg/L		102	80 - 120	

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0175
SDG: STJ0175

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 580-74914/21-A
Matrix: Water
Analysis Batch: 74973

Client Sample ID: LCSD 580-74914/21-A
Prep Type: Total/NA
Prep Batch: 74914

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD
							Limits	RPD	
Mercury	0.00200	0.00200		mg/L		100	80 - 120	2	20

Lab Sample ID: LCSSRM 580-74914/22-A
Matrix: Water
Analysis Batch: 74973

Client Sample ID: LCSSRM 580-74914/22-A
Prep Type: Total/NA
Prep Batch: 74914

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	% Rec	% Rec.	
							Limits	RPD
Mercury	0.00200	0.00199		mg/L		99	75 - 125	

Lab Sample ID: 580-22606-1 MS
Matrix: Water
Analysis Batch: 74973

Client Sample ID: STJ0175-1
Prep Type: Total/NA
Prep Batch: 74914

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec.	
									Limits	RPD
Mercury	ND		0.00200	0.00215		mg/L		108	80 - 120	

Lab Sample ID: 580-22606-1 MSD
Matrix: Water
Analysis Batch: 74973

Client Sample ID: STJ0175-1
Prep Type: Total/NA
Prep Batch: 74914

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec.	
									Limits	RPD
Mercury	ND		0.00200	0.00206		mg/L		103	80 - 120	4

Lab Sample ID: 580-22606-1 DU
Matrix: Water
Analysis Batch: 74973

Client Sample ID: STJ0175-1
Prep Type: Total/NA
Prep Batch: 74914

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	% Rec	RPD	
									Limits	Limit
Mercury	ND			ND		mg/L			NC	20

Method: EPA 300.0 - Anions by EPA Method 300.0

Lab Sample ID: 10J0150-BLK1
Matrix: Water
Analysis Batch: 10J0150

Client Sample ID: 10J0150-BLK1
Prep Type: total
Prep Batch: 10J0150_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.500		mg/l		10/27/10 10:30	10/27/10 14:56	1
Nitrate-Nitrogen	ND		0.500		mg/l		10/27/10 10:30	10/27/10 14:56	1
Nitrite-Nitrogen	ND		0.200		mg/l		10/27/10 10:30	10/27/10 14:56	1
Sulfate	ND		0.500		mg/l		10/27/10 10:30	10/27/10 14:56	1

Lab Sample ID: 10J0150-BS1
Matrix: Water
Analysis Batch: 10J0150

Client Sample ID: 10J0150-BS1
Prep Type: total
Prep Batch: 10J0150_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	RPD
Chloride	5.00	4.83		mg/l		96.6	90 - 110	
Fluoride	5.00	4.74		mg/l		94.8	90 - 110	
Nitrate-Nitrogen	5.00	4.87		mg/l		97.4	90 - 110	

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0175
SDG: STJ0175

Method: EPA 300.0 - Anions by EPA Method 300.0 (Continued)

Lab Sample ID: 10J0150-BS1
Matrix: Water
Analysis Batch: 10J0150

Client Sample ID: 10J0150-BS1
Prep Type: total
Prep Batch: 10J0150_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Nitrite-Nitrogen	5.00	4.74		mg/l		94.8	90 - 110
Sulfate	5.00	4.93	M3	mg/l		98.6	90 - 110

Lab Sample ID: 10J0150-MS1
Matrix: Water
Analysis Batch: 10J0150

Client Sample ID: STJ0156-10
Prep Type: total
Prep Batch: 10J0150_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Chloride	14.5		5.00	18.1	M8	mg/l		73.2	80 - 120
Fluoride	ND		5.00	4.94		mg/l		98.8	80 - 120
Nitrate-Nitrogen	ND		5.00	4.85		mg/l		97.0	80 - 120
Nitrite-Nitrogen	ND		5.00	5.01		mg/l		100	80 - 120

Lab Sample ID: 10J0150-MSD1
Matrix: Water
Analysis Batch: 10J0150

Client Sample ID: STJ0156-10
Prep Type: total
Prep Batch: 10J0150_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Chloride	14.5		5.00	18.2	M8	mg/l		73.6	80 - 120	0.11	10
Fluoride	ND		5.00	4.94		mg/l		98.8	80 - 120	0.00	20
Nitrate-Nitrogen	ND		5.00	4.84		mg/l		96.8	80 - 120	0.20	12.1
Nitrite-Nitrogen	ND		5.00	4.99		mg/l		99.8	80 - 120	0.40	10

Lab Sample ID: 10J0150-DUP1
Matrix: Water
Analysis Batch: 10J0150

Client Sample ID: STJ0156-10
Prep Type: total
Prep Batch: 10J0150_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Chloride	14.5		14.6		mg/l		0.89	18.8
Fluoride	ND		ND		mg/l		4	20
Nitrate-Nitrogen	ND		ND		mg/l			13.1
Nitrite-Nitrogen	ND		ND		mg/l			10
Sulfate	35.2		35.0	E	mg/l		0.59	15.7

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Lab Sample ID: 10K0036-BLK1
Matrix: Water
Analysis Batch: 10K0036

Client Sample ID: 10K0036-BLK1
Prep Type: total
Prep Batch: 10K0036_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity	ND		4.00		mg/l		11/04/10 14:13	11/04/10 16:19	1
Carbonate Alkalinity	ND		4.00		mg/l		11/04/10 14:13	11/04/10 16:19	1
Hydroxide Alkalinity	ND		4.00		mg/l		11/04/10 14:13	11/04/10 16:19	1
Total Alkalinity	ND		4.00		mg/l		11/04/10 14:13	11/04/10 16:19	1

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0175
 SDG: STJ0175

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods (Continued)

Lab Sample ID: 10K0036-BS1
Matrix: Water
Analysis Batch: 10K0036

Client Sample ID: 10K0036-BS1
Prep Type: total
Prep Batch: 10K0036_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Bicarbonate Alkalinity	500	475		mg/l		95.0	90 - 110	
Total Alkalinity	500	475		mg/l		95.0	90 - 110	

Lab Sample ID: 10K0036-DUP1
Matrix: Water
Analysis Batch: 10K0036

Client Sample ID: WG-2494-MW2-102610
Prep Type: total
Prep Batch: 10K0036_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD	
								RPD	Limit
Bicarbonate Alkalinity	137		130		mg/l		5.24	10	
Carbonate Alkalinity	ND		ND		mg/l			10	
Hydroxide Alkalinity			ND		mg/l			10	
Total Alkalinity			130		mg/l		5.97	10	

Method: SM 4500-NH3 C - Conventional Chemistry Parameters by APHA/EPA Methods

Lab Sample ID: 10K0052-BLK1
Matrix: Water
Analysis Batch: 10K0052

Client Sample ID: 10K0052-BLK1
Prep Type: total
Prep Batch: 10K0052_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Lab Sample ID: 10K0052-BS1
Matrix: Water
Analysis Batch: 10K0052

Client Sample ID: 10K0052-BS1
Prep Type: total
Prep Batch: 10K0052_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Ammonia-Nitrogen	50.0	47.0		mg/l		94.0	90 - 110	

Lab Sample ID: 10K0052-DUP1
Matrix: Water
Analysis Batch: 10K0052

Client Sample ID: WG-2494-MW2-102610
Prep Type: total
Prep Batch: 10K0052_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD	
								RPD	Limit
Ammonia-Nitrogen	ND		0.840	R4	mg/l		30.8	24.4	

Method: SM4500NC - Conventional Chemistry Parameters by APHA/EPA Methods

Lab Sample ID: 10K0001-BLK1
Matrix: Water
Analysis Batch: 10K0001

Client Sample ID: 10K0001-BLK1
Prep Type: total
Prep Batch: 10K0001_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0175
 SDG: STJ0175

Method: SM4500NC - Conventional Chemistry Parameters by APHA/EPA Methods (Continued)

Lab Sample ID: 10K0001-BS1
Matrix: Water
Analysis Batch: 10K0001

Client Sample ID: 10K0001-BS1
Prep Type: total
Prep Batch: 10K0001_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	Limits
Total Kjeldahl Nitrogen	50.0	49.3		mg/l		98.6	90 - 110

Lab Sample ID: 10K0001-DUP1
Matrix: Water
Analysis Batch: 10K0001

Client Sample ID: WG-2494-MW2-102610
Prep Type: total
Prep Batch: 10K0001_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	Limit
Total Kjeldahl Nitrogen	ND		ND		mg/l			30



QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0175
 SDG: STJ0175

Metals

Prep Batch: 74914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0175-01	WG-2494-MW1-102610	Total/NA	Water	7470A	
MB 580-74914/19-A	MB 580-74914/19-A	Total/NA	Water	7470A	
580-22606-1 DU	STJ0175-1	Total/NA	Water	7470A	
LCS 580-74914/20-A	LCS 580-74914/20-A	Total/NA	Water	7470A	
LCSD 580-74914/21-A	LCSD 580-74914/21-A	Total/NA	Water	7470A	
LCSSRM 580-74914/22-A	LCSSRM 580-74914/22-A	Total/NA	Water	7470A	
580-22606-1 MS	STJ0175-1	Total/NA	Water	7470A	
580-22606-1 MSD	STJ0175-1	Total/NA	Water	7470A	
STJ0175-02	WG-2494-MW2-102610	Total/NA	Water	7470A	
STJ0175-03	WG-2494-FD04-102610	Total/NA	Water	7470A	
STJ0175-04	WG-2494-MW03-102610	Total/NA	Water	7470A	
STJ0175-05	WG-2494-Pump-102610	Total/NA	Water	7470A	

Prep Batch: 74942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0175-01	WG-2494-MW1-102610	Total Recoverable	Water	3005A	
STJ0175-01	WG-2494-MW1-102610	Total Recoverable	Water	3005A	
STJ0175-02	WG-2494-MW2-102610	Total Recoverable	Water	3005A	
STJ0175-02	WG-2494-MW2-102610	Total Recoverable	Water	3005A	
STJ0175-03	WG-2494-FD04-102610	Total Recoverable	Water	3005A	
STJ0175-03	WG-2494-FD04-102610	Total Recoverable	Water	3005A	
STJ0175-04	WG-2494-MW03-102610	Total Recoverable	Water	3005A	
STJ0175-04	WG-2494-MW03-102610	Total Recoverable	Water	3005A	
STJ0175-05	WG-2494-Pump-102610	Total Recoverable	Water	3005A	
STJ0175-05	WG-2494-Pump-102610	Total Recoverable	Water	3005A	
MB 580-74942/18-A	MB 580-74942/18-A	Total Recoverable	Water	3005A	
MB 580-74942/18-A	MB 580-74942/18-A	Total Recoverable	Water	3005A	
LCS 580-74942/19-A	LCS 580-74942/19-A	Total Recoverable	Water	3005A	
LCS 580-74942/19-A	LCS 580-74942/19-A	Total Recoverable	Water	3005A	
LCSD 580-74942/20-A	LCSD 580-74942/20-A	Total Recoverable	Water	3005A	
LCSD 580-74942/20-A	LCSD 580-74942/20-A	Total Recoverable	Water	3005A	
LCSSRM 580-74942/21-A	LCSSRM 580-74942/21-A	Total Recoverable	Water	3005A	

Analysis Batch: 74973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-74914/19-A	MB 580-74914/19-A	Total/NA	Water	7470A	74914
LCS 580-74914/20-A	LCS 580-74914/20-A	Total/NA	Water	7470A	74914
LCSD 580-74914/21-A	LCSD 580-74914/21-A	Total/NA	Water	7470A	74914
LCSSRM 580-74914/22-A	LCSSRM 580-74914/22-A	Total/NA	Water	7470A	74914
STJ0175-01	WG-2494-MW1-102610	Total/NA	Water	7470A	74914
580-22606-1 DU	STJ0175-1	Total/NA	Water	7470A	74914
580-22606-1 MS	STJ0175-1	Total/NA	Water	7470A	74914
580-22606-1 MSD	STJ0175-1	Total/NA	Water	7470A	74914
STJ0175-02	WG-2494-MW2-102610	Total/NA	Water	7470A	74914
STJ0175-03	WG-2494-FD04-102610	Total/NA	Water	7470A	74914
STJ0175-04	WG-2494-MW03-102610	Total/NA	Water	7470A	74914
STJ0175-05	WG-2494-Pump-102610	Total/NA	Water	7470A	74914

Analysis Batch: 75084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-74942/18-A	MB 580-74942/18-A	Total Recoverable	Water	6010B	74942
LCS 580-74942/19-A	LCS 580-74942/19-A	Total Recoverable	Water	6010B	74942



QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0175
SDG: STJ0175

Metals (Continued)

Analysis Batch: 75084 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 580-74942/20-A	LCSD 580-74942/20-A	Total Recoverable	Water	6010B	74942
LCSSRM 580-74942/21-A	LCSSRM 580-74942/21-A	Total Recoverable	Water	6010B	74942
STJ0175-01	WG-2494-MW1-102610	Total Recoverable	Water	6010B	74942
STJ0175-02	WG-2494-MW2-102610	Total Recoverable	Water	6010B	74942
STJ0175-03	WG-2494-FD04-102610	Total Recoverable	Water	6010B	74942
STJ0175-04	WG-2494-MW03-102610	Total Recoverable	Water	6010B	74942
STJ0175-05	WG-2494-Pump-102610	Total Recoverable	Water	6010B	74942

Analysis Batch: 75110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-74942/18-A	MB 580-74942/18-A	Total Recoverable	Water	6020	74942
STJ0175-01	WG-2494-MW1-102610	Total Recoverable	Water	6020	74942
STJ0175-02	WG-2494-MW2-102610	Total Recoverable	Water	6020	74942
STJ0175-03	WG-2494-FD04-102610	Total Recoverable	Water	6020	74942
STJ0175-04	WG-2494-MW03-102610	Total Recoverable	Water	6020	74942
STJ0175-05	WG-2494-Pump-102610	Total Recoverable	Water	6020	74942
LCS 580-74942/19-A	LCS 580-74942/19-A	Total Recoverable	Water	6020	74942
LCSD 580-74942/20-A	LCSD 580-74942/20-A	Total Recoverable	Water	6020	74942

Wet Chem

Analysis Batch: 10J0150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0150-BLK1	10J0150-BLK1	total	Water	EPA 300.0	10J0150_P
10J0150-BS1	10J0150-BS1	total	Water	EPA 300.0	10J0150_P
STJ0175-01	WG-2494-MW1-102610	total	Water	EPA 300.0	10J0150_P
STJ0175-02	WG-2494-MW2-102610	total	Water	EPA 300.0	10J0150_P
STJ0175-04	WG-2494-MW03-102610	total	Water	EPA 300.0	10J0150_P
STJ0175-05	WG-2494-Pump-102610	total	Water	EPA 300.0	10J0150_P
STJ0175-03	WG-2494-FD04-102610	total	Water	EPA 300.0	10J0150_P
10J0150-DUP1	STJ0156-10	total	Water	EPA 300.0	10J0150_P
10J0150-MS1	STJ0156-10	total	Water	EPA 300.0	10J0150_P
10J0150-MSD1	STJ0156-10	total	Water	EPA 300.0	10J0150_P

Prep Batch: 10J0150_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10J0150-BLK1	10J0150-BLK1	total	Water	Wet Chem	
10J0150-BS1	10J0150-BS1	total	Water	Wet Chem	
STJ0175-01	WG-2494-MW1-102610	total	Water	Wet Chem	
STJ0175-02	WG-2494-MW2-102610	total	Water	Wet Chem	
STJ0175-04	WG-2494-MW03-102610	total	Water	Wet Chem	
STJ0175-05	WG-2494-Pump-102610	total	Water	Wet Chem	
STJ0175-03	WG-2494-FD04-102610	total	Water	Wet Chem	
10J0150-DUP1	STJ0156-10	total	Water	Wet Chem	
10J0150-MS1	STJ0156-10	total	Water	Wet Chem	
10J0150-MSD1	STJ0156-10	total	Water	Wet Chem	

Analysis Batch: 10K0001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10K0001-BLK1	10K0001-BLK1	total	Water	SM4500NC	10K0001_P
10K0001-BS1	10K0001-BS1	total	Water	SM4500NC	10K0001_P
10K0001-DUP1	WG-2494-MW2-102610	total	Water	SM4500NC	10K0001_P

QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0175
 SDG: STJ0175

Wet Chem (Continued)

Analysis Batch: 10K0001 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
STJ0175-01	WG-2494-MW1-102610	total	Water	SM4500NC	10K0001_P
STJ0175-02	WG-2494-MW2-102610	total	Water	SM4500NC	10K0001_P
STJ0175-03	WG-2494-FD04-102610	total	Water	SM4500NC	10K0001_P
STJ0175-04	WG-2494-MW03-102610	total	Water	SM4500NC	10K0001_P
STJ0175-05	WG-2494-Pump-102610	total	Water	SM4500NC	10K0001_P

Prep Batch: 10K0001_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10K0001-BLK1	10K0001-BLK1	total	Water	Wet Chem	
10K0001-BS1	10K0001-BS1	total	Water	Wet Chem	
10K0001-DUP1	WG-2494-MW2-102610	total	Water	Wet Chem	
STJ0175-01	WG-2494-MW1-102610	total	Water	Wet Chem	
STJ0175-02	WG-2494-MW2-102610	total	Water	Wet Chem	
STJ0175-03	WG-2494-FD04-102610	total	Water	Wet Chem	
STJ0175-04	WG-2494-MW03-102610	total	Water	Wet Chem	
STJ0175-05	WG-2494-Pump-102610	total	Water	Wet Chem	

Analysis Batch: 10K0036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10K0036-BLK1	10K0036-BLK1	total	Water	SM 2320B	10K0036_P
10K0036-BS1	10K0036-BS1	total	Water	SM 2320B	10K0036_P
10K0036-DUP1	WG-2494-MW2-102610	total	Water	SM 2320B	10K0036_P
STJ0175-01	WG-2494-MW1-102610	total	Water	SM 2320B	10K0036_P
STJ0175-02	WG-2494-MW2-102610	total	Water	SM 2320B	10K0036_P
STJ0175-03	WG-2494-FD04-102610	total	Water	SM 2320B	10K0036_P
STJ0175-04	WG-2494-MW03-102610	total	Water	SM 2320B	10K0036_P
STJ0175-05	WG-2494-Pump-102610	total	Water	SM 2320B	10K0036_P

Prep Batch: 10K0036_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10K0036-BLK1	10K0036-BLK1	total	Water	Wet Chem	
10K0036-BS1	10K0036-BS1	total	Water	Wet Chem	
10K0036-DUP1	WG-2494-MW2-102610	total	Water	Wet Chem	
STJ0175-01	WG-2494-MW1-102610	total	Water	Wet Chem	
STJ0175-02	WG-2494-MW2-102610	total	Water	Wet Chem	
STJ0175-03	WG-2494-FD04-102610	total	Water	Wet Chem	
STJ0175-04	WG-2494-MW03-102610	total	Water	Wet Chem	
STJ0175-05	WG-2494-Pump-102610	total	Water	Wet Chem	

Analysis Batch: 10K0052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10K0052-BLK1	10K0052-BLK1	total	Water	SM 4500-NH3 C	10K0052_P
10K0052-BS1	10K0052-BS1	total	Water	SM 4500-NH3 C	10K0052_P
10K0052-DUP1	WG-2494-MW2-102610	total	Water	SM 4500-NH3 C	10K0052_P
STJ0175-01	WG-2494-MW1-102610	total	Water	SM 4500-NH3 C	10K0052_P
STJ0175-02	WG-2494-MW2-102610	total	Water	SM 4500-NH3 C	10K0052_P
STJ0175-03	WG-2494-FD04-102610	total	Water	SM 4500-NH3 C	10K0052_P
STJ0175-04	WG-2494-MW03-102610	total	Water	SM 4500-NH3 C	10K0052_P
STJ0175-05	WG-2494-Pump-102610	total	Water	SM 4500-NH3 C	10K0052_P



QC Association Summary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0175
SDG: STJ0175

Wet Chem (Continued)

Prep Batch: 10K0052_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
10K0052-BLK1	10K0052-BLK1	total	Water	Wet Chem	
10K0052-BS1	10K0052-BS1	total	Water	Wet Chem	
10K0052-DUP1	WG-2494-MW2-102610	total	Water	Wet Chem	
STJ0175-01	WG-2494-MW1-102610	total	Water	Wet Chem	
STJ0175-02	WG-2494-MW2-102610	total	Water	Wet Chem	
STJ0175-03	WG-2494-FD04-102610	total	Water	Wet Chem	
STJ0175-04	WG-2494-MW03-102610	total	Water	Wet Chem	
STJ0175-05	WG-2494-Pump-102610	total	Water	Wet Chem	

- 1
- 2
- 3
- 4
- 5
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- 8
- 9
- 10

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0175
SDG: STJ0175

Client Sample ID: WG-2494-MW1-102610

Lab Sample ID: STJ0175-01

Date Collected: 10/26/10 12:45

Matrix: Water

Date Received: 10/26/10 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			74942	11/03/10 10:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	75084	11/04/10 13:09	SP	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	75110	11/04/10 10:37	FCW	TestAmerica Seattle
Total/NA	Prep	7470A			74914	11/03/10 07:49	ZF	TestAmerica Seattle
Total/NA	Analysis	7470A		1	74973	11/03/10 10:41	FCW	TestAmerica Seattle
total	Prep	Wet Chem		1	10J0150_P	10/27/10 10:30	MFH	TestAmerica Spokane
total	Analysis	EPA 300.0		1	10J0150	10/27/10 20:22	MH	TestAmerica Spokane
total	Prep	Wet Chem		1	10K0036_P	11/04/10 14:13	MS	TestAmerica Spokane
total	Analysis	SM 2320B		1	10K0036	11/04/10 16:19	MS	TestAmerica Spokane
total	Prep	Wet Chem		1	10K0052_P	11/09/10 06:19	MS	TestAmerica Spokane
total	Analysis	SM 4500-NH3 C		1	10K0052	11/09/10 15:24	MS	TestAmerica Spokane
total	Prep	Wet Chem		1	10K0001_P	11/01/10 08:43	MS	TestAmerica Spokane
total	Analysis	SM4500NC		1	10K0001	11/01/10 12:58	MS	TestAmerica Spokane

Client Sample ID: WG-2494-MW2-102610

Lab Sample ID: STJ0175-02

Date Collected: 10/26/10 11:41

Matrix: Water

Date Received: 10/26/10 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			74942	11/03/10 10:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	75084	11/04/10 13:15	SP	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	75110	11/04/10 10:41	FCW	TestAmerica Seattle
Total/NA	Prep	7470A			74914	11/03/10 07:49	ZF	TestAmerica Seattle
Total/NA	Analysis	7470A		1	74973	11/03/10 10:51	FCW	TestAmerica Seattle
total	Prep	Wet Chem		1	10J0150_P	10/27/10 10:30	MFH	TestAmerica Spokane
total	Analysis	EPA 300.0		1	10J0150	10/27/10 20:41	MH	TestAmerica Spokane
total	Prep	Wet Chem		1	10K0036_P	11/04/10 14:13	MS	TestAmerica Spokane
total	Analysis	SM 2320B		1	10K0036	11/04/10 16:19	MS	TestAmerica Spokane
total	Prep	Wet Chem		1	10K0052_P	11/09/10 06:19	MS	TestAmerica Spokane
total	Analysis	SM 4500-NH3 C		1	10K0052	11/09/10 15:24	MS	TestAmerica Spokane
total	Prep	Wet Chem		1	10K0001_P	11/01/10 08:43	MS	TestAmerica Spokane
total	Analysis	SM4500NC		1	10K0001	11/01/10 12:58	MS	TestAmerica Spokane

Client Sample ID: WG-2494-FD04-102610

Lab Sample ID: STJ0175-03

Date Collected: 10/26/10 11:41

Matrix: Water

Date Received: 10/26/10 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			74942	11/03/10 10:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	75084	11/04/10 13:31	SP	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	75110	11/04/10 10:45	FCW	TestAmerica Seattle
Total/NA	Prep	7470A			74914	11/03/10 07:49	ZF	TestAmerica Seattle
Total/NA	Analysis	7470A		1	74973	11/03/10 10:54	FCW	TestAmerica Seattle
total	Analysis	EPA 300.0		1	10J0150	10/27/10 21:35	MH	TestAmerica Spokane

Lab Chronicle

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STJ0175
 SDG: STJ0175

Client Sample ID: WG-2494-MW03-102610

Lab Sample ID: STJ0175-04

Date Collected: 10/26/10 09:42

Matrix: Water

Date Received: 10/26/10 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			74942	11/03/10 10:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	75084	11/04/10 13:36	SP	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	75110	11/04/10 10:58	FCW	TestAmerica Seattle
Total/NA	Prep	7470A			74914	11/03/10 07:49	ZF	TestAmerica Seattle
Total/NA	Analysis	7470A		1	74973	11/03/10 10:56	FCW	TestAmerica Seattle
total	Prep	Wet Chem		1	10J0150_P	10/27/10 10:30	MFH	TestAmerica Spokane
total	Analysis	EPA 300.0		1	10J0150	10/27/10 20:59	MH	TestAmerica Spokane
total	Prep	Wet Chem		1	10K0036_P	11/04/10 14:13	MS	TestAmerica Spokane
total	Analysis	SM 2320B		1	10K0036	11/04/10 16:19	MS	TestAmerica Spokane
total	Prep	Wet Chem		1	10K0052_P	11/09/10 06:19	MS	TestAmerica Spokane
total	Analysis	SM 4500-NH3 C		1	10K0052	11/09/10 15:24	MS	TestAmerica Spokane
total	Prep	Wet Chem		1	10K0001_P	11/01/10 08:43	MS	TestAmerica Spokane
total	Analysis	SM4500NC		1	10K0001	11/01/10 12:58	MS	TestAmerica Spokane

Client Sample ID: WG-2494-Pump-102610

Lab Sample ID: STJ0175-05

Date Collected: 10/26/10 11:00

Matrix: Water

Date Received: 10/26/10 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			74942	11/03/10 10:11	ZF	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	75084	11/04/10 13:42	SP	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	75110	11/04/10 11:02	FCW	TestAmerica Seattle
Total/NA	Prep	7470A			74914	11/03/10 07:49	ZF	TestAmerica Seattle
Total/NA	Analysis	7470A		1	74973	11/03/10 10:58	FCW	TestAmerica Seattle
total	Prep	Wet Chem		1	10J0150_P	10/27/10 10:30	MFH	TestAmerica Spokane
total	Analysis	EPA 300.0		1	10J0150	10/27/10 21:17	MH	TestAmerica Spokane
total	Prep	Wet Chem		1	10K0036_P	11/04/10 14:13	MS	TestAmerica Spokane
total	Analysis	SM 2320B		1	10K0036	11/04/10 16:19	MS	TestAmerica Spokane
total	Prep	Wet Chem		1	10K0052_P	11/09/10 06:19	MS	TestAmerica Spokane
total	Analysis	SM 4500-NH3 C		1	10K0052	11/09/10 15:24	MS	TestAmerica Spokane
total	Prep	Wet Chem		1	10K0001_P	11/01/10 08:43	MS	TestAmerica Spokane
total	Analysis	SM4500NC		1	10K0001	11/01/10 12:58	MS	TestAmerica Spokane

Certification Summary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0175
SDG: STJ0175

Laboratory	Authority	Program	EPA Region	Certification ID	Expiration Date
TestAmerica Spokane	Alaska	Alaska UST	10	UST-071	10/31/10
TestAmerica Spokane	Washington	State Program	10	C569	01/06/11
TestAmerica Seattle		USDA		P330-08-00099	05/22/11
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022	03/04/11
TestAmerica Seattle	California	NELAC Secondary AB	9	1115CA	01/31/11
TestAmerica Seattle	Florida	NELAC Secondary AB	4	E871074	06/30/11
TestAmerica Seattle	L-A-B	DoD ELAP	0	L2236	01/19/13
TestAmerica Seattle	L-A-B	ISO/IEC 17025	0	L2236	01/19/13
TestAmerica Seattle	Montana	State Program	8		04/30/20
TestAmerica Seattle	Oregon	NELAC Primary AB	10	WA100007	11/06/11
TestAmerica Seattle	Washington	State Program	10	C553	02/17/11

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



Method Summary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STJ0175
SDG: STJ0175

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL SEA
6020	Metals (ICP/MS)	SW846	TAL SEA
7470A	Mercury (CVAA)	SW846	TAL SEA
EPA 300.0	Anions by EPA Method 300.0		TAL SPK
SM 2320B	Conventional Chemistry Parameters by APHA/EPA Methods		TAL SPK
SM 4500-NH3 C	Conventional Chemistry Parameters by APHA/EPA Methods		TAL SPK
SM4500NC	Conventional Chemistry Parameters by APHA/EPA Methods		TAL SPK

Protocol References:

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SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200





MEMORANDUM

TO: Tim Nickels REF. NO.: 058323-2494

FROM: Jeffrey Cloud/bjw/49-NF *Jeffrey Cloud* DATE: January 11, 2011
REVISED: February 7, 2011

C.C.: Matt Wickham, Jesse Orth, Julie Lidstone E-Mail and Hard Copy if Requested

RE: **Data Quality Assessment and Validation of Report STL0038**
RI/FS Investigation
Aluminum Dross II
Trentwood, WA
December 2010

INTRODUCTION

The following details a quality assessment and validation of the analytical data resulting from the December 2010, collection of soil and groundwater samples in Trentwood, WA. Samples were submitted to Test America Laboratories (TA), in Spokane, WA, and analyzed for the following:

<i>Parameter</i>	<i>Methodology</i>
Metals	SW846 6010B SW846 6010C SW846 6020
Mercury	SW846 7470A SW846 7471
Inorganic Anions	EPA 300.0
Alkalinity	SM 2320 B
Ammonia	SM 4500 NH3 C
Total Kjeldahl Nitrogen (TKN)	SM 4500 N C

The analytical results are summarized in Tables 1A and 1B. The QC criteria used to assess the data were established by the methods and with the following guidance documents:

- i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", USEPA 540/R-99/008, October 1999
- ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Review", USEPA 540/R-94/013, February 1994

These guidelines are collectively referred to as "Guidelines" in this memorandum.

SAMPLE QUANTITATION

The laboratory reported detected concentrations of analytes below the laboratory's practical quantitation limit (PQL)/report limit (RL). The detections between the PQL/RL and the method detection limit (MDL) have been qualified as estimated.

SAMPLE PRESERVATION AND HOLDING TIMES

Sample holding time periods and preservation requirements are summarized in the analytical methods. All sample extractions and/or analyses were performed within the specified holding times.

All samples were properly preserved and cooled after collection.

METHOD BLANK SAMPLES

Method blank samples are prepared from a purified sample matrix and are processed concurrently with investigative samples to assess the presence and the magnitude of sample contamination introduced during sample analysis. Method blank samples are analyzed at a minimum frequency of one per analytical batch and target analytes should be non-detect.

Method blanks were analyzed at the recommended frequency and all results were non-detect for the compounds of interest with a few exceptions. Several sample results were qualified as non-detect (See Table 2).

SURROGATE COMPOUNDS - ORGANIC ANALYSES

Individual sample performance for organic analyses was monitored by assessing the results of surrogate compound percent recoveries. Surrogate percent recoveries are reviewed against the laboratory developed control limits provided in the analytical report.

The use of surrogates was not appropriate for the requested analyses.

LABORATORY CONTROL SAMPLE (LCS)

The LCS analysis serves as a monitor of the overall performance in all steps of the sample analysis and are analyzed with each sample batch. The LCS percent recoveries were evaluated against method and laboratory established control limits.

Laboratory control samples (LCS) were analyzed for all parameters. Some LCS for metals and mercury were analyzed in duplicate. All recoveries were within required control limits showing adequate analytical accuracy and precision.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) ANALYSES

To assess the long term accuracy and precision of the analytical methods on various matrices, MS/MSD percent recoveries and relative percent differences (RPD) of the concentrations were determined. The organic MS/MSD percent recovery and RPD control limits are established by the laboratory. The inorganic control limits are defined by the methods and the "Guidelines", which require recoveries between 75 to 125 percent with RPDs less than 20 percent for water samples and 30 percent for soil samples.

Matrix spikes (MS) were prepared and analyzed in duplicate for metals, mercury and inorganic anions. All recoveries were within required control limits showing adequate analytical accuracy and precision with a few exceptions. Several sample results were qualified as estimated (See Table 3). Laboratory duplicates were prepared and analyzed for all parameters. All RPDs were within required control limits with a few exceptions. Several sample results were qualified as estimated (See Table 4).

FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

The field QA/QC consisted of field duplicate sample sets.

Overall precision for the sampling event and laboratory procedures was monitored using the results of the field duplicate sample sets. The RPDs associated with these duplicate samples must be less than 50 percent for water or 100 percent for soil/sediment. If the reported concentration in either the investigative sample or its duplicate is less than five times the RL, the evaluation criteria are; one times the RL value for water or two times for soil/sediment.

All field duplicate results were acceptable indicating good field and analytical precision.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used with the qualifications noted.

TABLE 1A
ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
DECEMBER 2010

	<i>Sample Location:</i>	<i>MW-1</i>	<i>MW-2</i>	<i>MW-3</i>	<i>MW-3</i>
	<i>Sample ID:</i>	<i>WG-2494-MW1-120710</i>	<i>WG-2494-MW2-120710</i>	<i>WG-2494-MW3-120710</i>	<i>WG-2494-FD06-120710</i>
	<i>Sample Date:</i>	<i>12/7/2010</i>	<i>12/7/2010</i>	<i>12/7/2010</i>	<i>12/7/2010</i>
<i>Parameters</i>	<i>Units</i>				<i>Duplicate</i>
<i>Metals</i>					
Aluminum	mg/L	<1.0	<1.0	<1.0	<1.0
Arsenic	mg/L	<0.0020	<0.0020	<0.0020	<0.0020
Barium	mg/L	0.025	0.025	0.020	0.021
Cadmium	mg/L	<0.0020	<0.0020	<0.0020	<0.0020
Calcium	mg/L	34	32	34	34
Chromium	mg/L	0.0029 J	0.0025 J	0.0026 J	0.0038 J
Copper	mg/L	<0.020	<0.020	<0.020	<0.020
Lead	mg/L	<0.0020	<0.0020	0.00030 J	0.00026 J
Magnesium	mg/L	14	14	14	14
Mercury	mg/L	0.000051 J	0.000050 J	0.000046 J	<0.00020
Potassium	mg/L	1.8 J	2.0 J	2.3 J	2.6 J
Selenium	mg/L	<0.0020 U	<0.0020	<0.0020 U	<0.0020 U
Silver	mg/L	<0.0020	<0.0020	<0.0020	<0.0020
Sodium	mg/L	2.9	2.9	2.9	3.0
<i>General Chemistry</i>					
Alkalinity, bicarbonate	mg/L	134	129	135	134
Alkalinity, carbonate	mg/L	<4.00	<4.00	<4.00	<4.00
Ammonia-N	mg/L	<1.00	0.672 J	0.448 J	0.560 J
Chloride	mg/L	2.62	2.06	2.61	2.64
Fluoride	mg/L	<0.500	<0.500	<0.500	<0.500
Nitrate (as N)	mg/L	0.940	0.920	0.990	1.02
Nitrite (as N)	mg/L	<0.200	<0.200	<0.200	<0.200
Sulfate	mg/L	13.4	12.9	14.0	14.2
Total kjeldahl nitrogen (TKN)	mg/L	<0.800	<0.800	<0.800	<0.800

Notes:

J - Estimated.

U - Not detected.

TABLE 1B
ANALYTICAL RESULTS SUMMARY
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
DECEMBER 2010

	<i>Sample Location:</i>	<i>SB-6</i>	<i>SB-7</i>	<i>SB-8</i>	<i>SB-8</i>
	<i>Sample ID:</i>	SO-2494-SB6 (0-1)-120810	SO-2494-SB7 (0-1)-120810	SO-2494-SB8 (0-1)-120810	SO-2494-FD05-120810
	<i>Sample Date:</i>	12/8/2010	12/8/2010	12/8/2010	12/8/2010
	<i>Sample Depth:</i>	0-1 ft BGS	0-1 ft BGS	0-1 ft BGS	0-1 ft BGS <i>Duplicate</i>
<i>Parameters</i>	<i>Units</i>				
<i>Metals</i>					
Aluminum	mg/kg	8990	49700	18000	19100
Arsenic	mg/kg	10.2 J	4.14 J	8.59 J	8.97 J
Barium	mg/kg	52.0 J	69.6 J	59.7 J	65.6 J
Cadmium	mg/kg	<0.215	<0.214	<0.218	<0.218
Chromium	mg/kg	7.34	33.0	16.3	13.9
Copper	mg/kg	64.9	219	129	124
Lead	mg/kg	8.56	10.1	16.5	13.9
Mercury	ug/kg	65.2 J	33.4 J	82.9 J	86.5 J
Selenium	mg/kg	<2.69	<2.68	<2.73	<2.72
Silver	mg/kg	<0.538	<0.536	<0.545	<0.544
<i>General Chemistry</i>					
Chloride	mg/kg	0.59 J	<3.2	0.66 J	0.56 J
Fluoride	mg/kg	2.6	44	15	8.6
Nitrate (as N)	mg/kg	<0.44	0.66	<0.42	<0.43
Nitrite (as N)	mg/kg	2.9 J	3.6 J	4.2 J	2.8 J
Percent moisture	%	6.0	11	5.8	9.2
Percent solids	%	94	89	94	91
Sulfate	mg/kg	1.9 J	3.8	2.9	2.1 J

Notes:

J - Estimated.

U - Not detected.

TABLE 2

**QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE METHOD BLANKS
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
DECEMBER 2010**

<i>Parameter</i>	<i>Analysis Date</i>	<i>Analyte</i>	<i>Blank Result</i>	<i>Sample ID</i>	<i>Qualified Sample Result</i>	<i>Units</i>
SW6020	12/21/2010	Selenium	0.000415	WG-2494-FD06-120710	0.0020 U	mg/L
SW6020	12/21/2010	Selenium	0.000415	WG-2494-MW1-120710	0.0020 U	mg/L
SW6020	12/21/2010	Selenium	0.000415	WG-2494-MW3-120710	0.0020 U	mg/L

Notes:

U Not detected.

TABLE 3

**QUALIFIED SAMPLE RESULTS DUE TO OUTLYING MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERIES
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
DECEMBER 2010**

<i>Parameter</i>	<i>Associated Sample ID</i>	<i>Analyte</i>	<i>MS Recovery (percent)</i>	<i>MSD Recovery (percent)</i>	<i>RPD</i>	<i>Control Limits</i>		<i>Qualified Sample Result</i>	<i>Units</i>
						<i>Recovery (percent)</i>	<i>RPD (percent)</i>		
SW6010C	SO-2494-FD05-120810	Barium	125	178	21.6	75-125	20	65.6 J	mg/kg
SW6010C	SO-2494-SB6 (0-1)-120810	Barium	125	178	21.6	75-125	20	52.0 J	mg/kg
SW6010C	SO-2494-SB7 (0-1)-120810	Barium	125	178	21.6	75-125	20	69.6 J	mg/kg
SW6010C	SO-2494-SB8 (0-1)-120810	Barium	125	178	21.6	75-125	20	59.7 J	mg/kg
SW7471	SO-2494-FD05-120810	Mercury	164	172	3.49	80-120	20	86.5 J	µg/kg
SW7471	SO-2494-SB6 (0-1)-120810	Mercury	164	172	3.49	80-120	20	65.2 J	µg/kg
SW7471	SO-2494-SB7 (0-1)-120810	Mercury	164	172	3.49	80-120	20	33.4 J	µg/kg
SW7471	SO-2494-SB8 (0-1)-120810	Mercury	164	172	3.49	80-120	20	82.9 J	µg/kg

Notes:

J Estimated.
MS Matrix Spike.
MSD Matrix Spike Duplicate.
RPD Relative Percent Difference.

TABLE 4

**QUALIFIED SAMPLE DATA DUE TO POOR LABORATORY DUPLICATE PRECISION
RI/FS INVESTIGATION
ALUMINUM DROSS II
TRENTWOOD, WASHINGTON
DECEMBER 2010**

<i>Parameter</i>	<i>Analyte</i>	<i>Sample ID</i>	<i>RPD</i>	<i>RPD Control Limit</i>	<i>Associated Sample IDs</i>	<i>Qualified Sample Results</i>	<i>Units</i>
SW6020	Chromium	WG-2494-MW3-120710	28	20	WG-2494-FD06-120710	0.0038 J	mg/L
SW6020	Chromium	WG-2494-MW3-120710	28	20	WG-2494-MW1-120710	0.0029 J	mg/L
SW6020	Chromium	WG-2494-MW3-120710	28	20	WG-2494-MW2-120710	0.0025 J	mg/L
SW6020	Chromium	WG-2494-MW3-120710	28	20	WG-2494-MW3-120710	0.0026 J	mg/L
SW6010C	Arsenic	SO-2494-SB6 (0-1)-120810	23.3	20	SO-2494-FD05-120810	8.97 J	mg/kg
SW6010C	Arsenic	SO-2494-SB6 (0-1)-120810	23.3	20	SO-2494-SB6 (0-1)-120810	10.2 J	mg/kg
SW6010C	Arsenic	SO-2494-SB6 (0-1)-120810	23.3	20	SO-2494-SB7 (0-1)-120810	4.14 J	mg/kg
SW6010C	Arsenic	SO-2494-SB6 (0-1)-120810	23.3	20	SO-2494-SB8 (0-1)-120810	8.59 J	mg/kg
SW7471	Mercury	SO-2494-SB6 (0-1)-120810	64.3	40	SO-2494-FD05-120810	86.5 J	µg/kg
SW7471	Mercury	SO-2494-SB6 (0-1)-120810	64.3	40	SO-2494-SB6 (0-1)-120810	65.2 J	µg/kg
SW7471	Mercury	SO-2494-SB6 (0-1)-120810	64.3	40	SO-2494-SB7 (0-1)-120810	33.4 J	µg/kg
SW7471	Mercury	SO-2494-SB6 (0-1)-120810	64.3	40	SO-2494-SB8 (0-1)-120810	82.9 J	µg/kg
E300	Nitrite (as N)	SO-2494-SB6 (0-1)-120810	21	10	SO-2494-FD05-120810	2.8 J	mg/kg
E300	Nitrite (as N)	SO-2494-SB6 (0-1)-120810	21	10	SO-2494-SB6 (0-1)-120810	2.9 J	mg/kg
E300	Nitrite (as N)	SO-2494-SB6 (0-1)-120810	21	10	SO-2494-SB7 (0-1)-120810	3.6 J	mg/kg
E300	Nitrite (as N)	SO-2494-SB6 (0-1)-120810	21	10	SO-2494-SB8 (0-1)-120810	4.2 J	mg/kg
SM4500-NH3H	Ammonia-N	WG-2494-MW3-120710	40	24.4	WG-2494-FD06-120710	0.560 J	mg/L
SM4500-NH3H	Ammonia-N	WG-2494-MW3-120710	40	24.4	WG-2494-MW2-120710	0.672 J	mg/L
SM4500-NH3H	Ammonia-N	WG-2494-MW3-120710	40	24.4	WG-2494-MW3-120710	0.448 J	mg/L

Notes:

J Estimated.

RPD Relative Percent Difference.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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

TestAmerica Job ID: STL0038

TestAmerica Sample Delivery Group: STL0038

Client Project/Site: 3171

Client Project Description:

UPRR Aluminum Recycling Trentwood

For:

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr. Suite 4004
Round Rock, TX 78664

Attn: Tim Nickels



Authorized for release by:

12/23/2010 9:33 AM

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Project Manager

Randee.Decker@testamericainc.com

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



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Sample Summary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
STL0038-01	WG-2494-MW1-120710	Water	12/07/10 16:10	12/08/10 12:12
STL0038-02	WG-2494-MW2-120710	Water	12/07/10 14:15	12/08/10 12:12
STL0038-03	WG-2494-MW3-120710	Water	12/07/10 11:40	12/08/10 12:12
STL0038-04	WG-2494-FD06-120710	Water	12/07/10 11:40	12/08/10 12:12
STL0038-05	SO-2494-SB6 (0-1)-120810	Soil	12/08/10 07:10	12/08/10 12:12
STL0038-06	SO-2494-SB7 (0-1)-120810	Soil	12/08/10 07:20	12/08/10 12:12
STL0038-07	SO-2494-SB8 (0-1)-120810	Soil	12/08/10 07:30	12/08/10 12:12
STL0038-08	SO-2494-FD05-120810	Soil	12/08/10 07:30	12/08/10 12:12



Qualifier Definition/Glossary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

Qualifiers

Metals

Qualifier	Qualifier Description
B1	Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
M3	Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
R2	The RPD exceeded the acceptance limit.
R3	The RPD exceeded the acceptance limit due to sample matrix effects.

General Chemistry

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits

Wet Chem

Qualifier	Qualifier Description
M3	Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
R4	Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

Glossary

Glossary	Glossary Description
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.



Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

Client Sample ID: WG-2494-MW1-120710

Lab Sample ID: STL0038-01

Date Collected: 12/07/10 16:10

Matrix: Water

Date Received: 12/08/10 12:12

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0		mg/L		12/20/10 17:24	12/22/10 11:50	1
Calcium	34		1.1		mg/L		12/20/10 17:24	12/22/10 11:50	1
Copper	ND		0.020		mg/L		12/20/10 17:24	12/22/10 11:50	1
Magnesium	14		1.1		mg/L		12/20/10 17:24	12/22/10 11:50	1
Potassium	ND		3.3		mg/L		12/20/10 17:24	12/22/10 11:50	1
Sodium	2.9		2.0		mg/L		12/20/10 17:24	12/22/10 11:50	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 20:26	5
Barium	0.025		0.0060		mg/L		12/20/10 17:24	12/21/10 20:26	5
Cadmium	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 20:26	5
Chromium	0.0029		0.0020		mg/L		12/20/10 17:24	12/21/10 20:26	5
Lead	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 20:26	5
Selenium	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 20:26	5
Silver	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 20:26	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		12/14/10 11:45	12/14/10 19:11	1

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.62		0.800		mg/l		12/08/10 13:09	12/08/10 16:40	1
Fluoride	ND		0.500		mg/l		12/08/10 13:09	12/08/10 16:40	1
Nitrate-Nitrogen	0.940		0.500		mg/l		12/08/10 13:09	12/08/10 16:40	1
Nitrite-Nitrogen	ND		0.200		mg/l		12/08/10 13:09	12/08/10 16:40	1
Sulfate	13.4		0.500		mg/l		12/08/10 13:09	12/08/10 16:40	1

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity	134		4.00		mg/l		12/20/10 13:07	12/20/10 13:07	1
Carbonate Alkalinity	ND		4.00		mg/l		12/20/10 13:07	12/20/10 13:07	1

Method: SM 4500-NH3 C - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia-Nitrogen	ND		1.00		mg/l		12/17/10 10:18	12/17/10 14:17	1

Method: SM4500NC - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.800		mg/l		12/10/10 10:06	12/10/10 15:37	1

Client Sample ID: WG-2494-MW2-120710

Lab Sample ID: STL0038-02

Date Collected: 12/07/10 14:15

Matrix: Water

Date Received: 12/08/10 12:12

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0		mg/L		12/20/10 17:24	12/22/10 11:57	1
Calcium	32		1.1		mg/L		12/20/10 17:24	12/22/10 11:57	1
Copper	ND		0.020		mg/L		12/20/10 17:24	12/22/10 11:57	1
Magnesium	14		1.1		mg/L		12/20/10 17:24	12/22/10 11:57	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STL0038
 SDG: STL0038

Client Sample ID: WG-2494-MW2-120710

Lab Sample ID: STL0038-02

Date Collected: 12/07/10 14:15

Matrix: Water

Date Received: 12/08/10 12:12

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		3.3		mg/L		12/20/10 17:24	12/22/10 11:57	1
Sodium	2.9		2.0		mg/L		12/20/10 17:24	12/22/10 11:57	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 20:22	5
Barium	0.025		0.0060		mg/L		12/20/10 17:24	12/21/10 20:22	5
Cadmium	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 20:22	5
Chromium	0.0025		0.0020		mg/L		12/20/10 17:24	12/21/10 20:22	5
Lead	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 20:22	5
Selenium	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 20:22	5
Silver	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 20:22	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		12/14/10 11:45	12/14/10 19:13	1

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.06		0.800		mg/l		12/08/10 13:09	12/08/10 16:58	1
Fluoride	ND		0.500		mg/l		12/08/10 13:09	12/08/10 16:58	1
Nitrate-Nitrogen	0.920		0.500		mg/l		12/08/10 13:09	12/08/10 16:58	1
Nitrite-Nitrogen	ND		0.200		mg/l		12/08/10 13:09	12/08/10 16:58	1
Sulfate	12.9		0.500		mg/l		12/08/10 13:09	12/08/10 16:58	1

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity	129		4.00		mg/l		12/20/10 13:07	12/20/10 13:07	1
Carbonate Alkalinity	ND		4.00		mg/l		12/20/10 13:07	12/20/10 13:07	1

Method: SM 4500-NH3 C - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia-Nitrogen	ND		1.00		mg/l		12/17/10 10:18	12/17/10 14:17	1

Method: SM4500NC - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.800		mg/l		12/10/10 10:06	12/10/10 15:37	1

Client Sample ID: WG-2494-MW3-120710

Lab Sample ID: STL0038-03

Date Collected: 12/07/10 11:40

Matrix: Water

Date Received: 12/08/10 12:12

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0		mg/L		12/20/10 17:24	12/21/10 20:56	1
Calcium	34		1.1		mg/L		12/20/10 17:24	12/21/10 20:56	1
Copper	ND		0.020		mg/L		12/20/10 17:24	12/21/10 20:56	1
Magnesium	14		1.1		mg/L		12/20/10 17:24	12/21/10 20:56	1
Potassium	ND		3.3		mg/L		12/20/10 17:24	12/21/10 20:56	1
Sodium	2.9		2.0		mg/L		12/20/10 17:24	12/21/10 20:56	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

Client Sample ID: WG-2494-MW3-120710

Lab Sample ID: STL0038-03

Date Collected: 12/07/10 11:40

Matrix: Water

Date Received: 12/08/10 12:12

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 19:46	5
Barium	0.020		0.0060		mg/L		12/20/10 17:24	12/21/10 19:46	5
Cadmium	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 19:46	5
Chromium	0.0026		0.0020		mg/L		12/20/10 17:24	12/21/10 19:46	5
Lead	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 19:46	5
Selenium	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 19:46	5
Silver	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 19:46	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		12/14/10 11:45	12/14/10 19:16	1

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.61		0.800		mg/l		12/08/10 13:09	12/08/10 17:16	1
Fluoride	ND		0.500		mg/l		12/08/10 13:09	12/08/10 17:16	1
Nitrate-Nitrogen	0.990		0.500		mg/l		12/08/10 13:09	12/08/10 17:16	1
Nitrite-Nitrogen	ND		0.200		mg/l		12/08/10 13:09	12/08/10 17:16	1
Sulfate	14.0		0.500		mg/l		12/08/10 13:09	12/08/10 17:16	1

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity	135		4.00		mg/l		12/20/10 13:07	12/20/10 13:07	1
Carbonate Alkalinity	ND		4.00		mg/l		12/20/10 13:07	12/20/10 13:07	1

Method: SM 4500-NH3 C - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia-Nitrogen	ND		1.00		mg/l		12/17/10 10:18	12/17/10 14:17	1

Method: SM4500NC - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.800		mg/l		12/10/10 10:06	12/10/10 15:37	1

Client Sample ID: WG-2494-FD06-120710

Lab Sample ID: STL0038-04

Date Collected: 12/07/10 11:40

Matrix: Water

Date Received: 12/08/10 12:12

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0		mg/L		12/20/10 17:24	12/22/10 12:04	1
Calcium	34		1.1		mg/L		12/20/10 17:24	12/22/10 12:04	1
Copper	ND		0.020		mg/L		12/20/10 17:24	12/22/10 12:04	1
Magnesium	14		1.1		mg/L		12/20/10 17:24	12/22/10 12:04	1
Potassium	ND		3.3		mg/L		12/20/10 17:24	12/22/10 12:04	1
Sodium	3.0		2.0		mg/L		12/20/10 17:24	12/22/10 12:04	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 20:31	5
Barium	0.021		0.0060		mg/L		12/20/10 17:24	12/21/10 20:31	5
Cadmium	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 20:31	5
Chromium	0.0038		0.0020		mg/L		12/20/10 17:24	12/21/10 20:31	5

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

Client Sample ID: WG-2494-FD06-120710

Lab Sample ID: STL0038-04

Date Collected: 12/07/10 11:40

Matrix: Water

Date Received: 12/08/10 12:12

Method: 6020 - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 20:31	5
Selenium	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 20:31	5
Silver	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 20:31	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		12/14/10 11:45	12/14/10 19:24	1

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.64		0.800		mg/l		12/08/10 13:09	12/08/10 17:34	1
Fluoride	ND		0.500		mg/l		12/08/10 13:09	12/08/10 17:34	1
Nitrate-Nitrogen	1.02		0.500		mg/l		12/08/10 13:09	12/08/10 17:34	1
Nitrite-Nitrogen	ND		0.200		mg/l		12/08/10 13:09	12/08/10 17:34	1
Sulfate	14.2		0.500		mg/l		12/08/10 13:09	12/08/10 17:34	1

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity	134		4.00		mg/l		12/20/10 13:07	12/20/10 13:07	1
Carbonate Alkalinity	ND		4.00		mg/l		12/20/10 13:07	12/20/10 13:07	1

Method: SM 4500-NH3 C - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia-Nitrogen	ND		1.00		mg/l		12/17/10 10:18	12/17/10 14:17	1

Method: SM4500NC - Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.800		mg/l		12/10/10 10:06	12/10/10 15:37	1

Client Sample ID: SO-2494-SB6 (0-1)-120810

Lab Sample ID: STL0038-05

Date Collected: 12/08/10 07:10

Matrix: Soil

Date Received: 12/08/10 12:12

Percent Solids: 92.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	8990	B1	269		mg/kg dry	⚠	12/21/10 11:02	12/22/10 16:19	100
Arsenic	10.2		2.69		mg/kg dry	⚠	12/09/10 11:46	12/10/10 11:28	1
Barium	52.0		0.538		mg/kg dry	⚠	12/21/10 11:02	12/22/10 15:56	1
Cadmium	ND		0.215		mg/kg dry	⚠	12/09/10 11:46	12/10/10 11:28	1
Chromium	7.34		0.538		mg/kg dry	⚠	12/21/10 11:03	12/22/10 15:56	1
Copper	64.9		0.538		mg/kg dry	⚠	12/09/10 11:46	12/10/10 11:28	1
Lead	8.56		1.61		mg/kg dry	⚠	12/09/10 11:46	12/10/10 11:28	1
Selenium	ND		2.69		mg/kg dry	⚠	12/09/10 11:46	12/10/10 11:28	1
Silver	ND		0.538		mg/kg dry	⚠	12/09/10 11:46	12/10/10 14:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	65.2		50.0		ug/kg dry	⚠	12/13/10 11:36	12/14/10 12:00	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.6		0.99		mg/Kg			12/22/10 11:50	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

Client Sample ID: SO-2494-SB6 (0-1)-120810

Lab Sample ID: STL0038-05

Date Collected: 12/08/10 07:10

Matrix: Soil

Date Received: 12/08/10 12:12

Percent Solids: 94.0

General Chemistry - Soluble (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	2.9		1.6		mg/Kg	☼		12/22/10 11:50	1
Chloride	ND		3.3		mg/Kg			12/22/10 11:50	1
Nitrate as N	ND		0.44		mg/Kg	☼		12/22/10 11:50	1
Sulfate	ND		3.0		mg/Kg			12/22/10 11:50	1

Client Sample ID: SO-2494-SB7 (0-1)-120810

Lab Sample ID: STL0038-06

Date Collected: 12/08/10 07:20

Matrix: Soil

Date Received: 12/08/10 12:12

Percent Solids: 93.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	49700	B1	268		mg/kg dry	☼	12/21/10 11:02	12/22/10 16:29	100
Arsenic	4.14		2.68		mg/kg dry	☼	12/09/10 11:46	12/10/10 11:32	1
Barium	69.6		0.536		mg/kg dry	☼	12/21/10 11:02	12/22/10 16:00	1
Cadmium	ND		0.214		mg/kg dry	☼	12/09/10 11:46	12/10/10 11:32	1
Chromium	33.0		0.536		mg/kg dry	☼	12/21/10 11:03	12/22/10 16:00	1
Copper	219		0.536		mg/kg dry	☼	12/09/10 11:46	12/10/10 11:32	1
Lead	10.1		1.61		mg/kg dry	☼	12/09/10 11:46	12/10/10 11:32	1
Selenium	ND		2.68		mg/kg dry	☼	12/09/10 11:46	12/10/10 11:32	1
Silver	ND		0.536		mg/kg dry	☼	12/09/10 11:46	12/10/10 14:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		50.0		ug/kg dry	☼	12/13/10 11:36	12/14/10 12:03	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	44		0.98		mg/Kg			12/22/10 12:56	1
Nitrite as N	3.6		1.7		mg/Kg	☼		12/22/10 12:56	1
Chloride	ND		3.2		mg/Kg			12/22/10 12:56	1
Nitrate as N	0.66		0.46		mg/Kg	☼		12/22/10 12:56	1
Sulfate	3.8		2.9		mg/Kg			12/22/10 12:56	1

Client Sample ID: SO-2494-SB8 (0-1)-120810

Lab Sample ID: STL0038-07

Date Collected: 12/08/10 07:30

Matrix: Soil

Date Received: 12/08/10 12:12

Percent Solids: 91.7

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	18000	B1	273		mg/kg dry	☼	12/21/10 11:02	12/22/10 16:31	100
Arsenic	8.59		2.73		mg/kg dry	☼	12/09/10 11:46	12/10/10 11:37	1
Barium	59.7		0.545		mg/kg dry	☼	12/21/10 11:02	12/22/10 16:03	1
Cadmium	ND		0.218		mg/kg dry	☼	12/09/10 11:46	12/10/10 11:37	1
Chromium	16.3		0.545		mg/kg dry	☼	12/21/10 11:03	12/22/10 16:03	1
Copper	129		0.545		mg/kg dry	☼	12/09/10 11:46	12/10/10 11:37	1
Lead	16.5		1.64		mg/kg dry	☼	12/09/10 11:46	12/10/10 11:37	1
Selenium	ND		2.73		mg/kg dry	☼	12/09/10 11:46	12/10/10 11:37	1
Silver	ND		0.545		mg/kg dry	☼	12/09/10 11:46	12/10/10 14:06	1

Analytical Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

Client Sample ID: SO-2494-SB8 (0-1)-120810

Lab Sample ID: STL0038-07

Date Collected: 12/08/10 07:30

Matrix: Soil

Date Received: 12/08/10 12:12

Percent Solids: 91.7

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	82.9		50.0		ug/kg dry	☼	12/13/10 11:36	12/14/10 12:10	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	15		0.94		mg/Kg			12/22/10 13:12	1
Nitrite as N	4.2		1.5		mg/Kg	☼		12/22/10 13:12	1
Chloride	ND		3.1		mg/Kg			12/22/10 13:12	1
Nitrate as N	ND		0.42		mg/Kg	☼		12/22/10 13:12	1
Sulfate	2.9		2.8		mg/Kg			12/22/10 13:12	1

Client Sample ID: SO-2494-FD05-120810

Lab Sample ID: STL0038-08

Date Collected: 12/08/10 07:30

Matrix: Soil

Date Received: 12/08/10 12:12

Percent Solids: 91.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	19100	B1	272		mg/kg dry	☼	12/21/10 11:02	12/22/10 16:33	100
Arsenic	8.97		2.72		mg/kg dry	☼	12/09/10 11:46	12/10/10 11:41	1
Barium	65.6		0.544		mg/kg dry	☼	12/21/10 11:02	12/22/10 16:06	1
Cadmium	ND		0.218		mg/kg dry	☼	12/09/10 11:46	12/10/10 11:41	1
Chromium	13.9		0.544		mg/kg dry	☼	12/21/10 11:03	12/22/10 16:06	1
Copper	124		0.544		mg/kg dry	☼	12/09/10 11:46	12/10/10 11:41	1
Lead	13.9		1.63		mg/kg dry	☼	12/09/10 11:46	12/10/10 11:41	1
Selenium	ND		2.72		mg/kg dry	☼	12/09/10 11:46	12/10/10 11:41	1
Silver	ND		0.544		mg/kg dry	☼	12/09/10 11:46	12/10/10 14:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	86.5		50.0		ug/kg dry	☼	12/13/10 11:36	12/14/10 12:12	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	8.6		0.94		mg/Kg			12/22/10 13:28	1
Nitrite as N	2.8		1.5		mg/Kg	☼		12/22/10 13:28	1
Chloride	ND		3.1		mg/Kg			12/22/10 13:28	1
Nitrate as N	ND		0.43		mg/Kg	☼		12/22/10 13:28	1
Sulfate	ND		2.8		mg/Kg			12/22/10 13:28	1

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-77821/20-B
Matrix: Water
Analysis Batch: 77940

Client Sample ID: MB 580-77821/20-B
Prep Type: Total Recoverable
Prep Batch: 77830

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aluminum	ND		1.0		mg/L		12/20/10 17:24	12/21/10 20:27	1
Calcium	ND		1.1		mg/L		12/20/10 17:24	12/21/10 20:27	1
Copper	ND		0.020		mg/L		12/20/10 17:24	12/21/10 20:27	1
Magnesium	ND		1.1		mg/L		12/20/10 17:24	12/21/10 20:27	1
Potassium	ND		3.3		mg/L		12/20/10 17:24	12/21/10 20:27	1
Sodium	ND		2.0		mg/L		12/20/10 17:24	12/21/10 20:27	1

Lab Sample ID: LCS 580-77830/21-A
Matrix: Water
Analysis Batch: 77940

Client Sample ID: LCS 580-77830/21-A
Prep Type: Total Recoverable
Prep Batch: 77830

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Aluminum	4.00	3.93		mg/L		98	80 - 120	
Calcium	20.0	19.3		mg/L		96	80 - 120	
Copper	0.500	0.485		mg/L		97	80 - 120	
Magnesium	20.0	19.3		mg/L		97	80 - 120	
Potassium	20.0	18.8		mg/L		94	80 - 120	
Sodium	20.0	18.9		mg/L		95	80 - 120	

Lab Sample ID: LCSD 580-77830/22-A
Matrix: Water
Analysis Batch: 77940

Client Sample ID: LCSD 580-77830/22-A
Prep Type: Total Recoverable
Prep Batch: 77830

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	
							Limits	RPD	Limit	
Aluminum	4.00	3.89		mg/L		97	80 - 120	1	20	
Calcium	20.0	19.4		mg/L		97	80 - 120	1	20	
Copper	0.500	0.479		mg/L		96	80 - 120	1	20	
Magnesium	20.0	19.5		mg/L		97	80 - 120	1	20	
Potassium	20.0	19.4		mg/L		97	80 - 120	3	20	
Sodium	20.0	18.9		mg/L		95	80 - 120	0	20	

Lab Sample ID: 580-23402-3 MS
Matrix: Water
Analysis Batch: 77940

Client Sample ID: STL0038-03
Prep Type: Total Recoverable
Prep Batch: 77830

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec.	
									Limits	
Aluminum	ND		4.00	4.04		mg/L		101	80 - 120	
Calcium	34		20.0	51.6		mg/L		89	80 - 120	
Copper	ND		0.500	0.462		mg/L		92	80 - 120	
Magnesium	14		20.0	32.3		mg/L		93	80 - 120	
Potassium	ND		20.0	21.5		mg/L		96	80 - 120	
Sodium	2.9		20.0	22.3		mg/L		97	80 - 120	

Lab Sample ID: 580-23402-3 MSD
Matrix: Water
Analysis Batch: 77940

Client Sample ID: STL0038-03
Prep Type: Total Recoverable
Prep Batch: 77830

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec.		RPD	
									Limits	RPD	Limit	
Aluminum	ND		4.00	4.06		mg/L		102	80 - 120	0	20	
Calcium	34		20.0	52.6		mg/L		95	80 - 120	2	20	

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 580-23402-3 MSD
Matrix: Water
Analysis Batch: 77940

Client Sample ID: STL0038-03
Prep Type: Total Recoverable
Prep Batch: 77830

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	% Rec	% Rec.	RPD	RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits			
Copper	ND		0.500	0.464		mg/L		93	80 - 120	1		20
Magnesium	14		20.0	33.0		mg/L		96	80 - 120	2		20
Potassium	ND		20.0	21.6		mg/L		97	80 - 120	1		20
Sodium	2.9		20.0	22.3		mg/L		97	80 - 120	0		20

Lab Sample ID: 580-23402-3 DU
Matrix: Water
Analysis Batch: 77940

Client Sample ID: STL0038-03
Prep Type: Total Recoverable
Prep Batch: 77830

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
	Result	Qualifier		Result					
Aluminum	ND		ND		mg/L		NC		20
Calcium	34		33.9		mg/L		0.4		20
Copper	ND		ND		mg/L		NC		20
Magnesium	14		13.8		mg/L		0.1		20
Potassium	ND		ND		mg/L		NC		20
Sodium	2.9		2.85		mg/L		2		20

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 580-77821/20-B
Matrix: Water
Analysis Batch: 77944

Client Sample ID: MB 580-77821/20-B
Prep Type: Total Recoverable
Prep Batch: 77830

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 19:37	5
Barium	ND		0.0060		mg/L		12/20/10 17:24	12/21/10 19:37	5
Cadmium	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 19:37	5
Chromium	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 19:37	5
Lead	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 19:37	5
Selenium	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 19:37	5
Silver	ND		0.0020		mg/L		12/20/10 17:24	12/21/10 19:37	5

Lab Sample ID: LCS 580-77830/21-A
Matrix: Water
Analysis Batch: 77944

Client Sample ID: LCS 580-77830/21-A
Prep Type: Total Recoverable
Prep Batch: 77830

Analyte	Spike Added	LCS	LCS	Unit	D	% Rec	% Rec.	Limit
		Result	Qualifier				Limits	
Arsenic	4.00	4.03		mg/L		101	80 - 120	
Barium	4.00	3.99		mg/L		100	80 - 120	
Cadmium	0.100	0.0979		mg/L		98	80 - 120	
Chromium	0.400	0.385		mg/L		96	80 - 120	
Lead	1.00	1.01		mg/L		101	80 - 120	
Selenium	4.00	4.04		mg/L		101	80 - 120	
Silver	0.600	0.612		mg/L		102	80 - 120	

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 580-77830/22-A

Matrix: Water

Analysis Batch: 77944

Client Sample ID: LCSD 580-77830/22-A

Prep Type: Total Recoverable

Prep Batch: 77830

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD	Limit
		Result	Qualifier				Limits	RPD		
Arsenic	4.00	4.00		mg/L		100	80 - 120	1	20	
Barium	4.00	4.06		mg/L		101	80 - 120	2	20	
Cadmium	0.100	0.103		mg/L		103	80 - 120	5	20	
Chromium	0.400	0.377		mg/L		94	80 - 120	2	20	
Lead	1.00	1.01		mg/L		101	80 - 120	1	20	
Selenium	4.00	4.05		mg/L		101	80 - 120	0	20	
Silver	0.600	0.605		mg/L		101	80 - 120	1	20	

Lab Sample ID: 580-23402-3 MS

Matrix: Water

Analysis Batch: 77944

Client Sample ID: STL0038-03

Prep Type: Total Recoverable

Prep Batch: 77830

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	% Rec	% Rec.		RPD	Limit
				Result	Qualifier				Limits	RPD		
Arsenic	ND		4.00	3.96		mg/L		99	80 - 120			
Barium	0.020		4.00	3.93		mg/L		98	80 - 120			
Cadmium	ND		0.100	0.0994		mg/L		99	80 - 120			
Chromium	0.0026		0.400	0.377		mg/L		94	80 - 120			
Lead	ND		1.00	0.996		mg/L		100	80 - 120			
Selenium	ND		4.00	4.03		mg/L		101	80 - 120			
Silver	ND		0.600	0.603		mg/L		100	80 - 120			

Lab Sample ID: 580-23402-3 MSD

Matrix: Water

Analysis Batch: 77944

Client Sample ID: STL0038-03

Prep Type: Total Recoverable

Prep Batch: 77830

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	% Rec	% Rec.		RPD	Limit
				Result	Qualifier				Limits	RPD		
Arsenic	ND		4.00	4.03		mg/L		101	80 - 120	2	20	
Barium	0.020		4.00	3.97		mg/L		99	80 - 120	1	20	
Cadmium	ND		0.100	0.103		mg/L		103	80 - 120	4	20	
Chromium	0.0026		0.400	0.385		mg/L		96	80 - 120	2	20	
Lead	ND		1.00	1.04		mg/L		104	80 - 120	4	20	
Selenium	ND		4.00	4.07		mg/L		102	80 - 120	1	20	
Silver	ND		0.600	0.611		mg/L		102	80 - 120	1	20	

Lab Sample ID: 580-23402-3 DU

Matrix: Water

Analysis Batch: 77944

Client Sample ID: STL0038-03

Prep Type: Total Recoverable

Prep Batch: 77830

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	RPD	Limit
			Result	Qualifier				
Arsenic	ND		ND		mg/L		NC	20
Barium	0.020		0.0203		mg/L		0.2	20
Cadmium	ND		ND		mg/L		NC	20
Chromium	0.0026		0.00348		mg/L		28	20
Lead	ND		ND		mg/L		NC	20
Selenium	ND		ND		mg/L		NC	20
Silver	ND		ND		mg/L		NC	20

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STL0038
 SDG: STL0038

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-77377/25-A
Matrix: Water
Analysis Batch: 77440

Client Sample ID: MB 580-77377/25-A
Prep Type: Total/NA
Prep Batch: 77377

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.00020		mg/L		12/14/10 11:59	12/14/10 18:39	1

Lab Sample ID: LCS 580-77377/26-A
Matrix: Water
Analysis Batch: 77440

Client Sample ID: LCS 580-77377/26-A
Prep Type: Total/NA
Prep Batch: 77377

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits

Lab Sample ID: LCSD 580-77377/27-A
Matrix: Water
Analysis Batch: 77440

Client Sample ID: LCSD 580-77377/27-A
Prep Type: Total/NA
Prep Batch: 77377

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	
								RPD	Limit
Mercury	0.00200	0.00180		mg/L		90	80 - 120	3	20

Lab Sample ID: LCSSRM 580-77377/28-A
Matrix: Water
Analysis Batch: 77440

Client Sample ID: LCSSRM 580-77377/28-A
Prep Type: Total/NA
Prep Batch: 77377

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	
								RPD	Limit
Mercury	0.00200	0.00180		mg/L		90	75 - 125		

Lab Sample ID: 580-23402-3 MS
Matrix: Water
Analysis Batch: 77440

Client Sample ID: STL0038-03
Prep Type: Total/NA
Prep Batch: 77377

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits

Lab Sample ID: 580-23402-3 MSD
Matrix: Water
Analysis Batch: 77440

Client Sample ID: STL0038-03
Prep Type: Total/NA
Prep Batch: 77377

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	
										RPD	Limit
Mercury	ND		0.00200	0.00165		mg/L		80	80 - 120	2	20

Lab Sample ID: 580-23266-C-1-C DU
Matrix: Water
Analysis Batch: 77440

Client Sample ID: 580-23266-C-1-C DU
Prep Type: Total/NA
Prep Batch: 77377

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

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

Lab Sample ID: 10L0037-BLK1

Matrix: Soil

Analysis Batch: 10L0037

Client Sample ID: 10L0037-BLK1

Prep Type: total

Prep Batch: 10L0037_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		2.50		mg/kg wet		12/09/10 11:46	12/10/10 11:19	1
Cadmium	ND		0.200		mg/kg wet		12/09/10 11:46	12/10/10 11:19	1
Copper	ND		0.500		mg/kg wet		12/09/10 11:46	12/10/10 11:19	1
Lead	ND		1.50		mg/kg wet		12/09/10 11:46	12/10/10 11:19	1
Selenium	ND		2.50		mg/kg wet		12/09/10 11:46	12/10/10 11:19	1

Lab Sample ID: 10L0037-BLK1

Matrix: Soil

Analysis Batch: 10L0037

Client Sample ID: 10L0037-BLK1

Prep Type: total

Prep Batch: 10L0037_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Silver	ND		0.500		mg/kg wet		12/09/10 11:46	12/10/10 14:00	1

Lab Sample ID: 10L0037-BS1

Matrix: Soil

Analysis Batch: 10L0037

Client Sample ID: 10L0037-BS1

Prep Type: total

Prep Batch: 10L0037_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Arsenic	50.0	56.7		mg/kg wet		113	80 - 120	
Cadmium	50.0	59.6		mg/kg wet		119	80 - 120	
Copper	50.0	57.5		mg/kg wet		115	80 - 120	
Lead	50.0	60.1		mg/kg wet		120	80 - 120	
Selenium	50.0	55.6		mg/kg wet		111	80 - 120	

Lab Sample ID: 10L0037-BS1

Matrix: Soil

Analysis Batch: 10L0037

Client Sample ID: 10L0037-BS1

Prep Type: total

Prep Batch: 10L0037_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Silver	50.0	45.3		mg/kg wet		90.6	80 - 120	

Lab Sample ID: 10L0037-MS1

Matrix: Soil

Analysis Batch: 10L0037

Client Sample ID: SO-2494-SB6 (0-1)-120810

Prep Type: total

Prep Batch: 10L0037_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Arsenic	10.2		53.8	63.7		mg/kg dry	✱	99.3	75 - 125	
Cadmium	ND		53.8	58.7		mg/kg dry	✱	109	75 - 125	
Copper	64.9		53.8	130		mg/kg dry	✱	121	75 - 125	
Lead	8.56		53.8	64.2		mg/kg dry	✱	103	75 - 125	
Selenium	ND		53.8	50.5		mg/kg dry	✱	93.8	75 - 125	

Lab Sample ID: 10L0037-MS1

Matrix: Soil

Analysis Batch: 10L0037

Client Sample ID: SO-2494-SB6 (0-1)-120810

Prep Type: total

Prep Batch: 10L0037_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Silver	ND		53.8	46.2		mg/kg dry	✱	85.9	75 - 125	

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

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

Lab Sample ID: 10L0037-MSD1

Matrix: Soil

Analysis Batch: 10L0037

Client Sample ID: SO-2494-SB6 (0-1)-120810

Prep Type: total

Prep Batch: 10L0037_P

Analyte	Sample	Sample	Spike	Matrix Spike Dup	Matrix Spike Dup	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Arsenic	10.2		53.8	66.8		mg/kg dry	☼	105	75 - 125	4.84	20	
Cadmium	ND		53.8	60.8		mg/kg dry	☼	113	75 - 125	3.56	20	
Copper	64.9		53.8	118		mg/kg dry	☼	98.4	75 - 125	9.83	20	
Lead	8.56		53.8	67.6		mg/kg dry	☼	110	75 - 125	5.12	20	
Selenium	ND		53.8	51.6		mg/kg dry	☼	96.0	75 - 125	2.31	20	

Lab Sample ID: 10L0037-MSD1

Matrix: Soil

Analysis Batch: 10L0037

Client Sample ID: SO-2494-SB6 (0-1)-120810

Prep Type: total

Prep Batch: 10L0037_P

Analyte	Sample	Sample	Spike	Matrix Spike Dup	Matrix Spike Dup	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Silver	ND		53.8	44.0		mg/kg dry	☼	81.7	75 - 125	5.00	20	

Lab Sample ID: 10L0037-DUP1

Matrix: Soil

Analysis Batch: 10L0037

Client Sample ID: SO-2494-SB6 (0-1)-120810

Prep Type: total

Prep Batch: 10L0037_P

Analyte	Sample	Sample	Duplicate	Duplicate	Unit	D	RPD	Limit
	Result	Qualifier		Result				
Arsenic	10.2		8.07	R3	mg/kg dry	☼	23.3	20
Cadmium	ND		ND		mg/kg dry	☼		20
Copper	64.9		54.7		mg/kg dry	☼	16.9	20
Lead	8.56		9.86		mg/kg dry	☼	14.1	20
Selenium	ND		ND		mg/kg dry	☼		20

Lab Sample ID: 10L0037-DUP1

Matrix: Soil

Analysis Batch: 10L0037

Client Sample ID: SO-2494-SB6 (0-1)-120810

Prep Type: total

Prep Batch: 10L0037_P

Analyte	Sample	Sample	Duplicate	Duplicate	Unit	D	RPD	Limit
	Result	Qualifier		Result				
Silver	ND		ND		mg/kg dry	☼		20

Lab Sample ID: 10L0092-BLK1

Matrix: Soil

Analysis Batch: 10L0092

Client Sample ID: 10L0092-BLK1

Prep Type: total

Prep Batch: 10L0092_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aluminum	3.25	B1	2.50		mg/kg wet		12/21/10 11:03	12/22/10 15:54	1
Barium	ND		0.500		mg/kg wet		12/21/10 11:03	12/22/10 15:54	1
Chromium	ND		0.500		mg/kg wet		12/21/10 11:03	12/22/10 15:54	1

Lab Sample ID: 10L0092-BS1

Matrix: Soil

Analysis Batch: 10L0092

Client Sample ID: 10L0092-BS1

Prep Type: total

Prep Batch: 10L0092_P

Analyte	Spike	LCS	LCS	Unit	D	% Rec	% Rec.	
			Result				Qualifier	Limits
Aluminum	50.0	53.2	M3	mg/kg wet		106	80 - 120	
Barium	50.0	54.2		mg/kg wet		108	80 - 120	
Chromium	50.0	53.5		mg/kg wet		107	80 - 120	

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

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

Lab Sample ID: 10L0092-MS1

Matrix: Soil

Analysis Batch: 10L0092

Client Sample ID: SO-2494-SB6 (0-1)-120810

Prep Type: total

Prep Batch: 10L0092_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	Limits
Barium	52.0		53.8	119		mg/kg dry	☼	125	75 - 125	
Chromium	7.34		53.8	59.6		mg/kg dry	☼	97.1	75 - 125	

Lab Sample ID: 10L0092-MSD1

Matrix: Soil

Analysis Batch: 10L0092

Client Sample ID: SO-2494-SB6 (0-1)-120810

Prep Type: total

Prep Batch: 10L0092_P

Analyte	Sample	Sample	Spike	Matrix Spike Dup	Matrix Spike Dup	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	Limits		
Barium	52.0		53.8	148	M7, R2	mg/kg dry	☼	178	75 - 125	21.6	20	
Chromium	7.34		53.8	58.9		mg/kg dry	☼	95.9	75 - 125	1.11	20	

Lab Sample ID: 10L0092-DUP1

Matrix: Soil

Analysis Batch: 10L0092

Client Sample ID: SO-2494-SB6 (0-1)-120810

Prep Type: total

Prep Batch: 10L0092_P

Analyte	Sample	Sample	Duplicate		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Barium	52.0		50.3		mg/kg dry	☼	3.17	20
Chromium	7.34		11.2	R2	mg/kg dry	☼	41.8	20

Lab Sample ID: 10L0092-DUP1

Matrix: Soil

Analysis Batch: 10L0092

Client Sample ID: SO-2494-SB6 (0-1)-120810

Prep Type: total

Prep Batch: 10L0092_P

Analyte	Sample	Sample	Duplicate		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Aluminum	8990	B1	9890		mg/kg dry	☼	9.49	20

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

Lab Sample ID: 10L0055-BLK1

Matrix: Soil

Analysis Batch: 10L0055

Client Sample ID: 10L0055-BLK1

Prep Type: total

Prep Batch: 10L0055_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.500		ug/kg wet		12/13/10 11:34	12/14/10 11:58	1

Lab Sample ID: 10L0055-BS1

Matrix: Soil

Analysis Batch: 10L0055

Client Sample ID: 10L0055-BS1

Prep Type: total

Prep Batch: 10L0055_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	Limits
Mercury	1.00	1.17		ug/kg wet		117	80 - 120	

Lab Sample ID: 10L0055-MS1

Matrix: Soil

Analysis Batch: 10L0055

Client Sample ID: SO-2494-SB6 (0-1)-120810

Prep Type: total

Prep Batch: 10L0055_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	Limits
Mercury	65.2		108	242	M7	ug/kg dry	☼	164	80 - 120	

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

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

Lab Sample ID: 10L0055-MSD1

Matrix: Soil

Analysis Batch: 10L0055

Client Sample ID: SO-2494-SB6 (0-1)-120810

Prep Type: total

Prep Batch: 10L0055_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Mercury	65.2		108	251	M7	ug/kg dry	✱	172	80 - 120	3.49	20	

Lab Sample ID: 10L0055-DUP1

Matrix: Soil

Analysis Batch: 10L0055

Client Sample ID: SO-2494-SB6 (0-1)-120810

Prep Type: total

Prep Batch: 10L0055_P

Analyte	Sample	Sample	Duplicate	Duplicate	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Mercury	65.2		127	R3	ug/kg dry	✱	64.3	40

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-77958/1-A

Matrix: Solid

Analysis Batch: 78028

Client Sample ID: MB 580-77958/1-A

Prep Type: Soluble

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Fluoride	ND		1.0		mg/Kg			12/22/10 11:17	1
Chloride	ND		3.3		mg/Kg			12/22/10 11:17	1
Sulfate	ND		3.0		mg/Kg			12/22/10 11:17	1

Lab Sample ID: LCS 580-77958/2-A

Matrix: Solid

Analysis Batch: 78028

Client Sample ID: LCS 580-77958/2-A

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Fluoride	160	158		mg/Kg		99	90 - 110	
Chloride	400	407		mg/Kg		102	90 - 110	
Sulfate	400	413		mg/Kg		103	90 - 110	

Lab Sample ID: 580-23402-5 MS

Matrix: Solid

Analysis Batch: 78028

Client Sample ID: STL0038-05

Prep Type: Soluble

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Fluoride	Err		160	148		mg/Kg		91	90 - 110	
Chloride	Err		400	404		mg/Kg		101	90 - 110	
Sulfate	Err		400	401		mg/Kg		100	90 - 110	

Lab Sample ID: 580-23402-5 MSD

Matrix: Solid

Analysis Batch: 78028

Client Sample ID: STL0038-05

Prep Type: Soluble

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Fluoride	Err		148	130	F	mg/Kg		86	90 - 110	13	15	
Chloride	Err		371	367		mg/Kg		99	90 - 110	9	15	
Sulfate	Err		371	364		mg/Kg		98	90 - 110	10	15	

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 580-23402-5 DU
Matrix: Solid
Analysis Batch: 78028

Client Sample ID: STL0038-05
Prep Type: Soluble

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
Fluoride	Err		3.40		mg/Kg			28	10
Chloride	Err		ND		mg/Kg			NC	10
Sulfate	Err		ND		mg/Kg			NC	10

Lab Sample ID: MB 580-77958/1-A
Matrix: Solid
Analysis Batch: 78033

Client Sample ID: MB 580-77958/1-A
Prep Type: Soluble

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Nitrite as N	ND		1.5		mg/Kg			12/22/10 11:17	1
Nitrate as N	ND		0.42		mg/Kg			12/22/10 11:17	1

Lab Sample ID: LCS 580-77958/2-A
Matrix: Solid
Analysis Batch: 78033

Client Sample ID: LCS 580-77958/2-A
Prep Type: Soluble

Analyte	Spike Added	LCS	LCS	Unit	D	% Rec	% Rec.	Limits
		Result	Qualifier					
Nitrite as N	40.0	40.2		mg/Kg		100		90 - 110
Nitrate as N	40.0	40.6		mg/Kg		102		90 - 110

Lab Sample ID: 580-23402-5 MS
Matrix: Solid
Analysis Batch: 78033

Client Sample ID: STL0038-05
Prep Type: Soluble

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	% Rec	% Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Nitrite as N	2.9		42.5	44.3		mg/Kg	☼	97		90 - 110
Nitrate as N	ND		42.5	43.3		mg/Kg	☼	102		90 - 110

Lab Sample ID: 580-23402-5 MSD
Matrix: Solid
Analysis Batch: 78033

Client Sample ID: STL0038-05
Prep Type: Soluble

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	% Rec	% Rec.	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier							
Nitrite as N	2.9		39.4	40.3		mg/Kg	☼	95		90 - 110	9	15
Nitrate as N	ND		39.4	39.5		mg/Kg	☼	100		90 - 110	9	15

Lab Sample ID: 580-23402-5 DU
Matrix: Solid
Analysis Batch: 78033

Client Sample ID: STL0038-05
Prep Type: Soluble

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
Nitrite as N	2.9		3.62		mg/Kg	☼		21	10
Nitrate as N	ND		ND		mg/Kg	☼		NC	10

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

Method: EPA 300.0 - Anions by EPA Method 300.0

Lab Sample ID: 10L0032-BLK1

Matrix: Water

Analysis Batch: 10L0032

Client Sample ID: 10L0032-BLK1

Prep Type: total

Prep Batch: 10L0032_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.800		mg/l		12/08/10 13:09	12/08/10 16:03	1
Fluoride	ND		0.500		mg/l		12/08/10 13:09	12/08/10 16:03	1
Nitrate-Nitrogen	ND		0.500		mg/l		12/08/10 13:09	12/08/10 16:03	1
Nitrite-Nitrogen	ND		0.200		mg/l		12/08/10 13:09	12/08/10 16:03	1
Sulfate	ND	M3	0.500		mg/l		12/08/10 13:09	12/08/10 16:03	1

Lab Sample ID: 10L0032-BS1

Matrix: Water

Analysis Batch: 10L0032

Client Sample ID: 10L0032-BS1

Prep Type: total

Prep Batch: 10L0032_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Chloride	5.00	4.64		mg/l		92.8	90 - 110
Fluoride	5.00	4.53		mg/l		90.6	90 - 110
Nitrate-Nitrogen	5.00	4.79		mg/l		95.8	90 - 110
Nitrite-Nitrogen	5.00	4.79		mg/l		95.8	90 - 110
Sulfate	5.00	4.62		mg/l		92.4	90 - 110

Lab Sample ID: 10L0032-MS1

Matrix: Water

Analysis Batch: 10L0032

Client Sample ID: STL0036-01

Prep Type: total

Prep Batch: 10L0032_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Chloride	6.92		5.00	10.7	M8	mg/l		76.4	80 - 120
Fluoride	0.340		5.00	4.78		mg/l		88.8	80 - 120
Nitrate-Nitrogen	0.300		5.00	4.79		mg/l		89.8	80 - 120
Nitrite-Nitrogen	ND		5.00	4.85		mg/l		97.0	80 - 120

Lab Sample ID: 10L0032-MS2

Matrix: Water

Analysis Batch: 10L0032

Client Sample ID: WG-2494-MW3-120710

Prep Type: total

Prep Batch: 10L0032_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Chloride	2.61		5.00	6.60	M8	mg/l		79.8	80 - 120
Fluoride	ND		5.00	4.18		mg/l		83.6	80 - 120
Nitrate-Nitrogen	0.990		5.00	5.38		mg/l		87.8	80 - 120
Nitrite-Nitrogen	ND		5.00	4.48		mg/l		89.6	80 - 120
Sulfate	14.0		5.00	17.2	M8	mg/l		63.8	80 - 120

Lab Sample ID: 10L0032-MSD1

Matrix: Water

Analysis Batch: 10L0032

Client Sample ID: STL0036-01

Prep Type: total

Prep Batch: 10L0032_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Chloride	6.92		5.00	10.8	M8	mg/l		76.8	80 - 120	0.18	10
Fluoride	0.340		5.00	4.81		mg/l		89.4	80 - 120	0.62	20
Nitrate-Nitrogen	0.300		5.00	4.80		mg/l		90.0	80 - 120	0.20	12.1
Nitrite-Nitrogen	ND		5.00	4.85		mg/l		97.0	80 - 120	0.00	10

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

Method: EPA 300.0 - Anions by EPA Method 300.0 (Continued)

Lab Sample ID: 10L0032-MSD2

Matrix: Water

Analysis Batch: 10L0032

Client Sample ID: WG-2494-MW3-120710

Prep Type: total

Prep Batch: 10L0032_P

Analyte	Sample	Sample	Spike	Matrix Spike	Dup	Matrix Spike	Dup	D	% Rec	% Rec	Limits	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier	Unit	Limit						
Chloride	2.61		5.00	6.68		mg/l			81.4	80 - 120	1.20	10	
Fluoride	ND		5.00	4.23		mg/l			84.6	80 - 120	1.19	20	
Nitrate-Nitrogen	0.990		5.00	5.43		mg/l			88.8	80 - 120	0.92	12.1	
Nitrite-Nitrogen	ND		5.00	4.53		mg/l			90.6	80 - 120	1.11	10	
Sulfate	14.0		5.00	17.3	M8	mg/l			66.8	80 - 120	0.87	10	

Lab Sample ID: 10L0032-DUP1

Matrix: Water

Analysis Batch: 10L0032

Client Sample ID: STL0036-01

Prep Type: total

Prep Batch: 10L0032_P

Analyte	Sample	Sample	Duplicate	Duplicate	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Chloride	6.92		6.75		mg/l		2.49	18.8
Fluoride	0.340		0.330		mg/l		2.99	20
Nitrate-Nitrogen	0.300		0.250	R4	mg/l		18.2	13.1
Nitrite-Nitrogen	ND		ND		mg/l			10

Lab Sample ID: 10L0032-DUP1

Matrix: Water

Analysis Batch: 10L0032

Client Sample ID: STL0036-01

Prep Type: total

Prep Batch: 10L0032_P

Analyte	Sample	Sample	Duplicate	Duplicate	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Sulfate	99.2		99.5		mg/l		0.30	15.7

Method: SM 2320B - Conventional Chemistry Parameters by APHA/EPA Methods

Lab Sample ID: 10L0093-BLK1

Matrix: Water

Analysis Batch: 10L0093

Client Sample ID: 10L0093-BLK1

Prep Type: total

Prep Batch: 10L0093_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity	ND		4.00		mg/l		12/20/10 13:07	12/20/10 13:07	1
Carbonate Alkalinity	ND		4.00		mg/l		12/20/10 13:07	12/20/10 13:07	1

Lab Sample ID: 10L0093-BS1

Matrix: Water

Analysis Batch: 10L0093

Client Sample ID: 10L0093-BS1

Prep Type: total

Prep Batch: 10L0093_P

Analyte	Spike	LCS	LCS	Unit	D	% Rec	% Rec	Limits
Bicarbonate Alkalinity	500	475		mg/l		95.0	90 - 110	

Lab Sample ID: 10L0093-DUP1

Matrix: Water

Analysis Batch: 10L0093

Client Sample ID: WG-2494-MW3-120710

Prep Type: total

Prep Batch: 10L0093_P

Analyte	Sample	Sample	Duplicate	Duplicate	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Bicarbonate Alkalinity	135		134		mg/l		0.74	10
Carbonate Alkalinity	ND		ND		mg/l		3	10

Quality Control Data

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STL0038
 SDG: STL0038

Method: SM 4500-NH3 C - Conventional Chemistry Parameters by APHA/EPA Methods

Lab Sample ID: 10L0074-BLK1
Matrix: Water
Analysis Batch: 10L0074

Client Sample ID: 10L0074-BLK1
Prep Type: total
Prep Batch: 10L0074_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia-Nitrogen	ND		1.00		mg/l		12/17/10 10:18	12/17/10 14:17	1

Lab Sample ID: 10L0074-BS1
Matrix: Water
Analysis Batch: 10L0074

Client Sample ID: 10L0074-BS1
Prep Type: total
Prep Batch: 10L0074_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Ammonia-Nitrogen	50.0	47.6		mg/l		95.2	90 - 110

Lab Sample ID: 10L0074-DUP1
Matrix: Water
Analysis Batch: 10L0074

Client Sample ID: WG-2494-MW3-120710
Prep Type: total
Prep Batch: 10L0074_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Ammonia-Nitrogen	0.448		0.672	R4	mg/l		40.0	24.4

Method: SM4500NC - Conventional Chemistry Parameters by APHA/EPA Methods

Lab Sample ID: 10L0046-BLK1
Matrix: Water
Analysis Batch: 10L0046

Client Sample ID: 10L0046-BLK1
Prep Type: total
Prep Batch: 10L0046_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.800		mg/l		12/10/10 10:06	12/10/10 15:37	1

Lab Sample ID: 10L0046-BS1
Matrix: Water
Analysis Batch: 10L0046

Client Sample ID: 10L0046-BS1
Prep Type: total
Prep Batch: 10L0046_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Total Kjeldahl Nitrogen	50.0	48.2		mg/l		96.4	90 - 110

Lab Sample ID: 10L0046-DUP1
Matrix: Water
Analysis Batch: 10L0046

Client Sample ID: WG-2494-MW3-120710
Prep Type: total
Prep Batch: 10L0046_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Total Kjeldahl Nitrogen	ND		ND		mg/l			30

Certification Summary

Client: Pastor, Behling & Wheeler, LLC
 Project/Site: 3171

TestAmerica Job ID: STL0038
 SDG: STL0038

Laboratory	Authority	Program	EPA Region	Certification ID	Expiration Date
TestAmerica Spokane	Alaska	Alaska UST	10	UST-071	10/31/11
TestAmerica Spokane	Washington	State Program	10	C569	01/06/11
TestAmerica Seattle		USDA		P330-08-00099	05/22/11
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022	03/04/11
TestAmerica Seattle	California	NELAC Secondary AB	9	1115CA	01/31/11
TestAmerica Seattle	Florida	NELAC Secondary AB	4	E871074	06/30/11
TestAmerica Seattle	L-A-B	DoD ELAP	0	L2236	01/19/13
TestAmerica Seattle	L-A-B	ISO/IEC 17025	0	L2236	01/19/13
TestAmerica Seattle	Montana	State Program	8		04/30/20
TestAmerica Seattle	Oregon	NELAC Primary AB	10	WA100007	11/06/11
TestAmerica Seattle	Washington	State Program	10	C553	02/17/11

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



Method Summary

Client: Pastor, Behling & Wheeler, LLC
Project/Site: 3171

TestAmerica Job ID: STL0038
SDG: STL0038

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL SEA
6020	Metals (ICP/MS)	SW846	TAL SEA
7470A	Mercury (CVAA)	SW846	TAL SEA
EPA 6010C	Total Metals by EPA 6010/7000 Series Methods		TAL SPK
EPA 7471	Total Metals by EPA 6010/7000 Series Methods		TAL SPK
300.0	Anions, Ion Chromatography	MCAWW	TAL SEA
Moisture	Percent Moisture	EPA	TAL SEA
EPA 300.0	Anions by EPA Method 300.0		TAL SPK
SM 2320B	Conventional Chemistry Parameters by APHA/EPA Methods		TAL SPK
SM 4500-NH3 C	Conventional Chemistry Parameters by APHA/EPA Methods		TAL SPK
SM4500NC	Conventional Chemistry Parameters by APHA/EPA Methods		TAL SPK
TA SOP	Conventional Chemistry Parameters by APHA/EPA Methods		TAL SPK

Protocol References:

=

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

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

CHAIN OF CUSTODY REPORT

Work Order #: **5710638**

CLIENT: PBW LLC	INVOICE TO: GARY HONEYMAN	TURNAROUND REQUEST in Business Days* Organic & Inorganic Analyses 7 5 4 3 2 1 <1 Petroleum Hydrocarbon Analyses 5 4 3 2 1 <1 STD.
REPORT TO: TIM NICKELS	ADDRESS: UPRR ALUMINUM DROSS II	OTHER: <input type="checkbox"/> Specify: * Turnaround Requests less than standard may incur Rush Charges.
PHONE: 5126713434 FAX:	P.O. NUMBER:	
PROJECT NAME: UPRR ALUMINUM		
PROJECT NUMBER: 3111 Recycling Trentwood		
SAMPLED BY: Matt Wickham MKW		
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	
WG-2494-MW1-120710	12/09/10	
WG-2494-MW2-120710	12/07/10	
WG-2494-MW3-120710	12/07/10	
WG-2494-F006-120710	12/07/10	
SO-2494-S86(0-1)-120810	12/08/10	
SO-2494-S87(0-1)-120810	12/08/10	
SO-2494-S88(0-1)-120810	12/08/10	
SO-2494-F005-120810	12/08/10	
9		
10		
RELEASED BY: Matt Wickham	DATE: 12/8/10	RECEIVED BY: Matt Wickham
PRINT NAME: MATCHED K. WICKHAM	TIME: 12/10	PRINT NAME: Matt Wickham
RELEASED BY:	DATE:	RECEIVED BY:
PRINT NAME:	TIME:	PRINT NAME:
FIRM:		FIRM:
ADDITIONAL REMARKS:		DATE: 12-8-10
		TIME: 12-12
		DATE:
		TIME:
		TEMP: 1.62
		PAGE 1 OF

306.0 → Cl, F, SO₄, NO₃, NO₄
 SM 4500 → Nitrogen - Ammonia, Nitrogen - Total, TKN
 310.2 → Alkalinity, Carbonate/Bicarb
 6010/6020/7470/7471 → Plus CA, Mg, K, Na
 Al, As, Ba, Cd, Cr, Cu, Pb, Se, Ag, Hg



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TestAmerica Spokane
Sample Receipt Form

Work Order #: ST10088	Client: PBW LLC	Project: WPR2 Treatment		
Date/Time Received: 12-8-10 12:12	By: MS			
Samples Delivered By: <input checked="" type="checkbox"/> Shipping Service <input type="checkbox"/> Courier <input type="checkbox"/> Client <input type="checkbox"/> Other:				
List Air Bill Number(s) or Attach a photocopy of the Air Bill:				
Receipt Phase	Yes	No	NA	Comments
Were samples received in a cooler:	<input checked="" type="checkbox"/>			
Custody Seals are present and intact:	<input checked="" type="checkbox"/>			
Are CoC documents present:	<input checked="" type="checkbox"/>			
Necessary signatures:	<input checked="" type="checkbox"/>			
Thermal Preservation Type: <input checked="" type="checkbox"/> Blue Ice <input type="checkbox"/> Gel Ice <input type="checkbox"/> Real Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None <input type="checkbox"/> Other:				
Temperature by IR Gun: 14 °C Thermometer Serial #81500 (acceptance criteria 0-6 °C)				
Temperature out of range: <input type="checkbox"/> Not enough ice <input type="checkbox"/> Ice melted <input type="checkbox"/> W/in 4hrs of collection <input type="checkbox"/> NA <input type="checkbox"/> Other:				
Log-In Phase	Yes	No	NA	Comments
Date/Time: 12-9-10 13:56 By: MS				
Are sample labels affixed and completed for each container	<input checked="" type="checkbox"/>			
Samples containers were received intact:	<input checked="" type="checkbox"/>			
Do sample IDs match the CoC	<input checked="" type="checkbox"/>			
Appropriate sample containers were received for tests requested	<input checked="" type="checkbox"/>			
Are sample volumes adequate for tests requested	<input checked="" type="checkbox"/>			
Appropriate preservatives were used for the tests requested	<input checked="" type="checkbox"/>			
pH of inorganic samples checked and is within method specification	<input checked="" type="checkbox"/>			
Are VOC samples free of bubbles >6mm (1/4" diameter)	<input checked="" type="checkbox"/>			
Are dissolved parameters field filtered	<input checked="" type="checkbox"/>			
Do any samples need to be filtered or preserved by the lab	<input checked="" type="checkbox"/>			
Does this project require quick turnaround analysis	<input checked="" type="checkbox"/>			
Are there any short hold time tests (see chart below)	<input checked="" type="checkbox"/>			Nitrate + Nitrite
Are any samples within 2 days of or past expiration	<input checked="" type="checkbox"/>			
Was the CoC scanned	<input checked="" type="checkbox"/>			
Were there Non-conformance issues at login	<input checked="" type="checkbox"/>			
If Yes, was a CAR generated #	<input checked="" type="checkbox"/>			




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

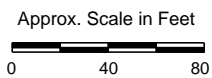
APPENDIX D

Pipeline Survey Results



EXPLANATION

-  Above Ground Pipe Location
-  Below Ground Pipe Location (approximate)
-  Photograph Location and Direction Taken



UNION PACIFIC RAILROAD CO.

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Figure D-1

**PIPELINE LOCATION AND
LOCATION OF PHOTOGRAPHS**

PROJECT: 3171	BY: ZGK	REVISIONS
DATE: JULY, 2011	CHECKED: MKW	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

Source of photo: Google Maps accessed July 14, 2011. Imagery date: May 30, 2009.

APPENDIX D
Pipeline Survey Results



1 – Old concrete foundation underwater at shoreline



2 – Old concrete foundation near shoreline



3 – View upslope from near shoreline showing drop pipe



4 – Close-up of drop pipe



5 – Close-up – top of drop pipe



6 – Close-up – top of drop pipe and end of pipeline

APPENDIX D
Pipeline Survey Results



7 – Pipeline upslope of drop pipe



8 – Pipeline upslope of drop pipe



9 – Broken pipeline at junction between above and underground



10 – Junction between above and underground pipeline



11 – Vault near dross stockpile



12 – Close-up of vault near dross stockpile

APPENDIX E

Ecological Indicator Soil Concentration Development

1.0 INTRODUCTION

1.1 Literature Search for Ecological Indicator Soil Concentrations for Soil Biota

A literature search was conducted in accordance with WAC 173-340-7493(4) to find soil biota indicator soil concentrations for barium and silver. Literature reviews published by the EPA and other governmental entities were searched for relevant values. Additionally, primary literature articles were searched using such online publisher database sources as ScienceDirect and Wiley Online Library. The results of the literature search are noted in Table E-1.

The two concentrations found for barium, one for protection of soil invertebrates (three species) and the other for general environmental health, are 330 mg/kg and 500 mg/kg, respectively. The first value represents the EPA Ecological Soil Screening Level (EcoSSL) and the second value represents the interim remediation criterion for residential areas and parklands from the Canadian Council of Ministers of the Environment. The lower barium value, 330 mg/kg, is chosen as the indicator soil concentration for soil biota.

Two concentrations were found for silver, one for general environmental health (20 mg/kg) and the other for protection of native soil microbes (50 mg/kg). The first value represents the interim remediation criterion for residential areas and parklands from the Canadian Council of Ministers of the Environment. The second value represents the conservative (i.e., 10th percentile of preferred values) screening benchmark from the Department of Energy Oak Ridge National Laboratory. There is not an EPA EcoSSL soil invertebrate value currently available for silver. The lower silver value, 20 mg/kg, is chosen as the indicator soil concentration for soil biota.

1.2 Computation of Ecological Indicator Soil Concentrations for Wildlife

A literature search was conducted in accordance with WAC 173-340-7493(4) to find wildlife indicator soil concentrations for silver. Literature reviews published by the EPA and other governmental entities were searched for relevant values. Primary literature articles were searched using such online publisher database sources as ScienceDirect and Wiley Online Library. Finally, a variety of online websites were checked for dose information that might allow the computation of a toxicity reference value. The following websites were searched for relevant information:

- California Cal/ECOTOX database - http://www.oehha.org/cal_ecotox/
- Canadian Environmental Quality Guidelines Summary Table - <http://st-ts.ccme.ca/>
- EPA Ecological Soil Screening Levels (Eco-SSLs) - <http://www.epa.gov/ecotox/ecossl/index.html>
- EPA ECOTOX Database - http://cfpub.epa.gov/ecotox/ecotox_home.cfm

- Los Alamos National Laboratory Environmental Programs ECORISK Database Release 2.5 (October 2010)
- National Park Service Environmental Contaminants Encyclopedia - <http://www.nature.nps.gov/hazardssafety/toxic/index.cfm>
- Oak Ridge National Laboratory Environmental Sciences Division, Ecological Risk Analysis webpage - <http://www.esd.ornl.gov/programs/ecorisk/tools.html>
- Organisation for Economic Co-operation and Development (OECD), Chemicals Hazard/Risk Assessment webpage - http://www.oecd.org/topic/0,3699,en_2649_34373_1_1_1_1_37465,00.html
- Science Direct - <http://www.sciencedirect.com/science>
- U.S. Army Public Health Command (Provisional) Wildlife Toxicity Assessments - <http://phc.amedd.army.mil/topics/labsciences/tox/Pages/WTA.aspx>
- USGS Contaminant Exposure and Effects-Terrestrial Vertebrates Database - <http://www.pwrc.usgs.gov/contaminants-online/pages/CEETV/CEETVintro.htm>
- USGS Patuxent Wildlife Research Center Contaminant Hazard Reviews - <http://www.pwrc.usgs.gov/infobase/eisler/reviews.cfm>
- USGS Patuxent Wildlife Research Center Whole Wildlife Toxicology Catalog - <http://www.pwrc.usgs.gov/wwtc/>
- Wiley Online Library - <http://onlinelibrary.wiley.com/>

Of the literature review sources, the only relevant data were found in the EPA Eco-SSL document for silver. The effort to develop Eco-SSLs involved the review of nearly 2,000 primary literature papers. The primary literature searched online for this ecological risk assessment did not include papers published earlier than 2002, so as to avoid duplicative efforts with the EPA Eco-SSL project. Toxicity reference values were found for avian and mammalian receptors in the EPA Eco-SSL document. Default exposure parameter values in Tables 749-4 and 749-5, along with the EPA document's two toxicity reference values, were used in the Table 749-4 equations to compute the wildlife ecological indicator soil concentration for silver (Table E-2). The computed soil concentrations are 5.79 mg/kg for protection of the mammalian predator (shrew), 3.91 mg/kg for protection of the avian predator (robin), and 18.5 mg/kg for protection of the mammalian herbivore (vole). The lower silver value, 3.91 mg/kg, is chosen as the indicator soil concentration for wildlife.

TABLE E-1

RESULTS OF LITERATURE SEARCH FOR ECOLOGICAL INDICATOR CONCENTRATIONS FOR SOIL BIOTA

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

COC	Ecological Receptor	Test Conditions	Test Concentration (mg/kg dry soil)	Toxicity Endpoint	Reference	Notes
Barium	Soil invertebrates (3 species)	pH 4.26-5.29; 1.2% organic matter	330	Reproduction; geometric mean of three EC ₂₀ (effect concentration for 20% of test population) values	EPA, 2005	Screening Benchmark (EcoSSL) based on extensive literature review.
Barium	General environmental health		500	Interim Remediation Criteria (residential/parkland)	CCME, 1991	Canadian Environmental Quality Guidelines Summary Table (http://st-ts.ccme.ca/)
Silver	General environmental health		20	Interim Remediation Criteria (residential/parkland)	CCME, 1991	Canadian Environmental Quality Guidelines Summary Table (http://st-ts.ccme.ca/)
Silver (nitrates or sulfates)	Soil microbes (native)	pH 7; 2.2-3% organic carbon; clay loam or silty clay loam	50	10th percentile of preferred values representing > 20% decrease in growth, reproduction, or activity	ORNL, 1997	Screening Benchmark based on extensive literature review (moderate confidence).
Silver	Soil invertebrates	--	NA	----	EPA, 2006	Screening Benchmark (EcoSSL) based on extensive literature review (inadequate literature studies to derive a value).

References:

- Canadian Council of Ministers of the Environment (CCME), 1991. Interim Canadian environmental quality criteria for contaminated sites. CCME, Winnipeg.
- United States Environment Protection Agency (EPA), 2005. Ecological Soil Screening Levels for Barium. OSWER Directive 9285.7-63. February.
- EPA, 2006. Ecological Soil Screening Levels for Silver. OSWER Directive 9285.7-77. September.
- Oak Ridge National Laboratory (ORNL), 1997. Toxicological Benchmarks for Contaminants fo Potential Concern for Effects on Soil and Litter Invertebrates and Heterotrophic Process: 1997 Revision, Oak Ridge National Laboratory, Oak Ridge, TN. Document ES/ER/TM-126/R2.

TABLE E-2

CALCULATION OF ECOLOGICAL INDICATOR SOIL CONCENTRATIONS OF SILVER FOR WILDLIFE RECEPTORS

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Ecological Receptor	Food Ingestion Rate (FIR) [kg dry food/kg body weight-day]	Soil Ingestion Rate (SIR) [kg dry soil/kg body weight-day]	Proportion of contaminated food in diet (P_{SB}) [unitless]	Plant uptake coefficient (K_{plant}) [mg/kg plant/mg/kg soil, dry weight basis]	Earthworm bioaccumulation factor (BAF_{worm}) [mg/kg worm/mg/kg soil, dry weight basis]	Gut adsorption factor for COC in soil relative to gut adsorption factor for COC in food ($RGAF_{soil,receptor}$) [unitless]	Silver - Toxicity reference value [†] for receptor ($T_{receptor}$) [mg COC/kg body weight-day]	Silver - Ecological Indicator Soil Concentration ($SC_{receptor}$) [mg COC/kg dry soil]
Mammalian Predator (shrew)	0.45	0.0045	0.50	NA	4.6	1.0	6.02	5.79
Avian Predator (robin)	0.207	0.0215	0.52	NA	4.6	1.0	2.02	3.91
Mammalian Herbivore (vole)	0.315	0.0079	1.0	1.01	NA	1.0	6.02	18.5

All exposure variable values from Table 749-5 (Washington State Dept. of Ecology, Toxics Cleanup Program), except where noted.

NA = Not Applicable

[†] Toxicity Reference Values from EPA Eco-SSL document for silver (EPA 2006).

Equations for computing soil concentrations for wildlife protection (from Table 749-4, Washington State Dept. of Ecology, Toxics Cleanup Program):

(1) Mammalian predator (MP):

$$SC_{MP} = (T_{Shrew}) / [(FIR_{Shrew,DW} \times P_{SB(Shrew)} \times BAF_{Worm}) + (SIR_{Shrew,DW} \times RGAF_{Soil,Shrew})]$$

(2) Avian predator (AP):

$$SC_{AP} = (T_{Robin}) / [(FIR_{Robin,DW} \times P_{SB(Robin)} \times BAF_{Worm}) + (SIR_{Robin,DW} \times RGAF_{Soil,Robin})]$$

(3) Mammalian herbivore (MH):

$$SC_{MH} = (T_{Vole}) / [(FIR_{Vole,DW} \times P_{Plant,Vole} \times K_{Plant}) + (SIR_{Vole,DW} \times RGAF_{Soil,Vole})]$$

APPENDIX F

Proposed Remedial Alternative Cost Estimates

APPENDIX F
PROPOSED REMEDIAL ALTERNATIVE COST ESTIMATES

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Remedial Alternative Cost Estimate Notes

1. Volume and quantity assumptions for cost estimates

Stockpile volume = 56,600 CY (bank)
Stockpile volume with 1' overexcavation = 61,387 CY (bank)
Excavation area/volume outside stockpile (1' cut) = 7,740 CY (bank), 10,000 CY used for cost estimation
Volume assumed for complete removal (Alternatives 2 & 3) = 70,000 CY (bank)
Volume assumed for in-situ alternatives = 65,000 CY (bank)
Estimated Density of stockpile material = 1.5 tons/CY (bank), 1.25 tons/CY (loose)
Density of soils outside of the stockpile = 1.75 tons/CY
Quantity for off-site disposal = 105,000 tons (70,000 CY * 1.5 tons/CY)
Capped area for in-situ cap option = 121,000 SF
Capped area for landfill option = 94,000 SF

2. Excavation and transportation of outlying impacted soils (all alternatives)

This task includes excavation of impacted soils outside of the stockpile area and includes bringing in topsoil/fill material to restore the excavated areas as needed. The material used for restoration may be sourced from adjacent UPRR property.

3. Railroad improvement and logistics (Alternative 3)

Due to the limited space available at the Site, rail improvements such as crossings and rehabilitation of existing tracks may be required for various proposed alternatives. These activities would be performed by UPRR and estimated costs have been provided by the UPRR manager of track maintenance (MTM). Remedial alternatives that include moving material across the existing rail lines, or loading rail cars on temporary sidings, will be subject to limitations on working hours due to train traffic in the area and the size of the available siding. These limitations include no activities on the tracks from roughly 8am until 10am while switching is conducted at Kemira, various interruptions throughout the day for mainline rail traffic to pass, and siding limited to 10 rail cars staged at a time. Staged rail cars can be switched out on a daily basis, limiting loading to 10 cars per day (100 tons per car, ~80 CY loose material).

4. Excavation and transport of stockpile material

Remedial alternative 2, and remedial alternative 3 options that involve rail, will require excavating the stockpile and transporting it to the north side of the existing rail lines for rail loading or landfilling. These activities may be accomplished by tractor trailer, off-road dump truck, or other means. Establishment of a haul road, rail crossing, temporary siding, temporary storage/staging area, and loading area are included in the costs associated with this task. The remedial alternatives associated with stockpile removal assume that the stockpile will be overexcavated by one foot.

5. Cap construction (Alternatives 1 and 2)

60 mil HDPE has been used for cost estimating purposes.
Use of native soils from the area are proposed for the protective/drainage layer of the multimedial cap design.
It is assumed that the stockpile material will be suitable as a subgrade for an overlying geomembrane.
Drainage from capped areas is proposed to be directed towards the west and the Spokane River via rock-lined channels around the cap. No discharge structures or permits are expected to be required to address surface water runoff from the capped area.
Geotechnical specifications for subgrade preparation and cap materials/construction will be developed as part of the final engineering design.

6. Landfill construction (Alternative 2)

The preliminary landfill design proposes a depth of 15 feet with 3:1 side slopes in the below-grade cell. The above-grade portion of the landfill is designed with 4:1 side slopes and will extend approximately 35 ft above grade.
A multimedia cap consisting of a geomembrane barrier layer and coarse soil layer for protection and drainage is proposed for the landfill.
Based on the unlikelihood of the material to impact underlying groundwater and protectiveness provided by the proposed cap, a bottom liner is not proposed. However, costs are included for installation of a single layer flexible membrane liner.
Drainage from the landfill will be directed to the west towards the Spokane River via drainage ditches, however, normal infiltration through the alluvial soils will likely prevent actual discharge of surface water runoff to adjacent properties or the river itself. Detention ponds are not proposed as part of the remedial design.

APPENDIX F
PROPOSED REMEDIAL ALTERNATIVE COST ESTIMATES

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Alternative 1: Multimedia cap on in-situ stockpile

ITEM	DESCRIPTION	QUANTITY	UNITS	UNIT COST	TOTAL COST
1	Mobilization and Site Preparation				
	General/reports/meetings/mobilize equipment	1	LS	\$75,000	\$75,000
	SWPP - TESC Measures	1	LS	\$12,000	\$12,000
2	Excavate and Transport Outlying Soil				
	Excavate and transport outlying soil	10,000	CY	\$5.20	\$52,000
	Area Restoration	1	LS	\$30,000	\$30,000
3	Prepare Stockpile				
	Grade, Compact, smooth pile to accept cap	65,000	CY	\$0.92	\$60,000
4	Cap Construction/Installation				
	60 mil HDPE Liner - installed cost	121,000	SF	\$0.95	\$115,000
	Soil/drainage cover material (sourced on site)	6,000	CY	\$3.33	\$20,000
	Place soil cover	6,000	CY	\$8	\$50,000
5	Drainage				
	Construct Stormwater Ditches (w/ rock lining)	1,500	LF	\$20.00	\$30,000
6	Fencing				
	Install Permanent Fence	1,500	LF	\$23.33	\$35,000
7	Environmental Consulting and Engineering				
	Landfill cap final engineering design	1	LS	\$20,000	\$20,000
	Soil confirmation sampling, analysis & reporting	1	LS	\$12,500	\$12,500
	SEPA/Ecology checklists and permitting	1	LS	\$10,000	\$10,000
	Cap construction oversight, QA/QC	1	LS	\$25,000	\$25,000
	Environmental Covenants	1	LS	7500	\$7,500
TOTAL CAPITAL COSTS: \$					554,000
TOTAL CAPITAL COSTS (WITH CONTINGENCY OF 5%): \$					581,699
8	Long-term Operation and Maintenance				
	Cap Maintenance	20	Year	\$10,000	\$200,000
	Groundwater Monitoring	20	Year	\$5,000	\$100,000
TOTAL COSTS (WITH CONTINGENCY AND O&M): \$					881,699

**APPENDIX F
PROPOSED REMEDIAL ALTERNATIVE COST ESTIMATES**

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Alternative 2: Limited Purpose Landfill on adjacent UPRR property

ITEM	DESCRIPTION	QUANTITY	UNITS	UNIT COST	TOTAL COST
1	Mobilization and Site Preparation				
	General/reports/meetings/mobilize equipment	1	LS	\$75,000	\$75,000
	SWPP - TESC Measures	1	LS	\$15,000	\$15,000
2	Excavate and Transport Outlying Soil				
	Excavate and transport outlying soil	10,000	CY	\$5.20	\$52,000
	Area Restoration	1	LS	\$30,000	\$30,000
3	Temporary Rail Crossing				
	UPRR to install temporary crossing	1	LS	\$15,000	\$15,000
4	Landfill Excavation				
	Excavate landfill site	1	LS	\$100,000	\$100,000
	Trash & debris removal	200	CY	\$75	\$15,000
5	Landfill Liner				
	Liner subgrade preparation	94,000	SF	\$0.32	\$30,000
	60 Mil HDPE liner - installed costs	94,000	SF	\$1.28	\$120,000
6	Stockpile Material Placement				
	Excavate and transport stockpile material	70,000	CY	\$2.15	\$150,000
	Grade, Compact, smooth pile to accept cap	94,000	SF	\$0.53	\$50,000
7	Cap Construction/Installation				
	60 mil HDPE Liner - installed cost	94,000	SF	\$1.22	\$115,000
	Soil/drainage cover material (sourced on site)	6,000	CY	\$3.33	\$20,000
	Place soil cover	6,000	CY	\$8	\$50,000
8	Drainage				
	Construct Stormwater Ditches (w/ rock lining)	1,500	LF	\$20.00	\$30,000
9	Fencing				
	Install Permanent Fence	1,500	LF	\$20	\$30,000
10	Environmental Consulting and Engineering				
	Landfill final engineering design	1	LS	\$40,000	\$40,000
	Soil confirmation sampling, analysis & reporting	1	LS	\$12,500	\$12,500
	Monitoring well installation, P&A wells	1	LS	\$20,000	\$20,000
	SEPA/Ecology checklists and permitting	1	LS	\$10,000	\$10,000
	Environmental Impact Statement	1	LS	\$92,500	\$92,500
	Landfill construction oversight, QA/QC	1	LS	\$50,000	\$50,000
Environmental Covenants	1	LS	\$7,500	\$7,500	
TOTAL CAPITAL COSTS: \$ 1,129,500					
TOTAL CAPITAL COSTS (WITH CONTINGENCY OF 5%): \$ 1,185,975					
11	Long-term Operation and Maintenance				
	Cap Maintenance	20	Year	\$5,000	\$100,000
	Groundwater Monitoring	20	Year	\$5,000	\$100,000
TOTAL COSTS (WITH CONTINGENCY AND O&M): \$ 1,385,975					

**APPENDIX F
PROPOSED REMEDIAL ALTERNATIVE COST ESTIMATES**

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Alternative 3: Disposal of Material via Rail at ECDC Landfill

ITEM	DESCRIPTION	QUANTITY	UNITS	UNIT COST	TOTAL COST
1	Mobilization and Site Preparation				
	General/reports/meetings/mobilize equipment	1	LS	\$50,000	\$50,000
	SWPP - TESC Measures	1	LS	\$23,500	\$23,500
2	Excavate and Transport Outlying Soil				
	Excavate and transport outlying soil	10,000	CY	\$5.20	\$52,000
	Area Restoration	1	LS	\$30,000	\$30,000
3	Rail Improvements				
	Installation of temporary siding	1	LS	\$10,000	\$10,000
	UPRR to install temporary crossing	1	LS	\$15,000	\$15,000
4	Excavate, Transport, Load Material				
	Excavate and transport material to north parcel	105,000	Tons	\$2.00	\$210,000
	Load gondolas	105,000	Tons	\$1.50	\$157,500
5	Transport and Disposal of Material				
	Gondola cost - ECDC gondolas	105,000	Tons	\$1.90	\$199,500
	Disposal - UPRR contract rate	105,000	Tons	\$21.00	\$2,205,000
6	Environmental Consulting and Engineering				
	Soil confirmation sampling, analysis & reporting	1	LS	\$12,500	\$12,500
	Plug and abandon monitoring wells	1	LS	\$10,000	\$10,000
	SEPA/Ecology checklists and permitting	1	LS	\$10,000	\$10,000
	Construction oversight, QA/QC	1	LS	\$75,000	\$75,000
	Environmental Covenants	1	LS	\$7,500	\$7,500
				TOTALS: \$ 3,067,500	
				TOTAL CAPITAL COSTS (WITH CONTINGENCY OF 5%): \$ 3,220,875	

**APPENDIX F
PROPOSED REMEDIAL ALTERNATIVE COST ESTIMATES**

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Alternative 3: Disposal of Material via Rail at Waste Management Columbia Ridge Landfill

ITEM	DESCRIPTION	QUANTITY	UNITS	UNIT COST	TOTAL COST
1	Mobilization and Site Preparation				
	General/reports/meetings/mobilize equipment	1	LS	\$50,000	\$50,000
	SWPP - TESC Measures	1	LS	\$23,500	\$23,500
2	Excavate and Transport Outlying Soil				
	Excavate and transport outlying soil	10,000	CY	\$5.20	\$52,000
	Area Restoration	1	LS	\$30,000	\$30,000
3	Rail Improvements				
	Installation of temporary siding	1	LS	\$10,000	\$10,000
	UPRR to install temporary crossing	1	LS	\$15,000	\$15,000
4	Excavate, Transport, Load Material				
	Excavate and transport material to north parcel	105,000	Tons	\$2.00	\$210,000
	Load gondolas	105,000	Tons	\$1.50	\$157,500
5	Transport and Disposal of Material				
	Material handling	105,000	Tons	\$4.00	\$420,000
	Disposal at Columbia Ridge Landfill	105,000	Tons	\$17.00	\$1,785,000
6	Environmental Consulting and Engineering				
	Soil confirmation sampling, analysis & reporting	1	LS	\$12,500	\$12,500
	Plug and abandon monitoring wells	1	LS	\$10,000	\$10,000
	SEPA/Ecology checklists and permitting	1	LS	\$10,000	\$10,000
	Construction oversight, QA/QC	1	LS	\$75,000	\$75,000
	Environmental Covenants	1	LS	\$7,500	\$7,500
				TOTALS: \$ 2,868,000	
				TOTAL CAPITAL COSTS (WITH CONTINGENCY OF 5%): \$ 3,011,400	

**APPENDIX F
PROPOSED REMEDIAL ALTERNATIVE COST ESTIMATES**

ALUMINUM RECYCLING TRENTWOOD SITE
VERADALE, WASHINGTON

Alternative 3: Disposal of Material at Waste Management Graham Road Landfill

ITEM	DESCRIPTION	QUANTITY	UNITS	UNIT COST	TOTAL COST
1	Mobilization and Site Preparation				
	General/reports/meetings/mobilize equipment	1	LS	\$50,000	\$50,000
	SWPP - TESC Measures	1	LS	\$23,500	\$23,500
2	Excavate and Transport Outlying Soil				
	Excavate and transport outlying soil	10,000	CY	\$5.20	\$52,000
	Area Restoration	1	LS	\$30,000	\$30,000
3	Excavate, Load, Transport Material				
	Excavate and load material onto trucks	105,000	Tons	\$2.25	\$236,250
	Trucking (provided by Waste Management)	105,000	Tons	\$8.00	\$840,000
4	Disposal of Material				
	Disposal at Waste Management Graham Road Landfill	105,000	Tons	\$26.00	\$2,730,000
5	Environmental Consulting and Engineering				
	Soil confirmation sampling, analysis & reporting	1	LS	\$12,500	\$12,500
	Plug and abandon monitoring wells	1	LS	\$10,000	\$10,000
	SEPA/Ecology checklists and permitting	1	LS	\$10,000	\$10,000
	Construction oversight, QA/QC	1	LS	\$75,000	\$75,000
	Environmental Covenants	1	LS	\$7,500	\$7,500
				TOTALS: \$ 4,076,750	
				TOTAL CAPITAL COSTS (WITH CONTINGENCY OF 5%): \$ 4,280,588	