

APPENDIX B
METALS SOURCE TECHNICAL MEMORANDUM

FEASIBILITY STUDY REPORT
Agri-Tech and Yakima Steel Fabricators
6 and 10½ East Washington Avenue
Yakima, Washington

Farallon PN: 765-001

T E C H N I C A L M E M O R A N D U M

TO: Chris Wend – Washington Department of Ecology (by mail and e-mail)

cc: Merv Wark – Former Owner/Operator, Yakima Steel Fabricators (by e-mail)
Clark Davis – Davis Law Office, PLLC (by e-mail)

FROM: Eric Buer, L.G., L.H.G., Associate Hydrogeologist
Jeff Kaspar, L.G., L.H.G., Principal Geologist

DATE: June 9, 2017

RE: **METALS SOURCE EVALUATION
AGRI-TECH AND YAKIMA STEEL FABRICATORS SITE
YAKIMA STEEL FABRICATORS
YAKIMA, WASHINGTON
AGREED ORDER NO. DE 6091
FARALLON PN: 765-001**

Farallon Consulting, L.L.C. (Farallon) has prepared this Technical Memorandum on behalf of Yakima Steel Fabricators, Inc. (YSF) for the YSF and Agri-Tech, Inc. (Agri-Tech) properties at 6 and 10½ East Washington Avenue in Yakima, Washington (herein collectively referred to as the Site) (Figure 1). The Site consists of Yakima County Tax Parcel Nos. 19133141009 and 19133141409 (Figure 2). From 2011 through 2014, Farallon conducted a supplemental remedial investigation (RI) of soil and sediment quality to characterize the source, nature, and extent of the constituents of potential concern (COPCs), including arsenic, antimony, cadmium, chromium, copper, lead, manganese, mercury, and zinc, in soil and groundwater on the southern portion of the Site. The purpose of this Technical Memorandum is to evaluate the potential source(s) of metals contamination identified in soil at the Site.

The work described in this Technical Memorandum was performed to meet the requirements of *Agreed Order No. DE 6091* entered into by the Washington State Department of Ecology (Ecology) and YSF pursuant to the authority of the Washington State Model Toxics Control Act (MTCA), as established in Section 050(1) of Chapter 70.105D of the Revised Code of Washington, with an effective date of October 27, 2008 (Agreed Order). The Agreed Order was issued in accordance with the provisions of the MTCA Cleanup Regulations, as established in Chapter 173-340 Washington Administrative Code (WAC). The work scope for completion of the supplemental RI was approved by Ecology and established in the *Feasibility Study Work Plan*,



Agri-Tech and Yakima Steel Fabricators, 6 and 10½ East Washington Avenue, Yakima, Washington dated May 3, 2011, prepared by Farallon (FS Work Plan).

BACKGROUND

Pertinent information regarding current and historical use of the Site and surrounding properties and a summary of previous metals sampling conducted at the Site is presented below. More detailed descriptions of the Site features, ownership and operation, historical Site use, use of surrounding properties, and previous work conducted at the Site are provided in the FS Work Plan and the *Revised Remedial Investigation Report, Agri-Tech and Yakima Steel Fabricators, 6 and 10½ East Washington Avenue, Yakima, Washington* dated June 10, 2004, prepared by Farallon (RI Report).

YSF AND AGRI-TECH SITE USAGE

Two structures currently are present at the Site: one single-story building currently used for steel fabrication and business offices on the YSF property (YSF building); and one single-story warehouse building on the Agri-Tech property (Agri-Tech building). The YSF building is divided into three parts: the western portion is used for steel fabrication and business offices; the central portion is used for steel fabrication and loading finished products; and the eastern portion is used for steel storage. The areas east and south of the YSF building are used for storage of steel and equipment. Currently, the Agri-Tech building is leased by the operator of YSF for use in its steel fabrication operations.

Historical Site uses include the following:

- Operation of a steel fabrication facility on the YSF property from approximately 1980 to the present.
- Operation of a fruit packing supplies and equipment company on the Agri-Tech property from 1982 through 1989.
- Construction of a lime and sulfur formulating plant in 1960 on what currently is the Agri-Tech property. The facility was owned by Yakima Farmers Supply and operated from construction until between approximately 1978 and 1982.

Multiple COPCs, including total petroleum hydrocarbons, carcinogenic polycyclic aromatic hydrocarbons, volatile organic compounds, and pesticides and herbicides, were identified as associated with the former Yakima Farmers Supply operations on the Site. Metals were included as COPCs for the Site by Ecology due to the use of heavy metals on the west-adjacent property owned by BNSF and historically leased to Bay Chemical Company.

Information regarding historical Site activities did not indicate the use or storage of products or materials containing lead, cadmium, zinc, manganese, copper, and other metals identified in soil,



sediment, and groundwater on the southern portion of the Site. However, bulk metal products have been present on the Site related to YSF steel fabrication and/or equipment storage activities.

BAY CHEMICAL SITE USAGE

The property west-adjacent to the Site, Yakima County Tax Parcel No. 19133141010, previously was owned by Northern Pacific Railroad, predecessor of current owner BNSF (Figure 2). This property was leased to Bay Chemical Company, a manufacturer of soil micronutrients, from 1963 to late 1975 or early 1976. The BNSF-leased property makes up a portion of the Former Bay Chemical site (herein referred to as the Bay Chemical site), an Ecology-listed facility. The Bay Chemical Company manufactured liquid zinc sulfate by reacting dry steel mill flue dust and sulfuric acid in wooden mixing tanks. The flue dust was the primary source of zinc for zinc sulfate production. The flue dust was delivered by rail in powdered form and stored in an uncovered stockpile near the rail spur on the northern end of the Bay Chemical site (Figure 2). Residual sludge from the zinc sulfate manufacturing process was removed from the mixing tanks and pumped to a sludge settling pond on the southern end of the Bay Chemical site, less than 100 feet east of the wetland area on the Site (Figure 2).

According to the *Former Bay Chemical Site Remedial Investigation Report, Volume 1* dated March 1997, prepared by ERC/Pacific Groundwater Group (Bay Chemical RI Report), metals associated with the flue dust at the Bay Chemical site included arsenic, antimony, cadmium, chromium, copper, lead, manganese, mercury, and zinc. These metals have been detected in soil and groundwater at the Bay Chemical site and at the Site.

HISTORICAL SITE REMEDIAL INVESTIGATION WORK

This section includes a summary of previously performed evaluations of metals concentrations in Site soil conducted by Farallon and others.

REMEDIAL INVESTIGATION

RI activities were conducted from 1997 through 2002 to characterize the nature and extent of COPCs identified for the Site. As noted above, the selection of COPCs for the Site was based on former Yakima Farmers Supply operations on the Site and on surrounding property use. Ecology identified the west-adjacent Bay Chemical site as a potential source of the metals contamination at the Site due to the documented presence on the Bay Chemical site of flue dust containing high concentrations of heavy metals. Ecology consequently required that the metals identified at the Bay Chemical site be included as COPCs during the Site RI. Metals COPCs identified for the Site by Ecology consisted of arsenic, antimony, cadmium, chromium, copper, lead, mercury, nickel, silver, thallium, and zinc.

Three soil samples were collected at 7.5 and 8 feet below ground surface (bgs) from borings in Area 3, located on the southwestern portion of the Site, and analyzed for metals. Area 3 and the RI soil sampling locations are shown on Figure 3. All three samples contained one or more metals



COPCs at concentrations exceeding background concentrations for the Yakima Basin reported in *Natural Background Soil Metals Concentrations in Washington State* dated October 1994, prepared by Ecology.

2007 AREA 3 INVESTIGATION

Ecology and Environmental Partners, Inc. of Issaquah, Washington (EPI) conducted additional soil sampling in Area 3 on the Site in 2007. Results of the Ecology/EPI metals soil sampling are summarized on Figure 3. Soil sampling depths were shallow, ranging from 0 to 28 inches bgs. Metals COPCs were detected in all soil samples collected from Ecology/EPI test pits at the following maximum concentrations: antimony at 65 milligrams per kilogram (mg/kg); arsenic at 55 mg/kg; cadmium at 330 mg/kg; chromium at 490 mg/kg; copper at 5,560 mg/kg; lead at 27,000 mg/kg; manganese at 12,500 mg/kg; mercury at 14 mg/kg; nickel at 110 mg/kg; silver at 43 mg/kg; and thallium at 39 mg/kg.

SUPPLEMENTAL SITE REMEDIAL INVESTIGATION

In 2008, an Agreed Order was issued to conduct a Feasibility Study (FS) for the Site and address data gaps that Ecology identified in the RI following the Ecology/EPI 2007 soil sampling in Area 3. The Agreed Order directed that the data gaps in the RI be addressed by conducting supplemental RI activities prior to conducting the FS and selecting cleanup alternatives for the Site. The scope of work included supplemental soil sampling to define the lateral and vertical distribution of soil contamination in portions of Area 3 that were not excavated during the BNSF cleanup action; groundwater monitoring and sampling of the existing monitoring well network to assess current groundwater quality; and sediment and soil sampling of the wetland area near the southern boundary of the Site.

Sampling performed in 2007 by Ecology/EPI was limited to depths of up to 28 inches bgs, which was inadequate to define the vertical distribution of COPCs present in all areas tested. Consequently, supplemental RI activities were performed to further define the lateral and vertical distribution of COPCs in Area 3.

Soil Investigation

Supplemental RI work was conducted at the Site between 2011 and 2014. Thirty-one test pits were excavated and soil samples were collected from grids A through N in Area 3 (Figure 4). Soil samples collected from the test pits were analyzed for the following metals COPCs identified in the FS Work Plan: antimony, arsenic, cadmium, copper, lead, manganese, mercury, and zinc. The analytical results are summarized on Figure 4.

The test pits were excavated to depths between 1 and 8 feet bgs. One or more of the target metals were detected in the soil samples at the following maximum concentrations: antimony at 7.1 mg/kg; arsenic at 8.5 mg/kg; cadmium at 2.8 mg/kg; copper at 1,300 mg/kg; lead at 730 mg/kg; manganese at 560 mg/kg; mercury at 0.40 mg/kg; and zinc at 1,700 mg/kg. Sufficient information was collected to estimate the lateral and vertical limits of COPCs in soil at the Site.



Wetland Investigation

A Category III wetland is present near the southern Site boundary (Figure 2). The wetland area originally was a larger pond that was partially filled in during development by YSF in the 1990s. Within the past several years, the pond has transitioned to intermittent standing water along with the growth of reeds and grasses. The estimated footprint of the pond and wetland area is depicted on Figure 4, which was based on a survey performed during completion of the RI Report in 1997. A revised wetland delineation completed by Ecology in August 2016 confirmed that the wetland remains a Category III wetland regardless of the shrinking footprint. Ecology's wetland delineation is documented in the memorandum regarding Yakima Steel Fabricators site (parcel # 19133141009) wetland reconnaissance project SIC code JJ222 from Catherine Reed, PWS, SEA Program to Chris Wend dated September 6, 2016 (Attachment A).

Sampling in this area of the Site included test pits excavated outside the limits of the wetland area, including areas previously excavated during the BNSF cleanup action at grid cells D and E. Soil samples (designated "wetsoil") also were collected at the perimeter of the former pond area and sediment samples (designated "wetsed") were collected from inside the pond area. The pond area had no standing water at the time of sampling. One or more of the target metals were detected in sediment samples from the wetland area test pits at the following maximum concentrations: arsenic at 8.6 mg/kg; cadmium at 88 mg/kg; copper at 149 mg/kg; lead at 1,000 mg/kg; manganese at 570 mg/kg; mercury at 2.4 mg/kg; and zinc at 7,000 mg/kg. Antimony was not detected in samples collected from the wetland area test pits.

BAY CHEMICAL SITE REMEDIAL INVESTIGATION AND CLEANUP WORK

As described above, Bay Chemical Company manufactured soil micronutrients on the west-adjacent property from approximately 1963 to 1973 using zinc in steel mill flue dust as a primary raw material. Investigations conducted at the Bay Chemical site concluded that historical operations resulted in metals-contaminated soil and groundwater at the Bay Chemical site that extended to the surrounding properties, including the Site. An Ecology-approved cleanup action was initiated by BNSF at the Bay Chemical site and conducted from December 2006 to October 2007. Excavation of soil on the Site that was conducted as part of the Ecology-approved cleanup action took place between July 30 and October 5, 2007.

The purpose of the cleanup action was to remove soil with concentrations of arsenic, cadmium, chromium, copper, lead, manganese, and mercury (Bay Chemical site constituents of concern) that exceeded site-specific cleanup levels defined for the Bay Chemical site under a Consent Decree. The area of soil removal included select areas on the western portion of the Site adjacent to the Bay Chemical site. The cleanup extended to the perimeter of the wetland and footprint of the pond on the YSF property but did not include the wetland; the western portions of the YSF and Agri-Tech buildings; and the western edge of the former Yakima Farmers Supply waste pit. The BNSF soil removal area on the Site is depicted in Figure 3.



Excavation at the Bay Chemical site was performed between December 2006 and October 2007 and reportedly continued laterally and vertically until concentrations of the target metals were less than site-specific cleanup levels established for the Bay Chemical site or an impediment to further excavation was encountered. The maximum depth of excavation was 9 feet bgs near the southwestern corner of the YSF building. The estimated excavation depths are depicted on Figure 3.

The cleanup activities performed by BNSF at the Bay Chemical site and the Site resulted in removal of approximately 7,800 cubic yards of soil from the western portion of the Site, based on the *Completion and Compliance Monitoring Report, Bay Chemical Site, Yakima, Washington* dated November 17, 2009, prepared by Farallon (Bay Chemical Completion Report).

METALS SOURCE AREA EVALUATION

The potential sources of metals contamination at the Site were not fully evaluated during the RI. Information regarding historical Site usage does not indicate the use of metals associated with former Yakima Farmers Supply operations. Further, former Yakima Farmers Supply operations were limited to the northern portion of the Site, with no known mechanism for distributing metals across the Site in a manner documented in the investigations performed at the Bay Chemical site and the Site.

Available Site information also does not indicate that YSF steel fabrication operations were the likely source of metals contamination identified, because bulk steel storage would not result in the distribution of metals observed throughout the Site. Similarly, historical information regarding Agri-Tech and subsequent operators does not indicate metals were used or stored at the Agri-Tech property.

Ecology identified the Bay Chemical site as a potential source of the metals contamination at the Site due to the documented presence of flue dust containing high concentrations of heavy metals at that site. Flue dust reportedly was observed in shallow (0 to 5 feet bgs) soil across much of the Bay Chemical site. Investigations at the Bay Chemical site also showed that metals contamination from Bay Chemical Company operations resulted in metals-contaminated soil and groundwater that extended onto the Site, including proximate to the sludge settling pond and drainage ditch at the southern end of the Site. Consequently, the Bay Chemical site was extended to include the western portion of the Site. The Bay Chemical site soil cleanup action, which was performed in September 2007, included excavation of affected areas on the western portion of the Site.

Results of the supplemental RI conducted at the Site between 2011 and 2014 indicated that metals were still present in shallow soil at the southern portion of the Site following the BNSF cleanup. During the supplemental RI, debris was discovered to be mixed with the fill in areas on the southern portion of the Site. The presence of subsurface debris on the southern portion of the Site suggests that historical filling and regrading on the southern portion of the Site in and around the



wetland pond area in the 1990s likely resulted in mixing and redistribution of metals contamination previously present in surficial soil.

To evaluate the potential for the Bay Chemical site to act as the source of metals for affected locations at the Site, Farallon evaluated possible mechanisms for transport of contaminants to the Site; analyzed the distribution of metals in soil at the Site and the Bay Chemical site; and performed ratio analysis of cadmium, lead, and zinc in soil to identify potential correlations between metals at the Site and the sources of metals from the Bay Chemical site. To perform these analyses, Farallon used metals analytical results from the *Revised Remedial Investigation Report, Agri-Tech & Yakima Steel Fabricators, 6 and 10 1/2 East Washington Avenue, Yakima, Washington* dated June 15, 2004, prepared by Farallon; the 2007 Ecology/EPI soil sampling; the Farallon 2011 supplemental RI; and the 2009 Bay Chemical Completion Report. The complete data set is provided as Attachment B.

Metals results from Ecology/EPI and Farallon sampling activities are shown on Figures 3 and 4. Primary wind transport directions in the Site vicinity and source area locations on the Bay Chemical site are shown on Figure 5. An oblique aerial photograph showing Site conditions in 1979 is provided on Figure 6. Selected metals results from the complete soil sampling data set are included on Figures 7A and 7B. The samples shown in Figures 7A and 7B include soil samples collected from the Bay Chemical site and the Site prior to the July through October 2007 soil remediation, and soil samples collected following the remediation from areas outside the remediation footprint.

TRANSPORT OF METALS CONTAMINANTS

Although the flue dust was stored on the Bay Chemical site, it also was observed off-site to the south and southeast of the Bay Chemical site, according to the Bay Chemical RI Report. The Bay Chemical RI Report suggested that the off-site presence of the flue dust was the result of surface water and wind transport.

Potential wind transport of contaminants to the Site was evaluated by examining historical aerial photographs and wind data for the Site vicinity. Figure 5 is a 1979 aerial photograph showing the locations of the Site and Bay Chemical site features. At that time, there was a relative lack of vegetation on the Site and the west-adjacent Bay Chemical site.

Figure 6 is an oblique aerial photograph taken by YSF prior to occupancy of the Site in 1979, looking south at the Site from the vicinity of the Yakima Farmers Supply main warehouse. This photograph also shows that little ground cover was present to inhibit potential wind and/or surface water transport of particulates from the Bay Chemical site onto the Site. Wind is considered a potential mechanism for transport of metals contaminants in flue dust from the Bay Chemical site to the Site.

To evaluate potential wind transport, Farallon compiled historical wind data recorded by the National Oceanic and Atmospheric Administration at a meteorological station at the Yakima Air



Terminal, approximately 2.3 miles due west of the Site. Daily wind data were analyzed for a period beginning January 1, 1965, and ending August 9, 2015. Records of the direction-of-origin for the fastest 1- and 2-minute periods of wind each day were tabulated by frequency and used to create rose diagrams that show the number of daily measurements as a bar oriented along the wind's direction of transport. The rose diagrams are presented on Figure 5. The raw wind data used for the transport direction analysis are provided as Attachment C.

As shown in Figure 5, the dominant wind directions at the Site during the periods measured were to the east to southeast (azimuths between approximately 100 and 130 degrees). Figures 5 and 6 also show the historical locations of the Bay Chemical site flue dust stockpile and sludge settling pond relative to the Site. Results of the wind data analysis show that these documented sources of flue dust were located upwind of the Site. As discussed below, the highest concentrations of metals in soil at the Site were found in soil samples collected near the western Site boundary and proximate to the Bay Chemical site source areas that included the flue dust stockpile and sludge settling pond. The prevailing wind direction, the location of these sources of metals upwind of the Site, and the high concentrations of metals found near the Bay Chemical site source areas and boundary suggest that the flue dust from the Bay Chemical site is a source of metals contamination on the Site.

The Bay Chemical RI Report also stated that the former sludge settling pond area was submerged periodically due to a fluctuating water table, exposing the water to soil with "highly elevated" concentrations of metals. The report concluded that this condition resulted in transport of metals-contaminated soil to the Site via surface water flow. This is supported by the distribution of metals depicted on Figure 7A on the southern portion of the Bay Chemical site and the Site where a regional irrigation/drainage ditch is present. According to the Bay Chemical RI Report, stormwater and/or wastewater originating from the Bay Chemical site may have been conveyed to adjacent properties via a network of irrigation ditches located in the vicinity.

METALS DISTRIBUTION IN SOIL

The highest concentrations of metals in Site soil generally occurred in samples collected at less than 4 feet bgs from sampling grids A, B, C, D, and E (Figure 4), which are located along the western boundary of the Site adjacent to the Bay Chemical site. For example, concentrations of zinc in these sampling grids typically were at least one order of magnitude greater than concentrations in the sampling grids further east. The highest zinc concentrations were observed in soil collected at or less than 3 feet bgs from sampling grids D and E on the western portion of the wetlands area. Grids D and E were located immediately east of the former sludge settling pond on the Bay Chemical site (Figure 3). This grouping of the samples with the highest metals concentrations along the western Site boundary is consistent with an off-Site source area to the west.



To further evaluate metals distribution in soil, Farallon used the data set to create color-classified figures depicting cadmium, lead, and zinc concentrations (Figures 7A and 7B). Cadmium, lead, and zinc were selected for mapping for the following reasons:

- The flue dust is known to contain elevated concentrations of these three metals;
- For all three metals, an adequate number of results were available from both the Site and the Bay Chemical site to identify trends in the data;
- Cadmium and lead both were positively correlated with zinc in the soil data provided in the Bay Chemical RI Report;
- Lead previously was identified in the Bay Chemical RI Report as an indicator parameter for the presence of flue dust due to its high correlation with the other metals found in flue dust; and
- Zinc was one of the primary metals present in flue dust and is the primary source of toxicity identified by the bioassay tests performed on Site wetland sediment.

Sampling locations (generally referred to as stations) were digitized using standard georeferencing tools in ArcGIS, and laboratory analytical results were joined to each station using the station's name as a primary key. Soil analytical results were classified into groupings of 0 to 2 feet bgs and 2 to 4 feet bgs. For sampling stations with more than one associated laboratory result (e.g., a soil boring with samples collected at 0, 1, and 1.5 feet), the average of all the sample results, including non-detect method reporting limit values, within the selected depth range was calculated and the resulting value was assigned to that sampling station. Stations with only non-detect results were assigned the lowest reporting limit value. Stations with no data for a specified metal were identified as "No Data" locations for each depth interval and metal.

For each metal, concentrations were interpolated from the available data points using inverse distance weighted averaging. The inverse distance weighted interpolation method estimates individual calculation cell values by calculating a weighted average of the nearest data points proximate to each processing cell. The closer a data point is to the processing cell, the greater weight it is assigned in the averaging process.¹ The resulting interpolated surface was truncated at the extent of the sampling data.

Cadmium, lead, and zinc concentrations in soil between 0 and 2 feet bgs are shown on Figure 7A. Metals concentrations in soil between 2 and 4 feet bgs are shown on Figure 7B. The color-classification breaks were established by comparing the concentrations of each metal in soil to the natural background concentrations (BCs) for the Yakima Basin identified in *Natural Background Soil Metals Concentrations in Washington State* dated October 1994, prepared by Ecology. Natural BCs for the Yakima Basin are:

- 0.93 mg/kg for cadmium;

¹ Conversely, the more distal a data point, the less weight it is assigned in the averaging process.



- 11 mg/kg for lead; and
- 79 mg/kg for zinc.

Each color on the concentration maps represents a range of concentrations that was based on multipliers of the BC values identified above. For example, orange represents concentrations ranging from 10 to 100 times the BC for a given metal.

Soil sample results for samples collected from 0 to 2 feet bgs (Figure 7A) show that on the central portion of the Site, concentrations of cadmium, lead, and zinc generally were one or more orders of magnitude less than concentrations at the adjacent Bay Chemical site. Cadmium, lead, and zinc concentrations in soil between 0 and 2 feet bgs on the Site were lowest on the central and southeastern portions, located farthest from the flue dust stockpile and upwind of the sludge pond area. Cadmium and lead concentrations in these areas ranged from less than background levels to 10 times BC for cadmium, and 5 to 100 times BC for lead. The concentrations of zinc in soil between 0 and 2 feet bgs on the central and southeastern portions of the Site ranged from 2 to 10 times BC, with concentrations rising to more than 100 times BC along the western and southern boundaries of the Site and to over 1,000 times BC near the Bay Chemical site sludge settling pond.

Soil sample results for samples collected from 2 to 4 feet bgs (Figure 7B) show that concentrations of cadmium and lead also were lower in soil samples collected on the central and southeastern areas of the Site than in those collected near the flue dust stockpile and sludge settling pond. Zinc concentrations in soil appeared more uniformly elevated across the Bay Chemical site and the Site. However, similar to what was observed in the 0 to 2 feet bgs soil interval, the lowest observed concentrations of zinc in soil were located on the central portion of the Site and the highest were located near the Bay Chemical site sludge settling pond. Cadmium and lead concentrations on the central and southeastern portions of the Site ranged from less than background levels to 10 times BC for cadmium, and 1 to 100 times BC for lead.

The concentrations of zinc in soil between 2 and 4 feet bgs on the central and southeastern portions of the Site ranged from 10 to 100 times BC. The observed distribution of higher metals concentrations in surficial soils on the Bay Chemical site and near Bay Chemical site features, including the flue dust stockpile, sludge settling pond, and sludge settling drainage ditch, as well as progressively lower concentrations toward the central portion of the Site and the eastern Site boundary, suggest that the sources of the metals contamination are located northwest and west of the Site. The general consistency between shallow (0 to 2 feet bgs) and deeper (2 to 4 feet bgs) results indicates that the distribution of metals is consistent even within portions of the Site that have been regraded.

The metals concentrations depicted on Figures 7A and 7B were evaluated to assess whether a source of metals contamination was present at the Site. A source area generally appears as an area of high concentrations of contaminants, surrounded by areas with progressively lower concentrations as distance from the source area increases. In general, metals concentrations decreased from west to east across the Site, with the lowest observed concentrations on the central



and southeastern portions of the Site. The metals concentrations depicted do not suggest the presence of a source area on the Site. A small area on the Site with elevated concentrations (2 to 5 times BC) of lead and zinc in soil samples between 0 and 2 feet bgs was present at test pit TP-8 on the eastern portion of Area 3 (Figure 7A). This isolated area of elevated metals concentrations without additional contamination that attenuates with distance, and the lack of corresponding cadmium contamination suggests it may be an area of localized contamination of unknown origin.

Metals concentrations depicted on Figure 7A indicate that surficial soil with concentrations exceeding 100 times BCs for cadmium, lead, and zinc was present across broad areas on the northern, north-central, and southern portions of the Bay Chemical site prior to cleanup. This same general distribution is present in the deeper soil shown on Figure 7B, with metals concentrations generally decreasing toward the central and southeastern portions of the Site. The distribution of high metals concentrations in the northern and southern portions of the Bay Chemical site, with an area of marginally lower concentrations between them, suggests the presence of two separate sources of metals contamination on the Bay Chemical site. Historically, the flue dust stockpile source was present on the northern portion of the property; the sludge setting pond source and associated drainage ditch were present on the southern portion of the property.

METALS RATIOS IN SOIL

To further assess the source relationship between metals contaminants at the Bay Chemical site and the Site, metals ratios in soil were evaluated using the same data set that was used to map metals concentrations in soil. The data set included Site metals data from 2007 and 2011, and metals data from the Bay Chemical site presented in the Bay Chemical RI Report and the Bay Chemical Completion Report. The raw data from used for the ratios analysis are provided as Attachment B. Cadmium, lead, and zinc were selected for the ratios analysis for the reasons previously described for evaluation of the metals distribution.

The ratios of cadmium to zinc and lead to zinc were plotted in log-log format for soil samples in the data set that met the following criteria:

- The sample was collected between 0 to 2 feet bgs, or 2 to 4 feet bgs;
- The selected metals were detected at the sampling location;
- The samples were collected from areas considered to be downwind of both Bay Chemical site source areas;
- The samples were collected prior to the August 2007 soil remediation event, or from locations outside the Bay Chemical site remediation boundary; and
- The metals concentrations exceeded the BCs identified for the Yakima Basin in *Natural Background Soil Metals Concentrations in Washington State* dated October 1994, prepared by Ecology.



The resulting metals ratio analyses are presented in Figures 8A, 8B, 9A, and 9B. For purposes of the evaluation, soil samples were further subdivided based on their locations. Site soil samples were assigned to the following groups:

- YSF Central, which included samples collected from the central portion of the Site;
- YSF East, which included samples collected along the eastern boundary of the Site;
- YSF West, which included samples collected along the western boundary of the Site north of the sludge settling pond; and
- YSF Southwest, which included samples collected immediately east and northeast of the sludge settling pond.

The Bay Chemical site samples were assigned to the following groups to account for handling and intermittent activities that may have occurred between source areas on the Bay Chemical site:

- Bay Chemical site source areas, which included the flue dust unloading and stockpile area near the northern rail spur, the sludge settling pond on the southern portion of the Bay Chemical site, and the drainage ditch for the sludge settling pond on the southern boundary of the Site (Figure 2); and
- Bay Chemical site operations areas, which included the portions of the Bay Chemical site adjacent to or between the identified source areas.

These groups provided a geographical index for distance from the Bay Chemical site source areas (i.e., the flue dust stockpile area and the sludge settling pond): the closest non-source samples were collected from the west and southwest sampling areas of the Site, and the most distant samples were collected from the central and eastern sampling areas of the Site.

Figure 8A shows a strong correlation between cadmium and zinc concentrations in soil samples collected from between 0 to 2 feet bgs over several orders of magnitude ($r^2 = 0.8831$), except at the lower end of the plot where concentrations are potentially at or near background levels. The regression includes data from both the Bay Chemical site and the Site, indicating that this correlation holds across site boundaries. The lead to zinc regression in Figure 9A shows more scatter than the cadmium to zinc regression and greater separation between observed concentrations at the Bay Chemical site areas and Site areas; however, a similar trend is observed with a moderate to strongly positive correlation ($r^2 = 0.84$). Correlations between cadmium and zinc (Figure 8B) and between lead and zinc (Figure 9B) in soil samples collected from 2 to 4 feet bgs are similar to or stronger than ($r^2 = 0.9549$ and 0.8654 , respectively) in soil samples collected from 0 to 2 feet bgs.

Although concentrations of the metals differ between locations, these strong correlations suggest that metals in soil at the Site originate from the Bay Chemical site. The highest metals concentrations are associated with soil samples collected from the Bay Chemical site source areas, the Bay Chemical site operations area, and YSF southwestern area. Soil samples with the lowest



concentrations of cadmium, lead, and zinc were collected from the central and eastern portions of the Site, furthest from the Bay Chemical site source areas. This distribution suggests that the Bay Chemical site flue dust stockpile area and sludge settling pond are the sources of these metals at the Site, including the wetland area.

SUMMARY AND CONCLUSIONS

Metals, including arsenic, antimony, cadmium, chromium, copper, lead, manganese, mercury, and zinc, were identified as COPCs for the Site during the 2011 through 2014 RI; however, the potential sources of metals contamination identified at the Site had not been fully evaluated at that time. Information regarding historical Site usage did not indicate that operations related to Yakima Farmers Supply, Agri-Tech and its tenants, or YSF included use or storage of the metals COPCs identified in soil throughout the Site. Bulk materials containing metals related to the YSF steel fabrication process historically were stored in Area 3; however, these raw materials were typically bulk steel, which does not include cadmium, lead, or zinc at the concentrations detected at the Site.

The west-adjacent Bay Chemical site is a documented source of cadmium, lead, zinc, and other heavy metals. Ecology identified the Bay Chemical site as a potential source of the metals contamination at the Site due to the documented presence of flue dust containing high concentrations of heavy metals at the Bay Chemical site and the potential for these metals to be transported onto the Site via wind and/or surface water mechanisms. Investigations at the Bay Chemical site showed that metals contamination from the Bay Chemical Company operations resulted in metals-contaminated soil and groundwater that extended throughout the Bay Chemical site as well as the Site at depths ranging from the surface to greater than 6 feet bgs. In 2007, a cleanup action conducted for the Bay Chemical site resulted in the removal of approximately 7,800 cubic yards of contaminated soil from the western portion of the Site to depths of up to 9 feet bgs. However, Site characterization data indicate that not all soil contamination was remediated at the Site at that time.

Potential wind transport of contaminants from the Bay Chemical site to the Site was evaluated by examining historical wind data for the Site vicinity. Results of the evaluation showed that the dominant wind directions at the Site and vicinity were to the east and southeast. The wind data show that the historical Bay Chemical site flue dust stockpile and sludge settling pond, both documented sources of metals contaminants, were located upwind of the Site. Additionally, the highest concentrations of metals contaminants at the Site generally were found in soil samples collected on the upwind (western) side of the Site nearest the Bay Chemical site source areas. The prevailing wind direction, location of documented metals contaminants sources upwind of the Site, and high concentrations of metals found on the upwind Site boundary nearest the Bay Chemical site source areas indicate that a likely source of metals contamination on the Site is flue dust from the Bay Chemical site.

Historical photos of the Site (Figures 5 and 6) showed that there were no physical or natural barriers to interrupt wind and surface water transport of flue dust from the Bay Chemical site onto



the Site until well after flue dust handling ceased in the mid-1970s. Until that time, wind and surface water from the Bay Chemical site likely extended onto the Site. Figure 6 shows soil types similar in appearance to the Bay Chemical site extending onto Area 3 on the Site in 1979, including an absence of vegetation on the northwestern portion of the Site that may be due to the metals contamination.

Metals distributions and metals ratios were analyzed to further evaluate potential sources of the metals contamination in soil at the Site (Figures 7A through 9B). These data collectively indicate that the Bay Chemical site is the most likely source of metals at the Site, including the zinc present on the wetland area resulting in adverse biological effects.

The distributions of the key indicator metals (i.e., cadmium, lead, and zinc) depicted on Figures 7A and 7B are indicative of a source of high concentrations of these metals at the Bay Chemical site, and reflect decreasing concentrations to the east and southeast with increasing distance from source areas. The lower concentrations of these and other metals at the Site are consistent with wind and surface water transport of metals in a mobile, small particulate form such as the metals-laden flue dust known to be present at the Bay Chemical site. Conversely, the isolated occurrence of shallow metals contamination in a limited area, such as the area proximate to test pit TP-8 in grid H, at the Site may be associated with materials storage at YSF.

The distribution of metals in soil on the southern portion of the Site is consistent with surface water drainage distribution associated with runoff from the Bay Chemical site settling pond, as presented in the Bay Chemical RI Report. Seasonal irrigation practices in the region and precipitation would have resulted in overflow from the Bay Chemical sludge settling pond following the natural topographic flow from north to south and into the YSF pond/wetland area and south-adjacent drainage/irrigation ditch. Figure 7A shows that the highest concentrations of cadmium, lead, and zinc were present on the sludge settling pond area and decrease to the south/southeast, following the natural drainage pattern.

Plots of cadmium to zinc and lead to zinc ratios for soil collected at the Bay Chemical site and the Site also suggest that the Bay Chemical site is the source of the metals contamination identified at the Site. The plots show moderate to strongly positive correlations among these metals over several orders of magnitude, including data from both sites, suggesting that metals identified on the Site and on the Bay Chemical site are from the same source.

In summary, evaluation of the transport mechanisms, metals distributions, and metals ratio analyses support a conceptual site model that wind-blown and/or surface water transported flue dust and/or materials from the sludge settling pond from the Bay Chemical site source areas onto the Site. Areas of the Site may require further cleanup depending upon the final cleanup levels negotiated with Ecology during completion of the Cleanup Action Plan for the Site.



LIMITATIONS

GENERAL LIMITATIONS

The conclusions contained in this memorandum are based on professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location. The conclusions contained herein are subject to the following inherent limitations:

- **Accuracy of Information.** Farallon obtained, reviewed, and evaluated certain information used in this report/assessment from sources that were believed to be reliable. Farallon's conclusions, opinions, and recommendations are based in part on such information. Farallon's services did not include verification of its accuracy or authenticity. Should the information upon which Farallon relied prove to be inaccurate or unreliable, Farallon reserves the right to amend or revise its conclusions, opinions, and/or recommendations.
- **Reconnaissance and/or Characterization.** Farallon performed a reconnaissance and/or characterization of the Site that is the subject of this report/assessment to document current conditions. Farallon focused on areas deemed more likely to exhibit hazardous materials conditions. Contamination may exist in other areas of the Site that were not investigated or were inaccessible. Site activities beyond Farallon's control could change at any time after the completion of this report/assessment.

For the foregoing reasons, Farallon cannot and does not warrant or guarantee that the Site is free of hazardous or potentially hazardous substances or conditions, or that latent or undiscovered conditions will not become evident in the future. Farallon's observations, findings, and opinions can be considered valid only as of the date of the report hereof.

This report/assessment has been prepared in accordance with the contract for services between Farallon and Yakima Steel Fabricators, Inc. and currently accepted industry standards. No other warranties, representations, or certifications are made.

LIMITATION ON RELIANCE BY THIRD PARTIES

Reliance by third parties is prohibited. This report/assessment has been prepared for the exclusive use of Yakima Steel Fabricators, Inc. to address the unique needs of Yakima Steel Fabricators, Inc. at the Site at a specific point in time. Services have been provided to Yakima Steel Fabricators, Inc. in accordance with a contract for services between Farallon and Yakima Steel Fabricators, Inc., and generally accepted environmental practices for the subject matter at the time this report was prepared.

No other party may rely on this report unless Farallon agrees in advance to such reliance in writing. Any use, interpretation, or reliance upon this report/assessment by anyone other than Yakima Steel Fabricators, Inc. is at the sole risk of that party, and Farallon will have no liability for such unauthorized use, interpretation, or reliance.



Do not rely on this report/assessment if:

- It was not prepared for you;
- It was not prepared for your project;
- It was not prepared for your specific Site; or
- It was not prepared under an approved scope of work for which you are under contract with Farallon.

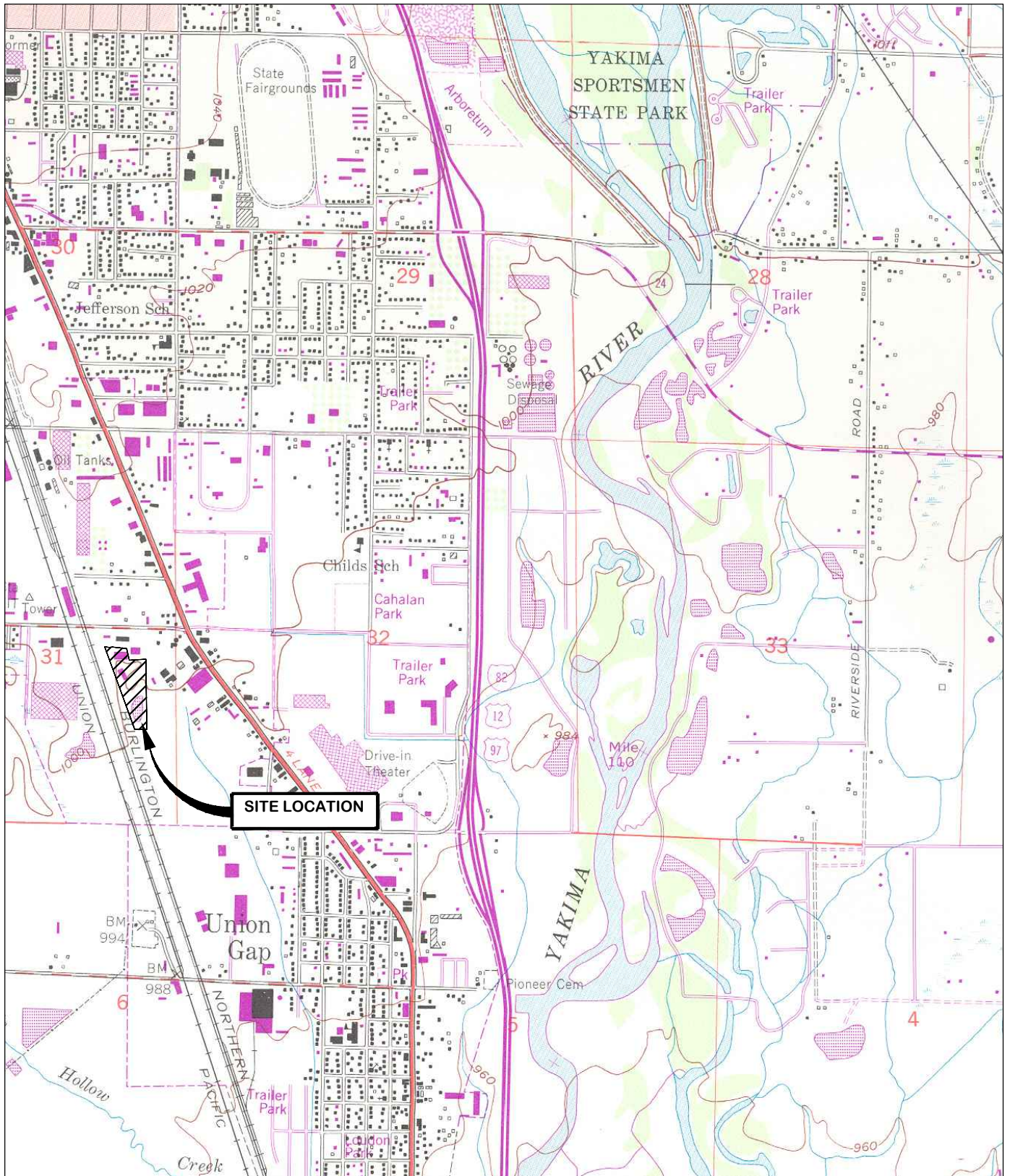
Attachments: Figure 1, *Site Vicinity Map*
Figure 2, *Site Plan and Tax Parcel Locations*
Figure 3, *Pre-2011 Sampling Locations and Bay Chemical Soil Removal Area*
Figure 4, *Concentrations of Metals in Soil*
Figure 5, *Wind Transport Data for Site Vicinity*
Figure 6, *1979 Oblique Aerial Photograph of Site*
Figure 7A, *Cadmium, Lead, and Zinc Estimated Distribution in Soil 0-2 Feet BGS*
Figure 7B, *Cadmium, Lead, and Zinc Estimated Distribution in Soil 2-4 Feet BGS*
Figure 8A, *Ratio of Cadmium to Zinc in Soil 0-2 Feet BGS*
Figure 8B, *Ratio of Cadmium to Zinc in Soil 2-4 Feet BGS*
Figure 9A, *Ratio of Lead to Zinc in Soil 0-2 Feet BGS*
Figure 9B, *Ratio of Lead to Zinc in Soil 2-4 Feet BGS*
Attachment A, *Wetland Delineation Memorandum*
Attachment B, *Raw Metals Data*
Attachment C, *Raw Wind Data for Histograms in Figure 5*

EB/TM/JK:tlc

FIGURES

**METALS SOURCE EVALUATION
Agri-Tech and Yakima Steel Fabricators Site
Yakima Steel Fabricators
Yakima, Washington**

Farallon PN: 765-001



REFERENCE: 7.5 MINUTE USGS QUADRANGLE YAKIMA SOUTH, WASHINGTON. DATED 1953 AND PHOTOREVISED 1981



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FIGURE 1

SITE VICINITY MAP
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001





Drawn By: DEW

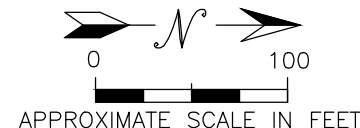
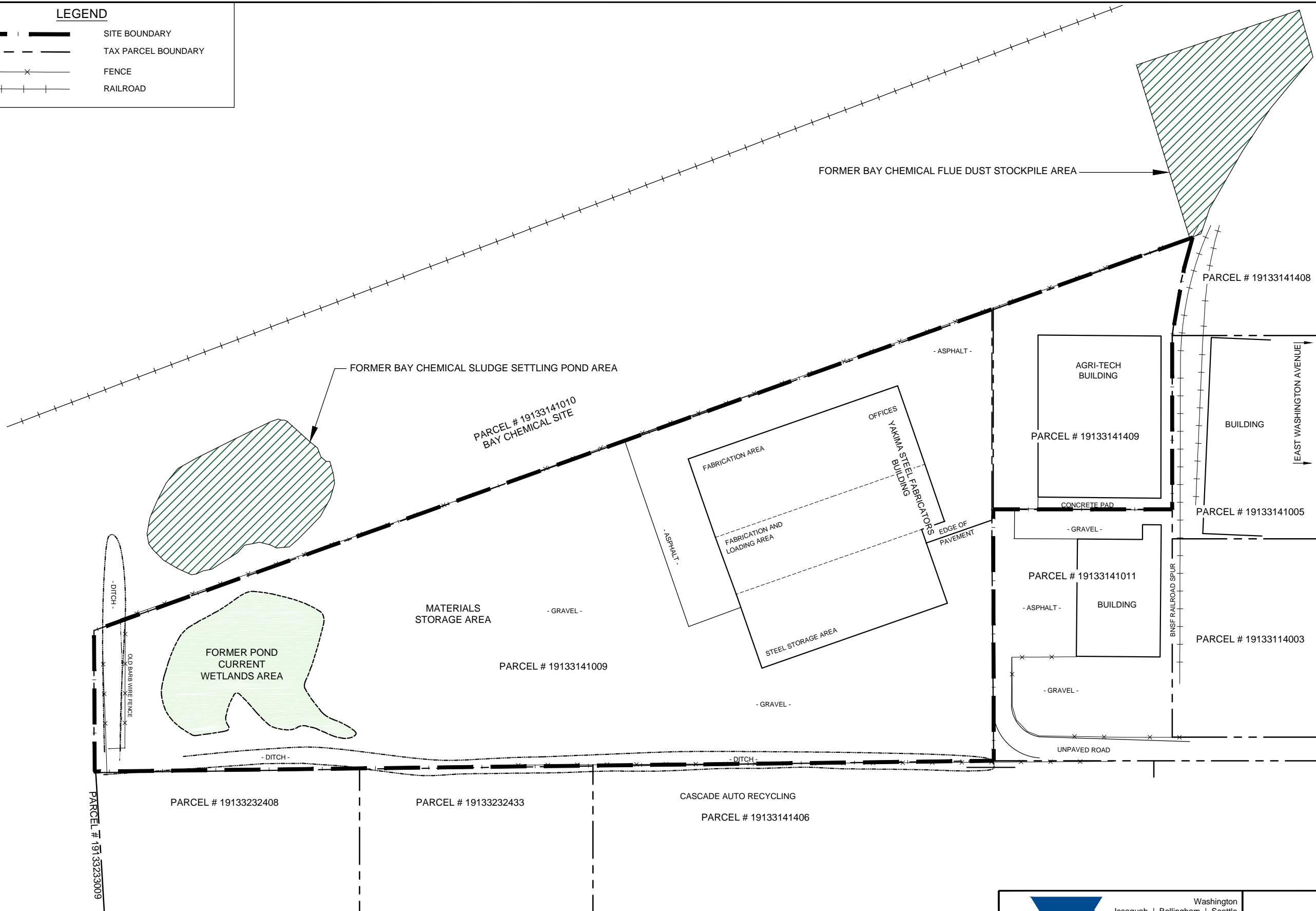
Checked By: HC

Date: 1/25/2016

Disk Reference: 765001a

LEGEND

-  SITE BOUNDARY
-  TAX PARCEL BOUNDARY
-  FENCE
-  RAILROAD




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FIGURE 2
SITE PLAN AND TAX PARCEL LOCATIONS
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

LEGEND

- APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA 1** FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA 2** FORMER YAKIMA FARMERS SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA 3** YAKIMA STEEL STORAGE YARD AND WETLAND AREA
- SITE BOUNDARY
- TAX PARCEL BOUNDARY
- FENCE
- RAILROAD
- WASHINGTON STATE DEPARTMENT OF ECOLOGY (ECOLOGY) TEST PIT (JULY 2007)
- ENVIRONMENTAL PARTNERS, INC. TEST PIT (2007)
- DIRECT PUSH SOIL BORING LOCATION AGRA EARTH AND ENVIRONMENTAL INC. (1997)
- ECOLOGY SAMPLING GRID DESIGNATION
- BOLD** = INDICATES CONCENTRATION EXCEEDS WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION METHOD B CLEANUP LEVELS PRESENTED IN THE REMEDIAL INVESTIGATION REPORT (FARALLON 2004)
- <=** = INDICATES CONCENTRATIONS NOT DETECTED AT OR ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT
- NA = NOT ANALYZED

BAY CHEMICAL CLEANUP AREA

- Sb = ANTIMONY
 - As = ARSENIC
 - Cd = CADMIUM
 - Cu = COPPER
 - Pb = LEAD
 - Mn = MANGANESE
 - Hg = MERCURY
 - Ni = NICKEL
 - Ag = SILVER
 - Tl = THALLIUM
 - Zn = ZINC
- APPROXIMATE EXCAVATION DEPTH IN FEET BELOW GROUND SURFACE
- 0-2
 - 2-4
 - 4-6
 - >6
- NOTE:**
1. LOCATIONS OF ALL TEST PITS BY ECOLOGY ARE APPROXIMATED. COORDINATES PROVIDED BY ECOLOGY DID NOT PLOT IN CORRESPONDING SAMPLING GRID IN ALL CASES. FARALLON SHIFTED TEST PIT LOCATIONS TO THE APPROPRIATE SAMPLING GRID AND ESTIMATED THE TEST PIT LOCATION ON BEST AVAILABLE INFORMATION.
 2. FIGURE INCLUDES INFORMATION PRESENTED IN COLOR. PHOTOCOPYING MAY NOT BE APPROPRIATE.

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
0	NA	2.9	15.3	NA	57.9	762	515	NA	NA	NA	NA	3,100
24"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
24"	NA	<5.0	330	NA	1,820	22,500	12,500	NA	NA	NA	NA	123,000
26"	65	<5.0	310	490	2,000	27,000	NA	14	110	43	39	140,000

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
6"	NA	13	7.6	NA	944	674	645	NA	NA	NA	NA	2,200
28"	<3.0	<5.0	2.0	6.7	35	300	NA	0.09	18	<5.0	<10	150
6"	NA	13.0	4.22	NA	136	290	524	NA	NA	NA	NA	1,200
16"	<3.0	<5.0	6.9	16	51	630	NA	0.26	18	<5.0	<10	2,100

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
24"	NA	11.9	5.38	NA	79.8	439	569	NA	NA	NA	NA	1,710
24"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
24"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
24"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
24"	NA	12.5	1.1	NA	62.0	409	369	NA	NA	NA	NA	465
24"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

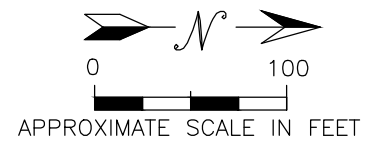
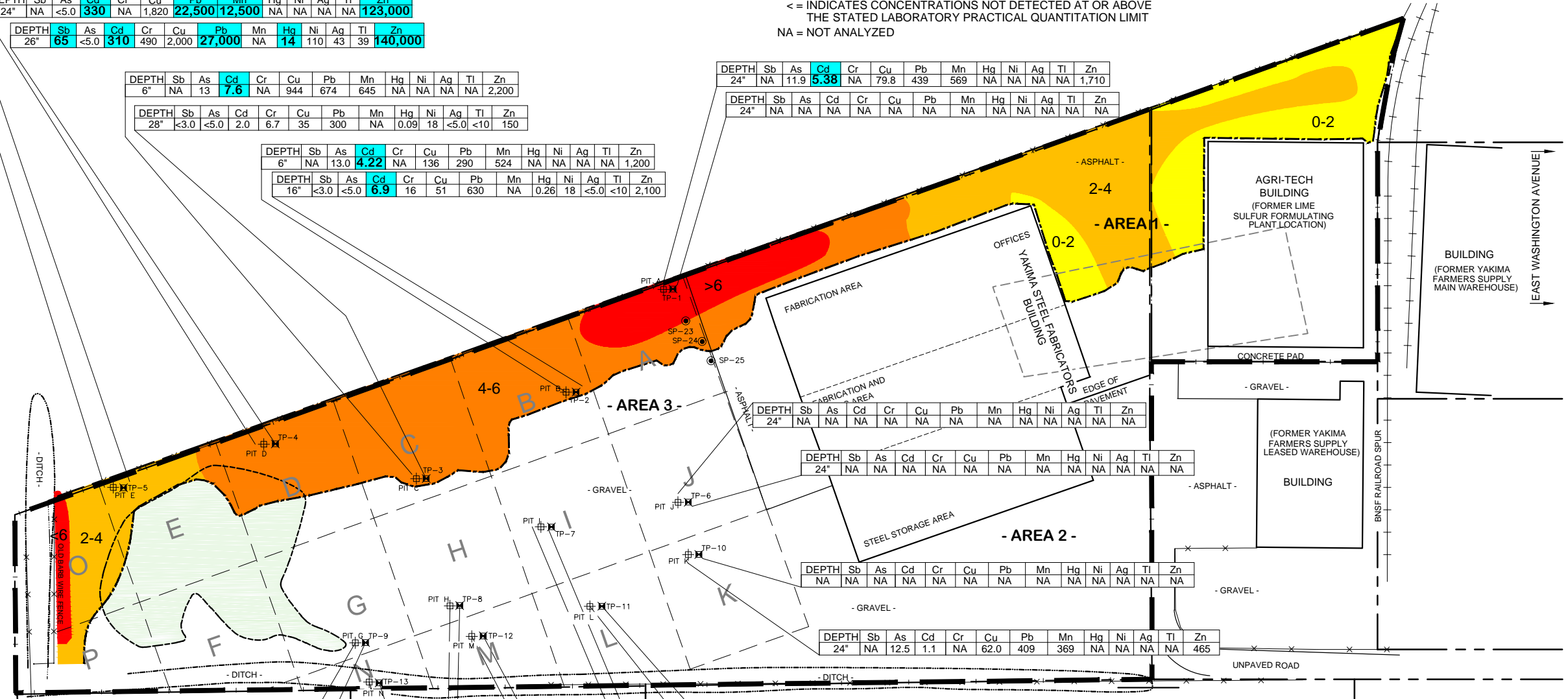
DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
6"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
18"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
0	NA	1.5	<0.10	NA	77.4	5.67	160	NA	NA	NA	NA	69
0	<3.0	<5.0	1.2	8.6	21	31	NA	0.04	21	<5.0	<10	99

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
0.5"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12"	<0.3	<5.0	2.9	15	82	2,800	NA	0.09	22	<5.0	<10	1,700

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
18"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
18"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
0	NA	8.12	4.3	NA	5,560	433	2,270	NA	NA	NA	NA	995
0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA



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FIGURE 3

PRE-2011 SAMPLING LOCATIONS AND
BAY CHEMICAL SOIL REMOVAL AREA
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001

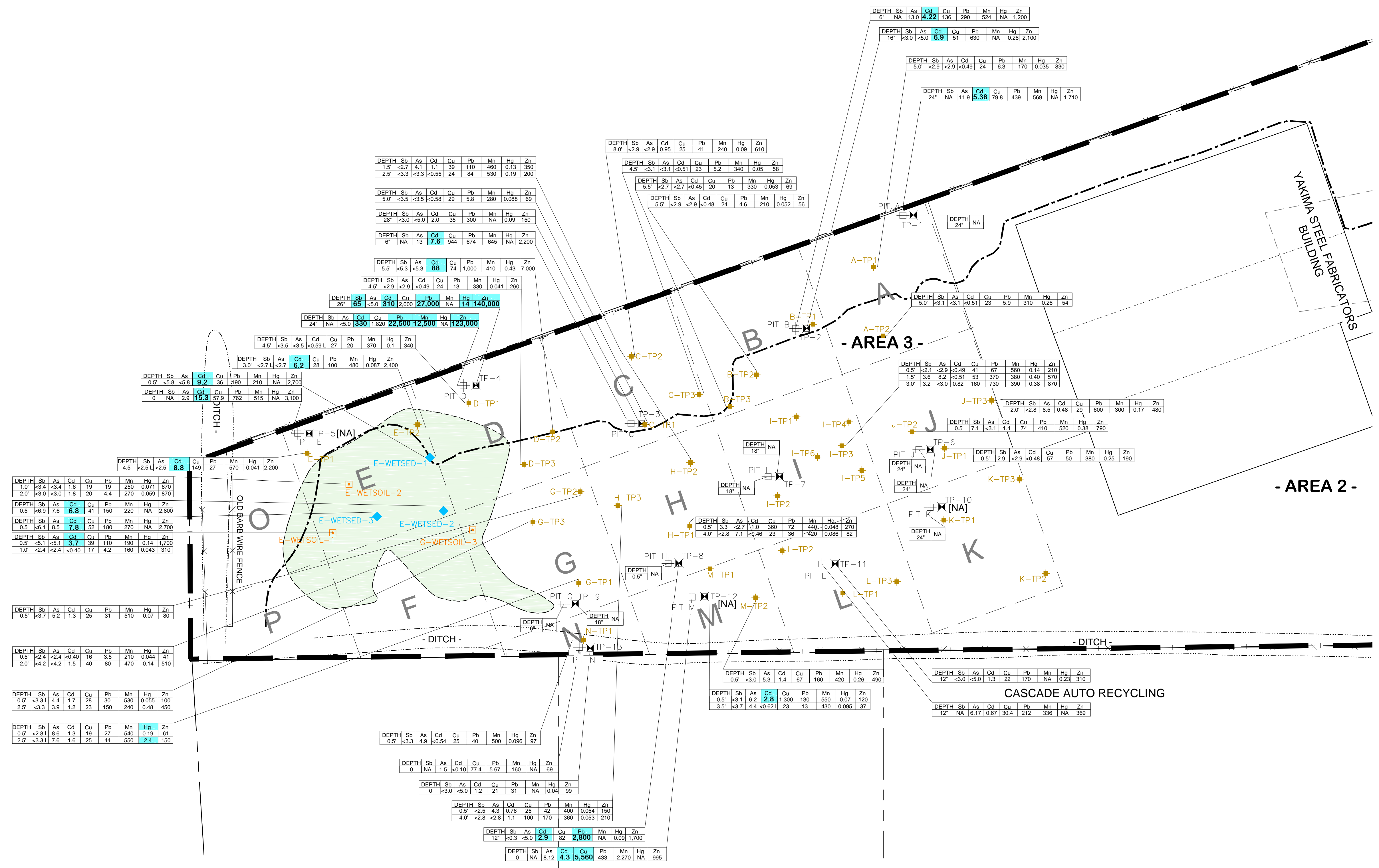
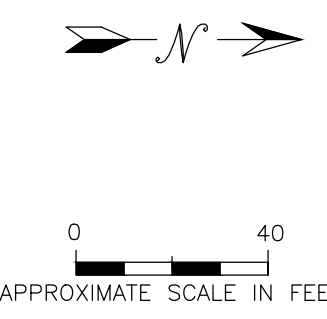
LEGEND

- APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA 1** FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA 2** FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA 3** YAKIMA STEEL STORAGE YARD AND WETLAND AREA
- SITE BOUNDARY
- TAX PARCEL BOUNDARY
- FENCE
- RAILROAD
- BAY CHEMICAL CLEANUP AREA
- D-TP3 TEST PIT LOCATION FARALLON CONSULTING (2011)
- E-WETSSED-1 WET SEDIMENT SAMPLE LOCATION FARALLON CONSULTING (2011)
- E-WETSSED-2 WET SOIL SAMPLE LOCATION FARALLON CONSULTING (2011)
- PIT B WASHINGTON STATE DEPARTMENT OF ECOLOGY (ECOTOLOGY) TEST PIT (2007)
- TP-2 ENVIRONMENTAL PARTNERS, INC. TEST PIT (2007)
- M ECOLOGY SAMPLING GRID DESIGNATION
- ESTIMATED LATERAL EXTENT OF TYPE 3 WETLAND (EXISTING POND)

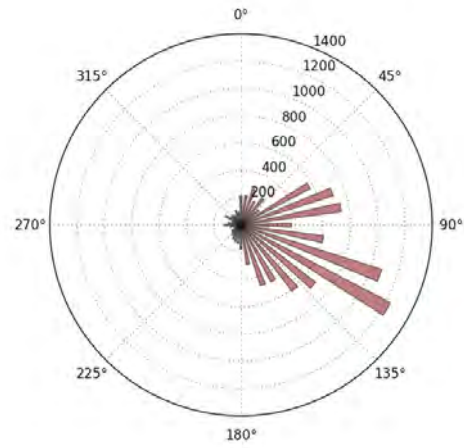
Sb = ANTIMONY
 As = ARSENIC
 Cd = CADMIUM
 Cu = COPPER
 Pb = LEAD
 Mn = MANGANESE
 Hg = MERCURY
 Zn = ZINC
 NA = NOT ANALYZED
 <= INDICATES CONCENTRATIONS NOT DETECTED AT OR ABOVE THE STATED LABORATORY PRACTICAL QUANTIFICATION LIMIT
 SOIL ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM DEPTH IN INCHES BELOW GROUND SURFACE

Sb	As	Cd	Cu	Pb	Mn	Hg	Zn
32	20	200	2,960	1,000	11,000	2.0	24,000

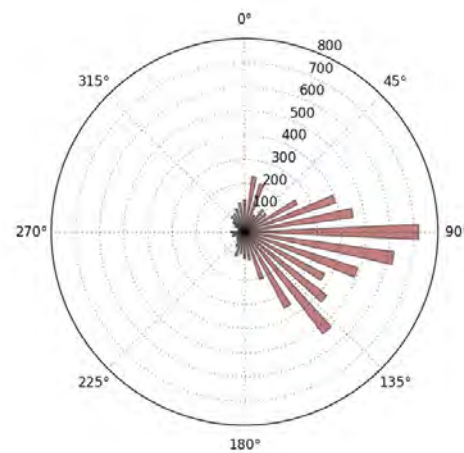
ANALYTE HIGHLIGHTED IN BLUE EXCEEDS PRELIMINARY SCREENING LEVEL INDICATED IN TABLE ABOVE.



**WIND 1-MINUTE MAXIMUM SPEED
PLOT OF DIRECTION OF TRANSPORT**



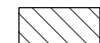

**WIND 2-MINUTE MAXIMUM SPEED
PLOT OF DIRECTION OF TRANSPORT**

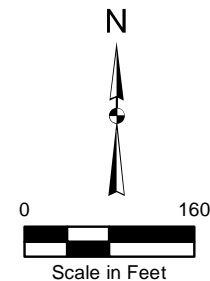


NOTE:
ROSE DIAGRAMS SHOW THE DIRECTION OF TRANSPORT FOR THE FASTEST 1- AND 2-MINUTE WIND INTERVAL RECORDED EACH DAY. 1-MINUTE DATA COVERS THE PERIOD FROM 1965 TO 2015. 2-MINUTE DATA COVERS THE PERIOD FROM 1995 TO 2015. THE LENGTH OF EACH PETAL ON THE ROSE REFLECTS THE TOTAL NUMBER OF DAYS THE MAXIMUM WIND WAS RECORDED BLOWING THAT DIRECTION.



LEGEND

-  FORMER BAY CHEMICAL SITE FEATURES
-  YAKIMA STEEL FABRICATORS/AGRI-TECH APPROXIMATE SITE BOUNDARY




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FIGURE 5
WIND TRANSPORT DATA FOR SITE VICINITY
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

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Drawn By: tperrin

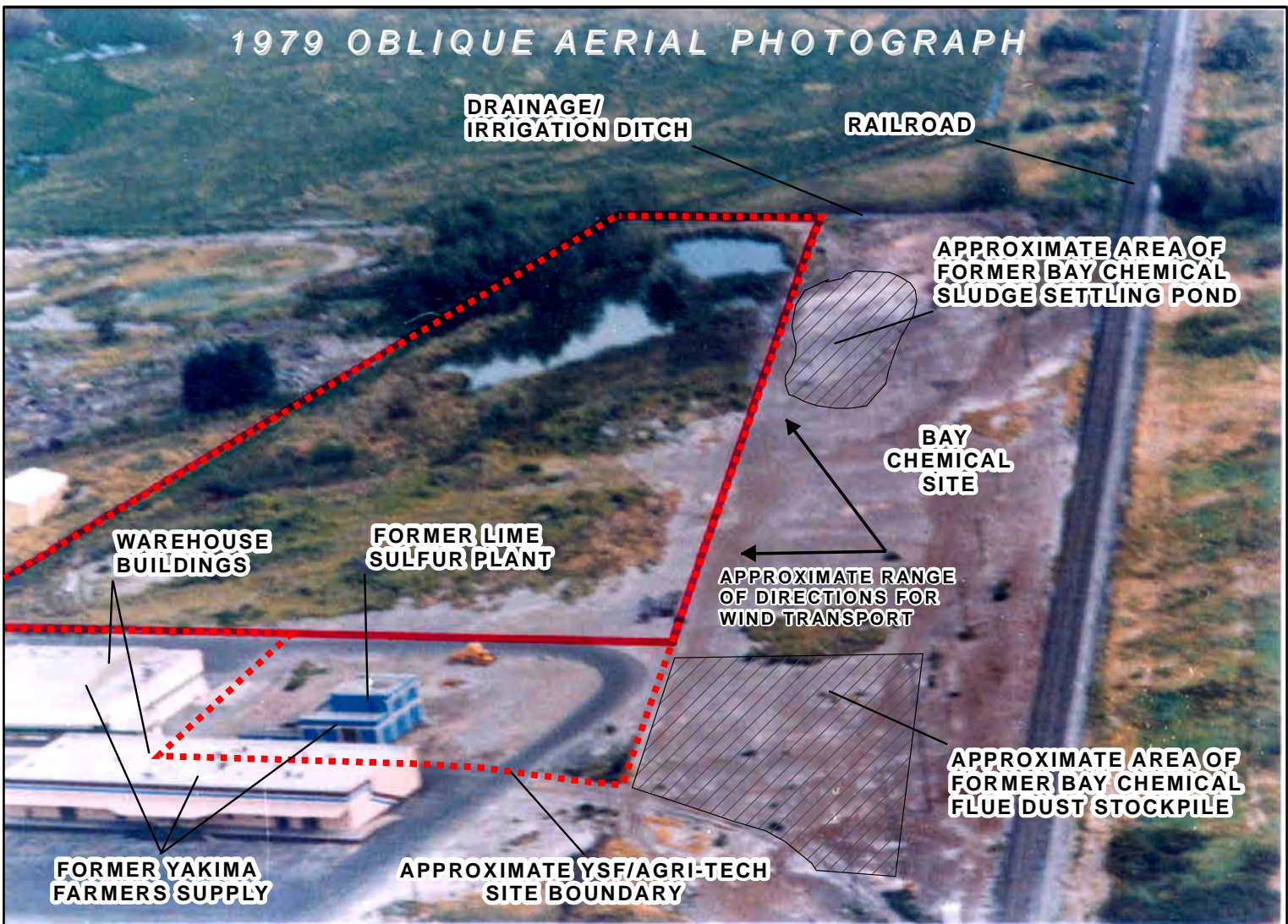
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Date: 1/25/2016

Document Path: G:\Projects\765001 Yakima Steel Fab\GIS\Mapfiles\Figure_Wind Transport.mxd

Disc Reference:

1979 OBLIQUE AERIAL PHOTOGRAPH



LEGEND

 APPROXIMATE SITE BOUNDARY



NOT TO SCALE



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Date: 1/25/2016

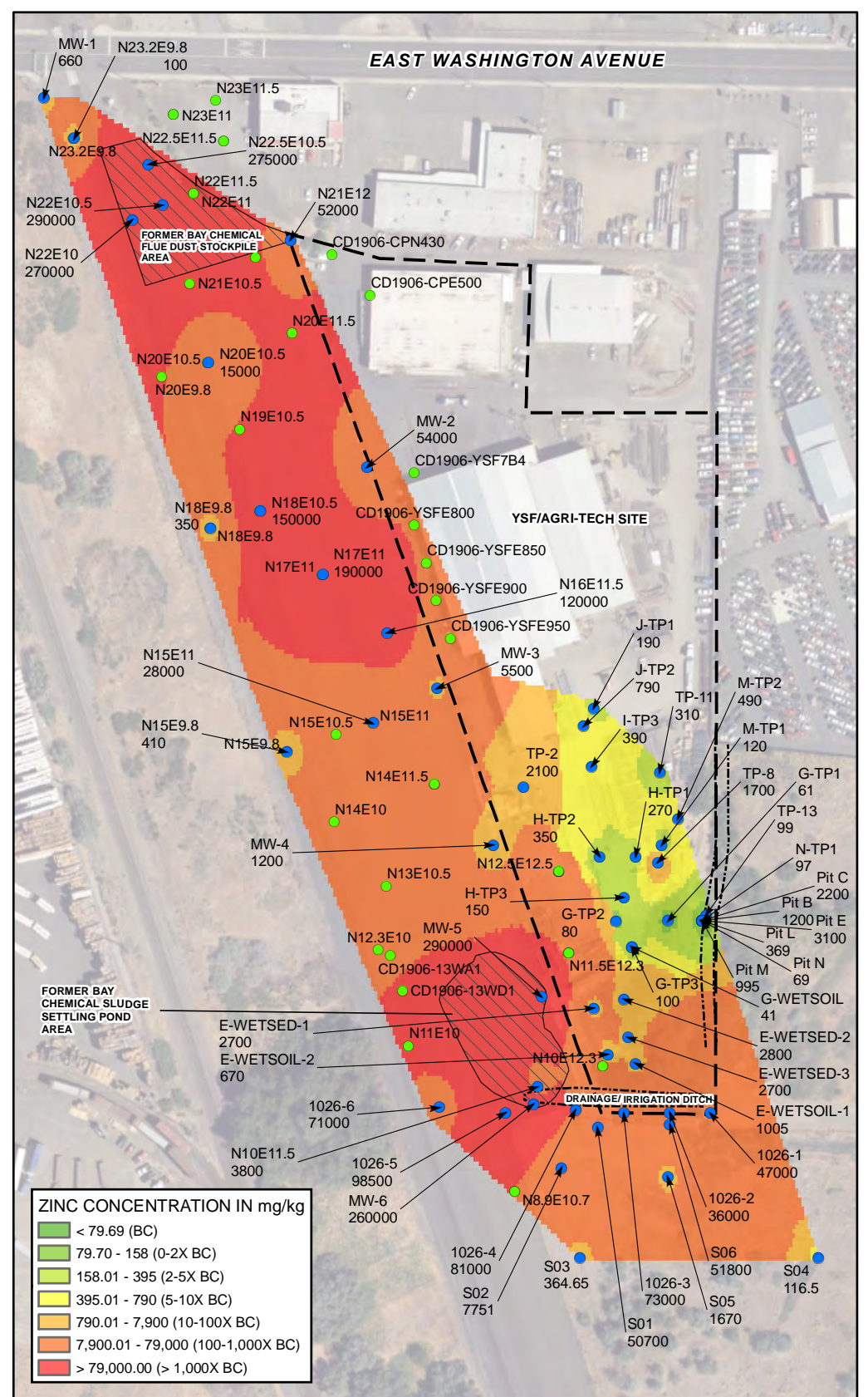
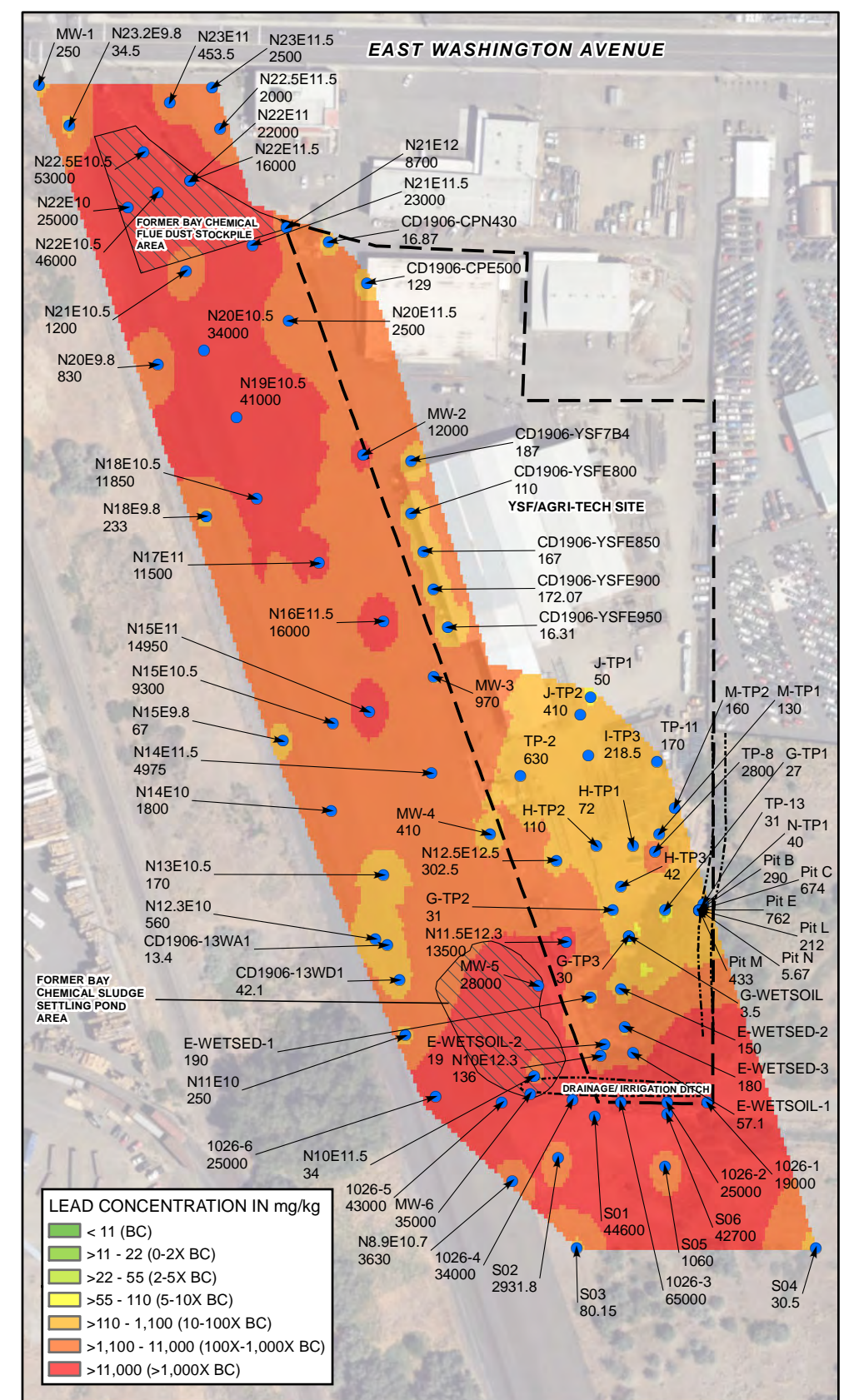
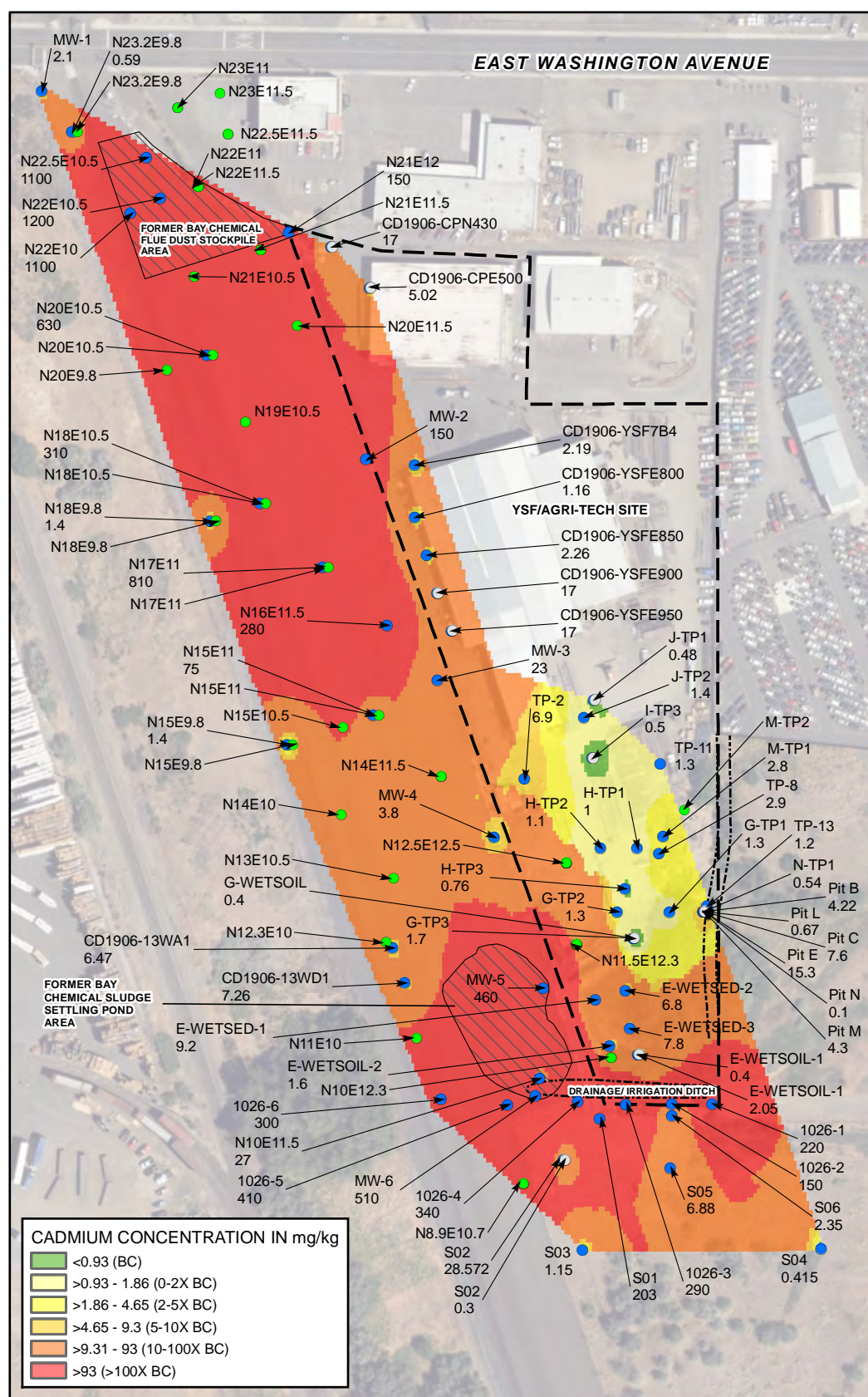
Document Path: G:\Projects\765001 Yakima Steel Fab\GIS\Mapfiles\Figure_1979_Oblique.mxd

Disc Reference:

FIGURE 6

1979 OBLIQUE AERIAL PHOTOGRAPH OF SITE
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001



LEGEND

- YAKIMA STEEL FABRICATORS/AGRI-TECH SAMPLE LOCATION
- NON DETECT SAMPLE
- NO DATA SAMPLE
- ▭ FORMER BAY CHEMICAL SITE FEATURES
- ▭ YAKIMA STEEL FABRICATORS/AGRI-TECH APPROXIMATE SITE BOUNDARY

BC - BACKGROUND CONCENTRATION
mg/kg - MILLIGRAMS PER KILOGRAM

NATURAL BACKGROUND CONCENTRATIONS *

	0	2X	5X	10X	100X
CADMIUM	0.93	1.86	4.65	9.3	93
LEAD	11	22	55	110	1,100
ZINC	79	158	395	790	7,900

* FROM NATURAL BACKGROUND SOIL METALS CONCENTRATIONS IN WASHINGTON STATE, WASHINGTON STATE DEPARTMENT OF ECOLOGY PUBLICATION NO. 94-115, (OCTOBER 1994).

FIGURE 7A

CADMIUM, LEAD, AND ZINC ESTIMATED DISTRIBUTION IN SOIL 0 - 2 FT BGS
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001

Washington
Issaquah | Bellingham | Seattle

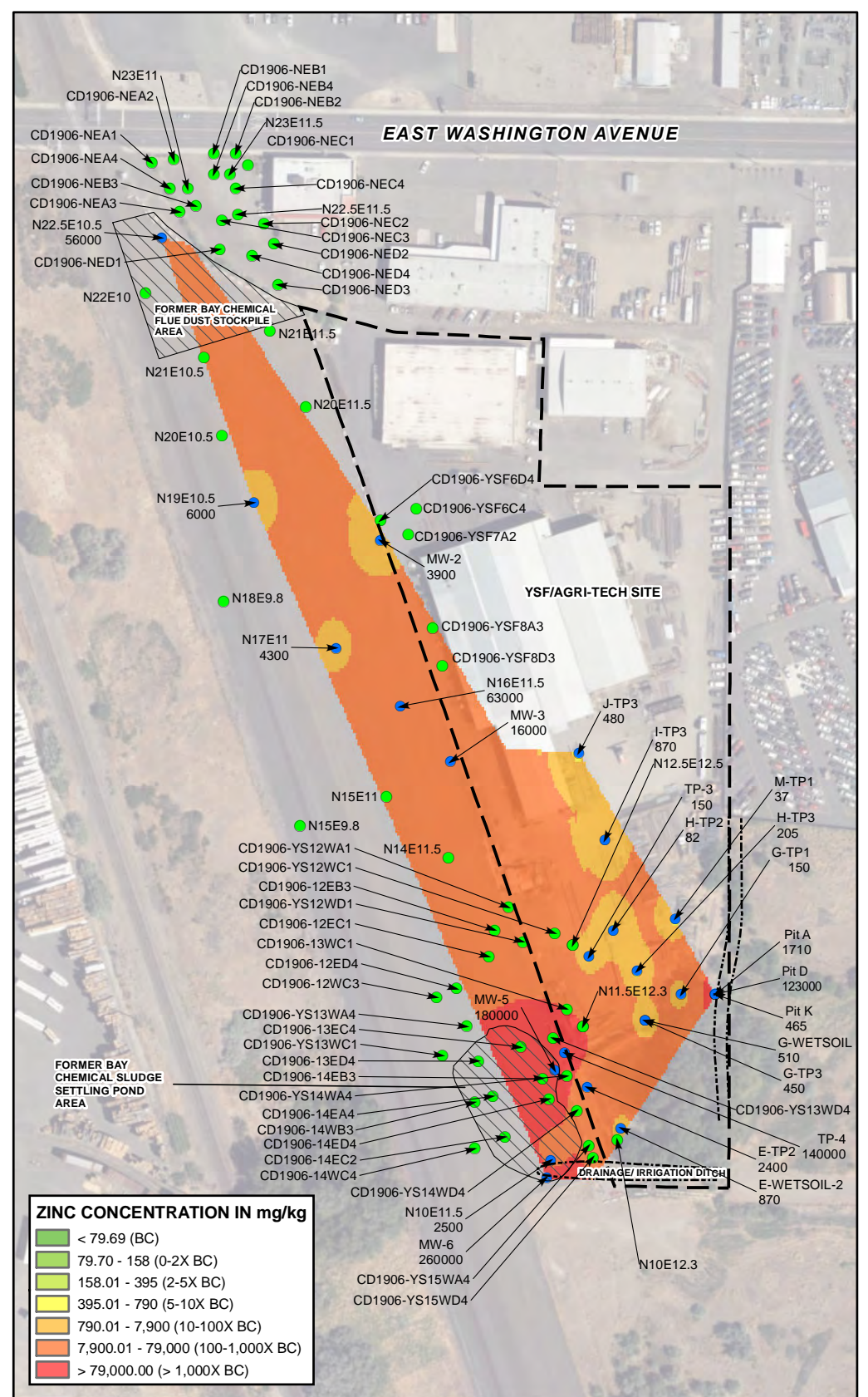
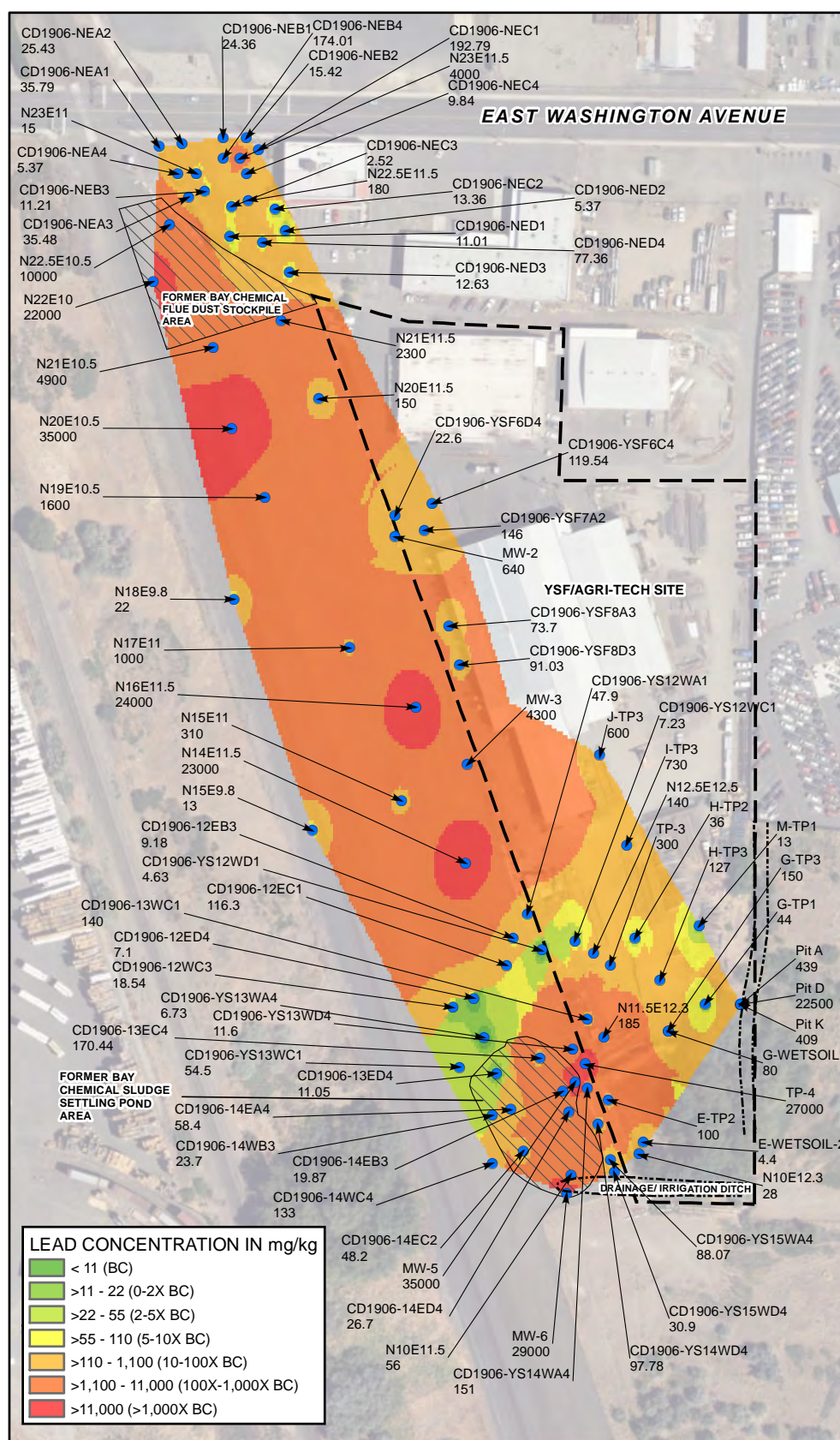
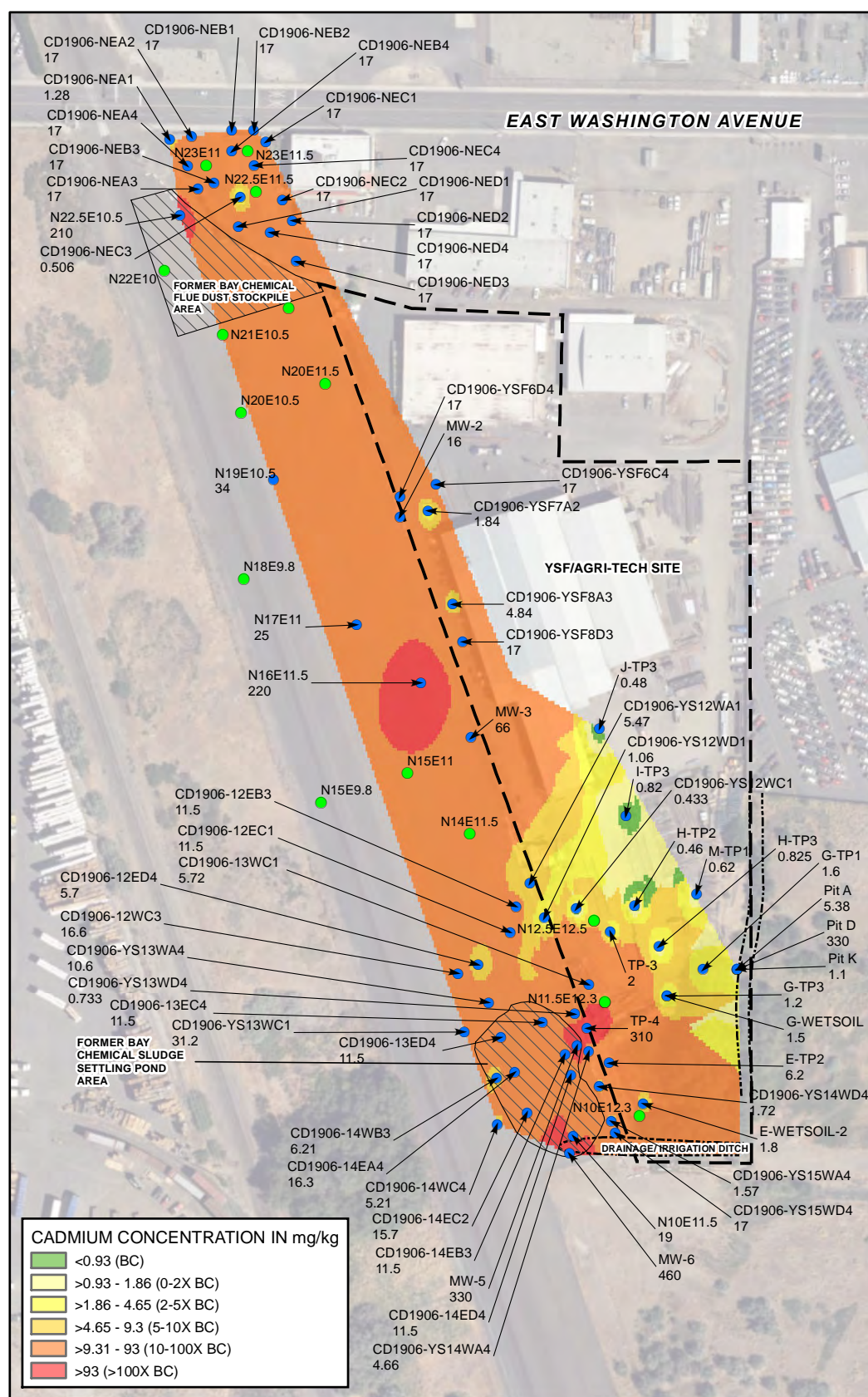
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Scale in Feet

Drawn By: tperrin
Checked By: JK
Date: 8/30/2016
Document Path: G:\Projects\765001 Yakima Steel Fab\GIS\RevisedTM_Maps\Figure05a_0-2_Soil_Cad-Lead-Zinc.mxd
Disc Reference:



LEGEND

- YAKIMA STEEL FABRICATORS/AGRI-TECH SAMPLE LOCATION
- NON DETECT SAMPLE
- NO DATA SAMPLE
- FORMER BAY CHEMICAL SITE FEATURES
- YAKIMA STEEL FABRICATORS/AGRI-TECH APPROXIMATE SITE BOUNDARY

BC - BACKGROUND CONCENTRATION
mg/kg - MILLIGRAMS PER KILOGRAM

NATURAL BACKGROUND CONCENTRATIONS *					
	0	2X	5X	10X	100X
CADMIUM	0.93	1.86	4.65	9.3	93
LEAD	11	22	55	110	1,100
ZINC	79	158	395	790	7,900

* FROM NATURAL BACKGROUND SOIL METALS CONCENTRATIONS IN WASHINGTON STATE, WASHINGTON STATE DEPARTMENT OF ECOLOGY PUBLICATION NO. 94-115, (OCTOBER 1994).

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FIGURE 7B

CADMIUM, LEAD, AND ZINC ESTIMATED DISTRIBUTION IN SOIL 2 - 4 FT BGS
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

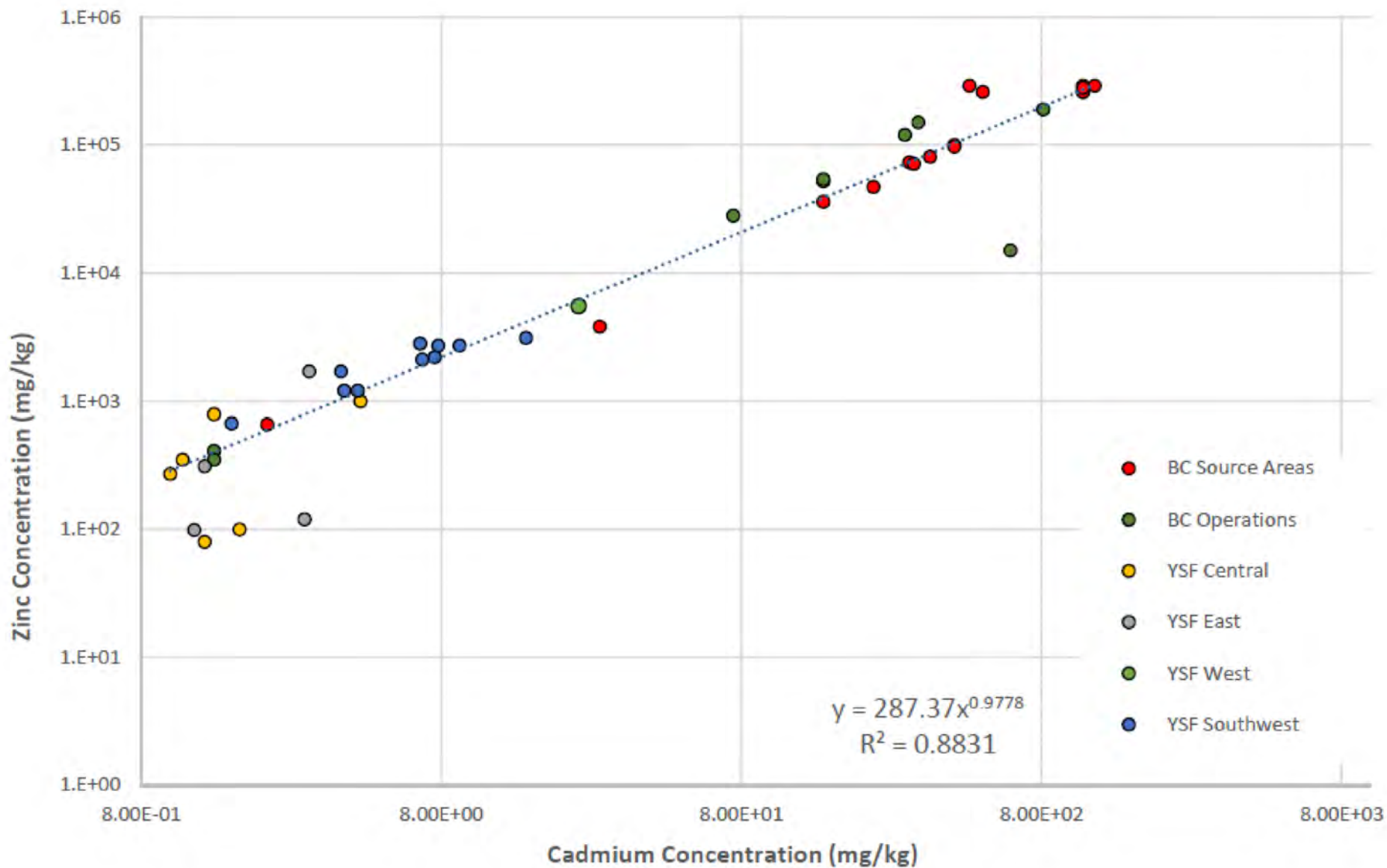
FARALLON PN: 765-001

Drawn By: tperrin

Checked By: JK

Date: 8/30/2016

Disc Reference:



NOTES:

mg/kg = MILLIGRAMS PER KILOGRAM

BC = BAY CHEMICAL SITE

BGS = BELOW GROUND SURFACE

YSF = YAKIMA STEEL FABRICATORS / AGRI-TECH SITE

SOURCE AREA DATA INCLUDES BAY CHEMICAL FLUE DUST AREA, SLUDGE SETTLING POND, AND SLUDGE SEDIMENT



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FIGURE 8A

RATIO OF CADMIUM TO ZINC IN SOIL 0-2 FEET BGS
YSF/AGRI-TECH SITE
6 AND 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001

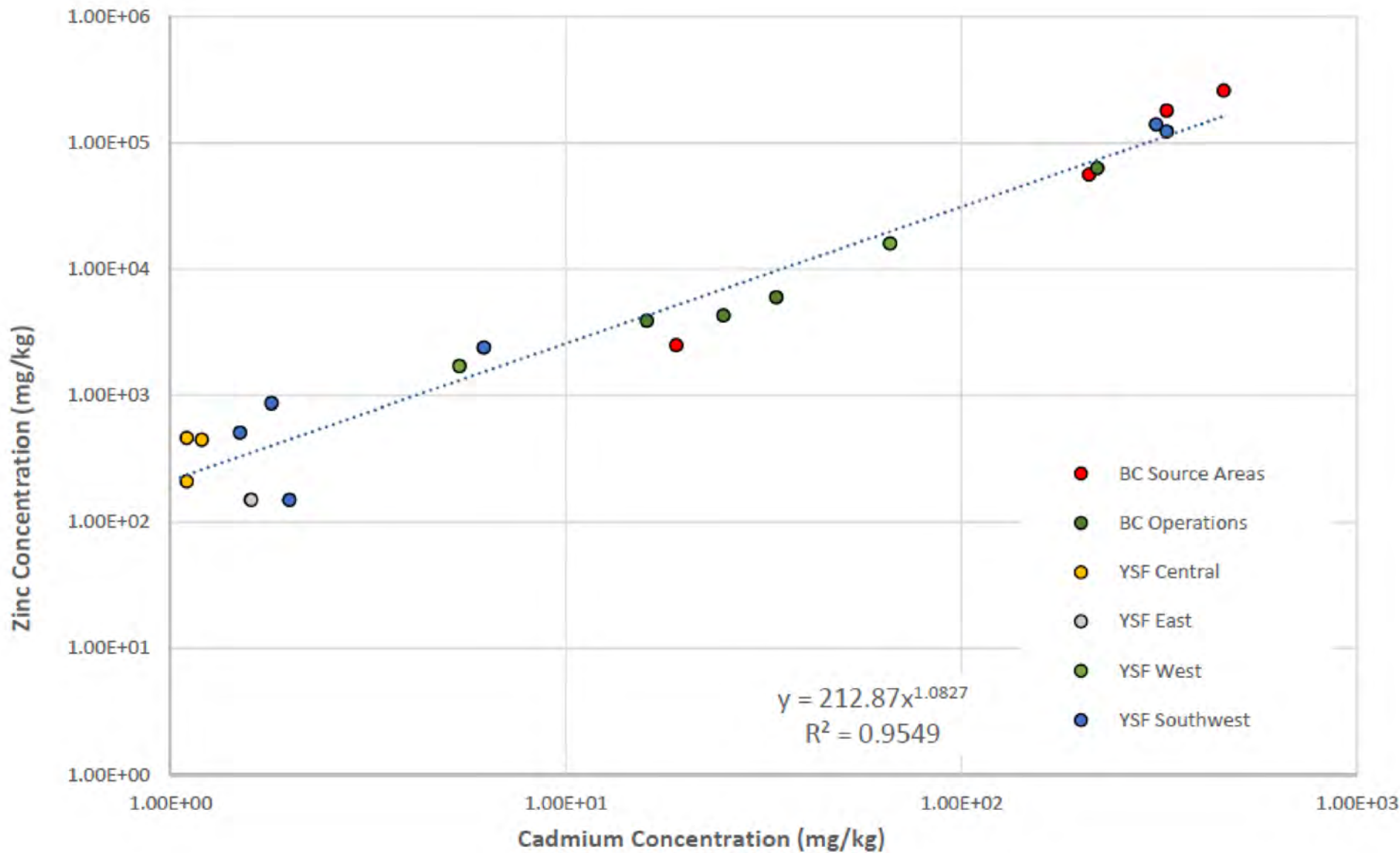
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Checked By: JK

Date: 9/23/2016

Disc Reference:

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FIGURE 8B

RATIO OF CADMIUM TO ZINC IN SOIL 2-4 FEET BGS
YSF/AGRI-TECH SITE
6 AND 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001

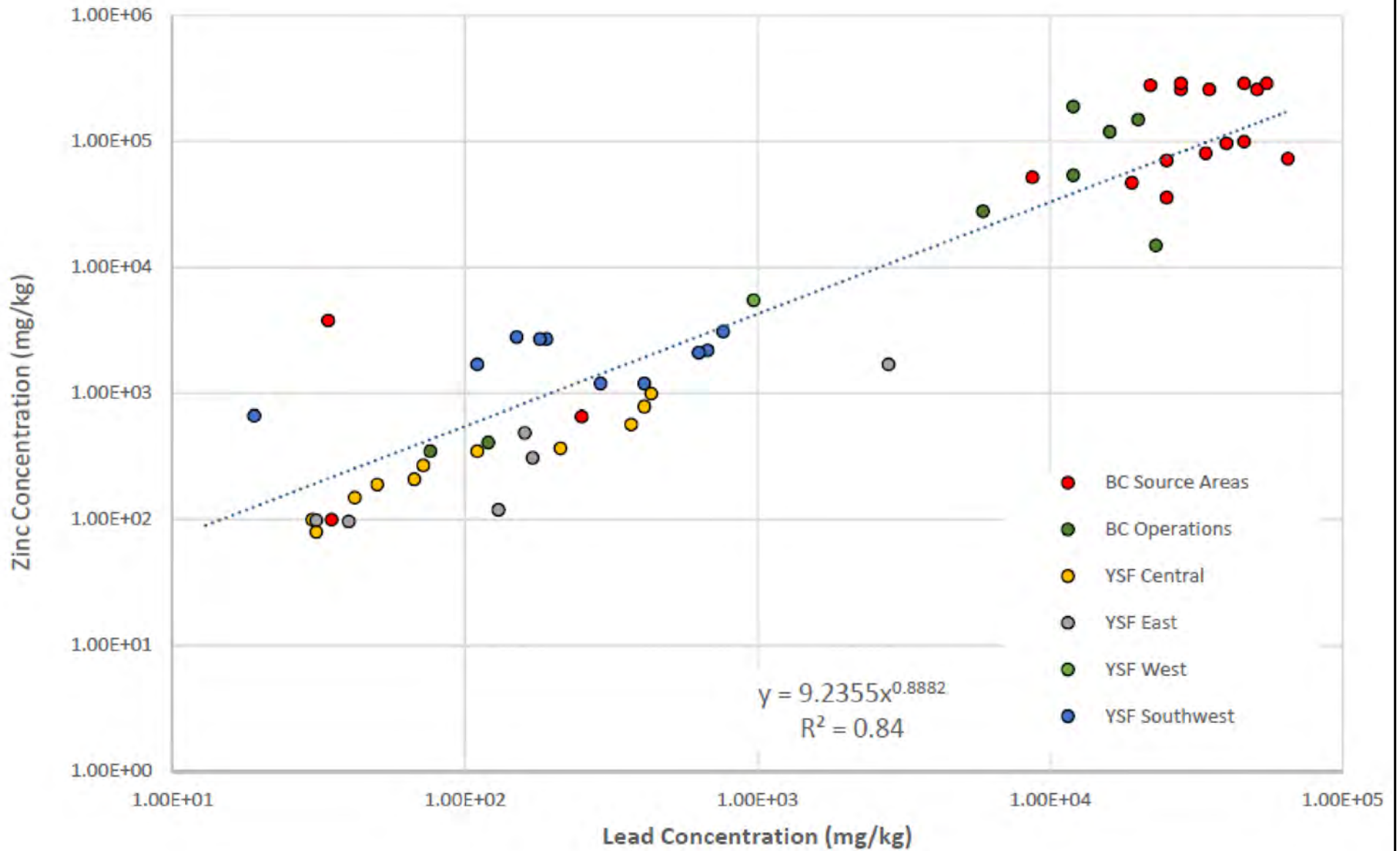
Drawn By: tperrin

Checked By: JK

Date: 9/23/2016

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FIGURE 9A

**RATIO OF LEAD TO ZINC IN SOIL 0-2 FEET BGS
YSF/AGRI-TECH SITE
6 AND 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON**

FARALLON PN: 765-001

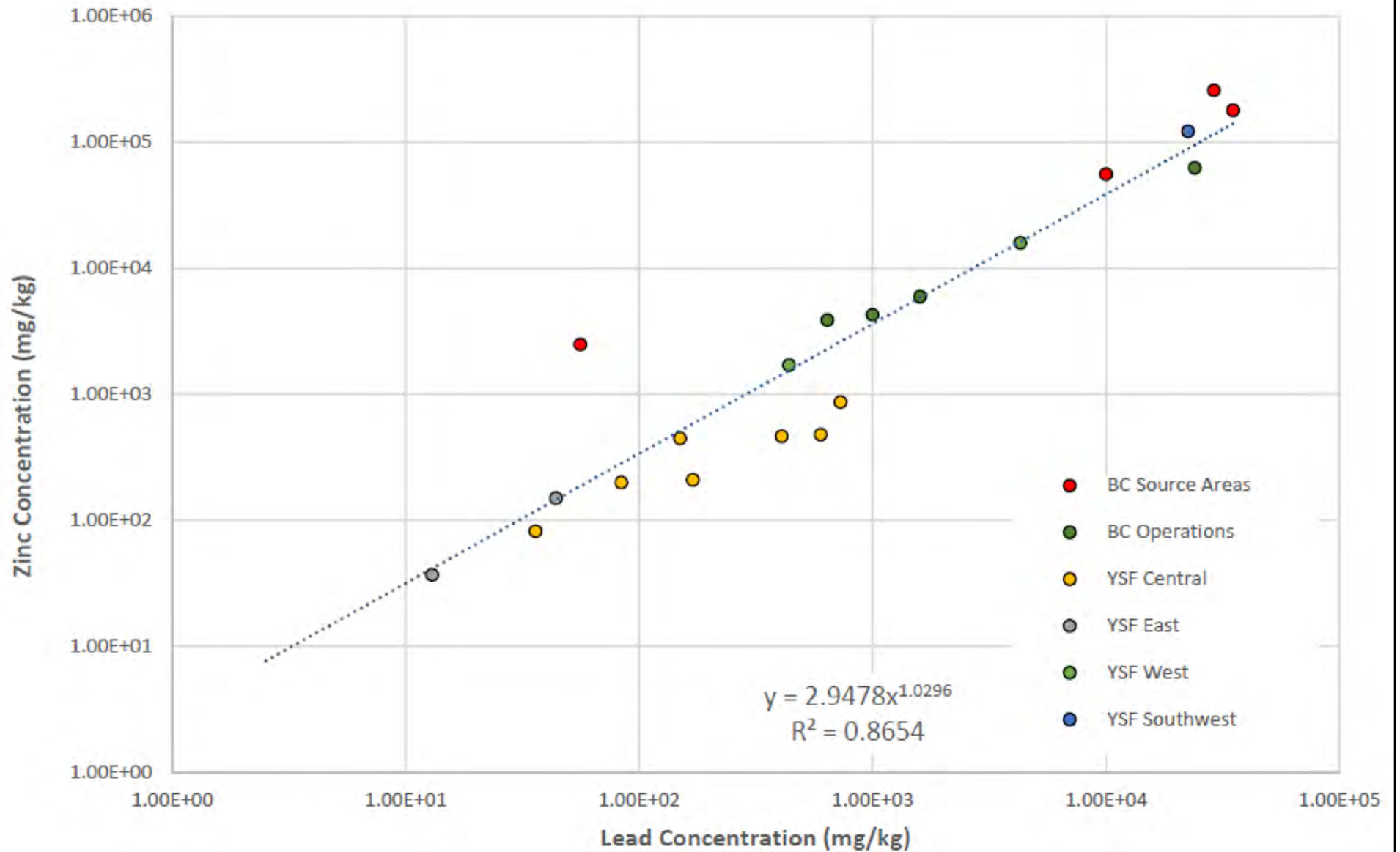
Drawn By: tperrin

Checked By: JC

Date: 9/23/2016

Disc Reference:

Document Path: G:\Projects\765001 Yakima Steel Fab\GIS\Tables\Charts\charts_titleblock_v2.mxd



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 SOURCE AREA DATA INCLUDES BAY CHEMICAL FLUE DUST AREA,
 SLUDGE SETTLING POND, AND SLUDGE SEDIMENT



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FIGURE 9B

**RATIO OF LEAD TO ZINC IN SOIL 2-4 FEET BGS
 YSF/AGRI-TECH SITE
 6 AND 10 1/2 EAST WASHINGTON AVENUE
 YAKIMA, WASHINGTON**

FARALLON PN: 765-001

Drawn By: tperrin

Checked By: JC

Date: 9/23/2016

Disc Reference:

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ATTACHMENT A
WETLAND DELINEATION MEMORANDUM

METALS SOURCE EVALUATION
Agri-Tech and Yakima Steel Fabricators Site
Yakima Steel Fabricators
Yakima, Washington

Farallon PN: 765-001



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

September 13, 2016

Mr. Jeff Kaspar
Farallon Consulting
975 5th Avenue Northwest
Issaquah, WA 98027

RE: Yakima Steel Fabricators Wetland assessment report

Site Name: Agri Tech Yakima Steel Fabricators
Site Address: 6 & 10 ½ E Washington, Yakima
Facility/Site ID No.: 479
Cleanup Site ID No.: 3639

Dear Mr. Kasper,

Please find enclosed with this letter a full copy of the wetland evaluation report performed by Ecology at the Yakima Steel Fabricators site on August 25, 2016. We now have a designation of the area as a Category III wetland.

Please feel free to include this report as part of the Wetland Appendix in the feasibility study.

Respectfully,

A handwritten signature in cursive script, appearing to read "Chris Wend".

Chris Wend, PhD, PE
Cleanup Project Manager
Toxics Cleanup Program, CRO



DEPARTMENT OF ECOLOGY
Shorelands and Environmental Assistance Program

DATE: September 6, 2016

TO: Chris Wend

FROM: Catherine Reed, PWS, SEA Program

SUBJECT: Yakima Steel Fabricators site (parcel # 19133141009) wetland reconnaissance project SIC code JJ222

On August 25, 2016, we walked around a low-lying “pond” area on the above-referenced parcel in order to answer several questions. Was a wetland present on the site? If so, what is the extent of the wetland area, and what buffers would be required to protect the functional values of the wetland?

The general extent of the wetland was determined by visual observation of wetland conditions in the pond area and by digging one observation hole in a low-lying ditch remnant to the east of the wetland to confirm hydric soil conditions in that moist area. The water source of the pond and ditch appears to be primarily groundwater, and the wetland type is “emergent” based on the kind of vegetation (rushes and cattails) present.

The pond area/wetland is located at the extreme south of the parcel and is primarily confined to an area that is much lower (3 to 5 vertical feet to the pond surface) than the surrounding land elevation. Trees and shrubs that grow adjacent to the pond and the ditch are growing in the buffer, just outside of the wetland. There are berms around the pond wetland, probably composed of fill material from excavation of the wetland sometime in the past. There was also a narrow wetland ditch remnant on the northeast corner of the pond on the east side of the berm as well.

Based on old aerial photos of the site and its vegetation, there is evidence that the wetland area of today is a portion of a much larger historic wetland area, which was either filled or drained over time to accommodate development. The current pond area was likely excavated into an existing wetland area. Therefore, even though this wetland has been altered over time, it is still a “jurisdictional” wetland. This is an important fact when determining how much wetland mitigation may be required for future activities that could impact the wetland.

Since the amount of any mitigation required is based on the wetland’s functional values, I completed a wetland rating form for the wetland using Ecology’s “Washington State Wetland Rating System for Eastern Washington (2014) methodology. The wetland was rated as a Category III wetland. Ecology would generally recommend 75 to 80 foot buffers to protect wetland functional values based on the wetland being located in a

high-intensity development area, but because the habitat scores of the wetland are so low, if stormwater inputs into the wetland were controlled, then smaller buffers can be considered to protect the functional values. If this wetland were to be filled and wetland mitigation was done, replacement ratios for re-establishment or creation of the wetland would be 2:1 (for every one acre of wetland lost, 2 acres of replacement wetlands would need to be provided).

I hope this information will assist you in working with your client to resolve some of the issues on the site.



Wetland name or number: _____

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Agri-Tech / Bay Chemical Date of site visit: 8/25/16

Rated by Catherine Reed (ECY) Trained by Ecology? Yes No Date of training _____

HGM Class Used for Rating Depressional Unit has multiple HGM classes? Y N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Maps

OVERALL WETLAND CATEGORY III

1. Category of wetland based on FUNCTIONS

_____ Category I - Total score = 22 - 27

_____ Category II - Total score = 19 - 21

Category III - Total score = 16 - 18

_____ Category IV - Total score = 9 - 15

Score for each function based on three ratings (order of ratings is not important)

- 9 = H,H,H
- 8 = H,H,M
- 7 = H,H,L
- 7 = H,M,M
- 6 = H,M,L
- 6 = M,M,M
- 5 = H,L,L
- 5 = M,M,L
- 4 = M,L,L
- 3 = L,L,L

FUNCTION	Improving Water Quality	Hydrologic	Habitat
	<i>Circle the appropriate ratings</i>		
Site Potential	H (M) L	(H) M L	H M (L)
Landscape Potential	(H) M L	(H) M L	H M (L)
Value	H (M) L	H M (L)	H M (L)
Score Based on Ratings	7	7	3

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II III
Alkali	I
Wetland with high conservation value	I
Bog	I
Old Growth or Mature Forest – slow growing	I
Aspen Forest	I
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	

Wetland name or number _____

Maps and figures required to answer questions correctly (Eastern Washington)

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2, H1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D1.4	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Polygon of area 1km from wetland edge - Including polygons for accessible habitat and undisturbed habitat	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	D 3.1, D 3.2	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	D 3.3	
Area of open water (<i>can be added to map of hydroperiods</i>)	H1.3.1	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.4	
Hydroperiods	H 1.2, H1.3	
Ponded depressions	R 1.1	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
Polygon of area 1km from wetland edge -Including polygons for accessible habitat and undisturbed habitat	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	R 3.1	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake-fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	L 2.2	
Polygon of area 1km from wetland edge (Including polygons for accessible habitat and undisturbed habitat)	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	L 3.1	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	S 2.1, S 5.1	
Polygon of area 1km from wetland edge (Including polygons for accessible habitat and undisturbed habitat)	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	S 3.1, S 3.2	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number _____

DEPRESSIONAL WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality.		
D 1.0 Does the wetland unit have the <u>potential</u> to improve water quality?		
D 1.1 Characteristics of surface water flows out of the wetland unit:		
Wetland has no surface water outlet -	points = 5	5
Wetland has an intermittently flowing outlet	points = 3	
Wetland has a highly constricted permanently flowing outlet	points = 3	
Wetland has a permanently flowing surface outlet	points = 1	
D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions of soils)		
YES points = 3	NO points = 0	0
D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class)		
Wetland has persistent, ungrazed, vegetation for > 2/3 of area	points = 5	5
Wetland has persistent, ungrazed, vegetation from 1/3 to 2/3 of area	points = 3	
Wetland has persistent, ungrazed vegetation from 1/10 to < 1/3 of area	points = 1	
Wetland has persistent, ungrazed vegetation < 1/10 of area	points = 0	
D 1.4 Characteristics of seasonal ponding or inundation.)		
<i>This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.</i>		
Area seasonally ponded is > 1/2 total area of wetland	points = 3	0
Area seasonally ponded is 1/4 - 1/2 total area of wetland	points = 1	
Area seasonally ponded is < 1/4 total area of wetland	points = 0	
Total for D 1	Add the points in the boxes above	10

Rating of Site Potential If score is: 12 - 16 = H 6 - 11 = M 0 - 5 = L
Record the rating on the first page

D 2.0 Does the landscape have the potential to support the water quality function at the site?		
D2.1 Does the Wetland unit receive stormwater discharges?	Yes = 1 No = 0	1
D 2.2 Is > 10% of the buffer within 150 ft of wetland unit in land uses that generate pollutants	Yes = 1 No = 0	1
D2.3 Are there are septic systems within 250 ft of the wetland unit?	Yes = 1 No = 0	?
D2.4 Are there are other sources of pollutants coming into the wetland that are not listed in questions	Yes = 1 No = 0	1
D2.1 - D2.3? Source <i>groundwater, Cordinium etc</i>	Yes = 1 No = 0	
Total for D 2	Add the points in the boxes above	

Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L
Record the rating on the first page

D 3.0 Is the water quality improvement provided by the site valuable to society?		
D3.1 Does the unit discharge directly (within 1 mile) to a stream, river, or lake that is on the 303d list?		
	Yes = 1 No = 0	0
D 3.2 Is the unit in a basin or sub-basin where water quality is an issue in some aquatic resource (303d list, eutrophic lakes, problems with nuisance and toxic algae)?		
	<i>groundwater contamination</i> Yes = 1 No = 0	1
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality? (answer YES if there is a TMDL for the drainage or basin in which unit is found)		
	Yes = 2 No = 0	0
Total for D 3	Add the points in the boxes above	1

Rating of Value If score is: 2-4 = H 1 = M 0 = L
Record the rating on the first page

Wetland name or number _____

DEPRESSIONAL WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion.		
D 4.0 Does the wetland unit have the <u>potential</u> to reduce flooding and erosion?		
D 4.1 Characteristics of surface water flows out of the wetland unit:		
Wetland has no surface water outlet	points = 8	8
Wetland has an intermittently flowing outlet	points = 4	
Wetland has a highly constricted permanently flowing outlet	points = 4	
Wetland has a permanently flowing surface outlet <i>(If outlet is a ditch and not permanently flowing treat unit as "intermittently flowing")</i>	points = 0	
D 4.2 Depth of storage during wet periods <i>Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).</i>		
Seasonal ponding: => 3 ft above the lowest point in unit or the surface of permanent ponding	points = 8	4
Seasonal ponding: 2 ft - < 3 ft above the lowest point in unit or the surface of permanent ponding	points = 6	
The wetland is a "headwater" wetland"	points = 4	
Seasonal ponding: 1 ft - < 2 ft	points = 4	
Seasonal ponding: 6 in - < 1 ft	points = 2	
Seasonal ponding: <6 in or unit has only saturated soils	points = 0	
Total for D 4	Add the points in the boxes above	12

Rating of Site Potential If score is: 12 - 16 = H 6 - 11 = M 0 - 5 = L
Record the rating on the first page

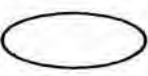


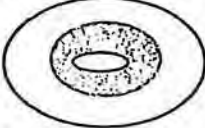
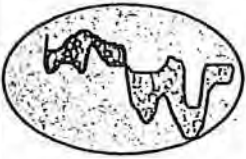
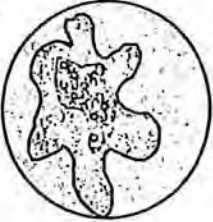
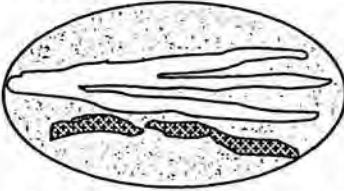
D 5.0 Does the landscape have the potential to support hydrologic functions at the site?		
D5.1 Does the unit receive any stormwater discharges?	Yes = 1 No = 0	1
D5. Is >10% of the land use within 150 ft of the wetland in a land uses that generates runoff?	Yes = 1 No = 0	1
D 5.3 Is more than 25% of the contributing basin of the wetland unit covered with intensive human land uses?	Yes = 1 No = 0	1
Total for D 5	Add the points in the boxes above	3

Rating of Landscape Potential If score is: 3 = H 1,2 = M 0 = L
Record the rating on the first page

D 6.0 Are the hydrologic functions provided by the site valuable to society?		
D 6.1 Is the unit in a landscape that has flooding problems? Choose the description that best matches conditions around the wetland unit being rated. <i>Do not add points. Choose the highest score if more than one condition is met.</i>		
<input type="checkbox"/> The wetland captures surface water that would otherwise flow downgradient into areas where flooding has damaged human or natural resources (e.g. salmon redds), AND		
o Damage occurs in sub-basin that is immediately downgradient of unit	points=2	0
o Damage occurs in a sub-basin further down-gradient	points = 1	
<input checked="" type="checkbox"/> The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. <i>Explain why really small wetland stormwater system within city</i>	points = 0	
<input type="checkbox"/> There are no problems with flooding downstream of the unit.	points = 0	
D 6.2 Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?	Yes = 2 No = 0	0
Total for D 6	Add the points in the boxes above	

Rating of Value If score is: 2 - 4 = H 1 = M 0 = L
Record the rating on the first page

Wetland name or number _____

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species?		
H 1.1 Categories of vegetation structure Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ acre or $\geq 10\%$ of the unit if unit is < 2.5 acres <input type="checkbox"/> Emergent plants 0-12 in. (0 – 30 cm) high are the highest layer and have $> 30\%$ cover <input checked="" type="checkbox"/> Emergent plants $> 12 - 40$ in. ($> 30 - 100$ cm) high are the highest layer with $> 30\%$ cover <i>veg</i> <input checked="" type="checkbox"/> Emergent plants > 40 in. (> 100 cm) high are the highest layer with $> 30\%$ cover <i>rustles</i> <input type="checkbox"/> Scrub/shrub (areas where shrubs have $> 30\%$ cover) 4-6 checks points = 3 <input type="checkbox"/> Forested (areas where trees have $> 30\%$ cover) 3 checks points = 2 <div style="margin-left: 400px;">2 checks points = 1</div> <div style="margin-left: 400px;">1 check points = 0</div>		1
H 1.2. Is one of the vegetation types "aquatic bed?"		YES = 1 point NO = 0 points
H 1.3. <u>Surface Water</u> H 1.3.1 Does the unit have areas of "open" water (without herbaceous or shrub plants) over at least $\frac{1}{4}$ acre OR 10% of its area during the March to early June OR in August to the end of September? <i>Note: answer YES for Lake-fringe wetlands</i> YES = 3 points & go to H 1.4 NO = go to H 1.3.2 H 1.3.2 Does the unit have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ acre or 10% of its area, (answer yes only if H 1.3.1 is NO)? YES = 3 points NO = 0 points		0
H 1.4. <u>Richness of Plant Species</u> Count the number of plant species in the wetland that cover at least 10 ft ² . (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Russian Olive, Phragmites, Canadian Thistle, Yellow-flag Iris, and Salt Cedar (Tamarisk) # of species _____ Scoring: > 9 species = 2 points 4-9 species = 1 point < 4 species = 0 points		1
H 1.5. <u>Interspersion of habitats</u> Decide from the diagrams below whether interspersion between types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, medium, low, or none. Use map of Cowardin plant classes prepared for questions H1.1 and map of open water from H1.3		Figure _____
   		
None = 0 points Low = 1 point Moderate = 2 points		
  		
High = 3 points High = 3 points riparian braided channels with 2 classes = High		
NOTE: If you have four or more classes or three plants classes and open water the rating is always "high".		

Wetland name or number _____

H 1.6. Special Habitat Features: <i>Check the habitat features that are present in the wetland unit. The number of checks is the score.</i> <input type="checkbox"/> Loose rocks larger than 4" or large, downed, woody debris (>4in. diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the unit. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 inches) in the wetland unit or within 30 m (100ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (>45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>) <i>Maximum score possible = 6</i>		2
H 1. TOTAL Score - Add the check marks in the box above		5

Rating of Site Potential If score is: 12 - 16 = H 6 - 11 = M 0 - 5 = L
Record the rating on the first page

H 2.0 . Does the landscape have the potential to support habitat at the site?		
H 2.1 Accessible habitat (only area of habitat abutting wetland unit). Calculate: % undisturbed habitat <u>7</u> + [(% moderate and low intensity land uses)/2] $\frac{12}{2} = 20.5\%$ If total accessible habitat is: > 1/3 (33.3%) of 1km circle (~100 hectares) points = 3 20 - 33% of 1km circle points = 2 10- 19% of 1km circle points = 1 <10% of 1km circle points = 0		2
H2.2 Undisturbed habitat in 1km circle around unit. If: Undisturbed habitat > 50% of circle points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of circle points = 0		0
H2.3 Land use intensity in 1 km circle. If: > 50% of circle is high intensity land use points = (- 2) Does not meet criterion above points = 0		-2
H 2.4 The wetland unit is in an area where annual rainfall is less than 12 inches, and its water regime is not influenced by irrigation practices, dams, or water control structures. (<i>Generally, this means outside boundaries of reclamation areas, irrigation district, or reservoirs</i>) points = 3		0
Total for H 2 Add the points in the boxes above		0

Rating of Landscape Potential If score is: 4 - 6 = H 1-3 = M < 1 = L
Record the rating on the first page

H 3.0 Is the Habitat provided by the site valuable to society?		
H3.1 Does the site provides habitat for species valued in laws, regulations or policies? (choose the highest score) Site meets ANY of the following criteria: points = 2 <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is a "priority area" for an individual WDFW species <input type="checkbox"/> It is a Wetland With a High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has 3 or more priority habitats within 100m (see Appendix B) <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		0

Rating of Value If score is: 2 = H 1 = M 0 = L
Record the rating on the first page

Wetland name or number _____

<p>SC 5.0 Forested Wetlands Does the wetland unit have an area of forest rooted within its boundary that meets at least one of the following three criteria? (Continue only if you have identified a forested class is present in question H 1.1)</p> <ul style="list-style-type: none"> • The wetland is within the "100 year" floodplain of a river or stream • aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ acre of trees (even in wetlands smaller than 2.5 acres) that are "mature" or "old-growth" according to the definitions for these priority habitats developed by WDFW (see definitions in question H3.1) <p>YES = go to SC 5.1 NO –not a forested wetland with special characteristics</p>	
<p>SC 5.1 Does the wetland unit have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (see Table 7) YES = Category I NO = go to SC 5.2</p>	Cat. I
<p>SC 5.2 Does the unit have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species. YES = Category I NO = go to SC 5.3</p>	Cat. I
<p>SC 5.3 Does the wetland unit have areas with a forest canopy where more than 50% of the tree species (by cover) are fast growing species. (see Table 7) YES = Category II NO = go to SC 5.5</p>	Cat. II
<p>SC 5.4 Is the forested component of the wetland within the "100 year floodplain" of a river or stream? YES = Category II</p>	Cat. II
<p>Category of wetland based on Special Characteristics Choose the "highest" rating if wetland falls into several categories. If you answered NO for all types enter "Not Applicable" on p.1</p>	

Wetland name or number _____

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf>)

Count how many of the following priority habitats are within 330 ft (100m) of the wetland unit? *NOTE: This question is independent of the land use between the wetland unit and the priority habitat.*

___ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre).

___ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report p. 152).

___ **Old-growth/Mature forests:** Old-growth east of Cascade crest: Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 25 trees/ha (10 trees/acre) that are > 53 cm (21 in) dbh, and 2.5-7.5 snags/ha (1 - 3 snags/acre) that are > 30-35 cm (12-14 in) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests: Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west and 80 - 160 years old east of the Cascade crest.

___ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above).

___ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

___ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

___ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

___ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft.

___ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

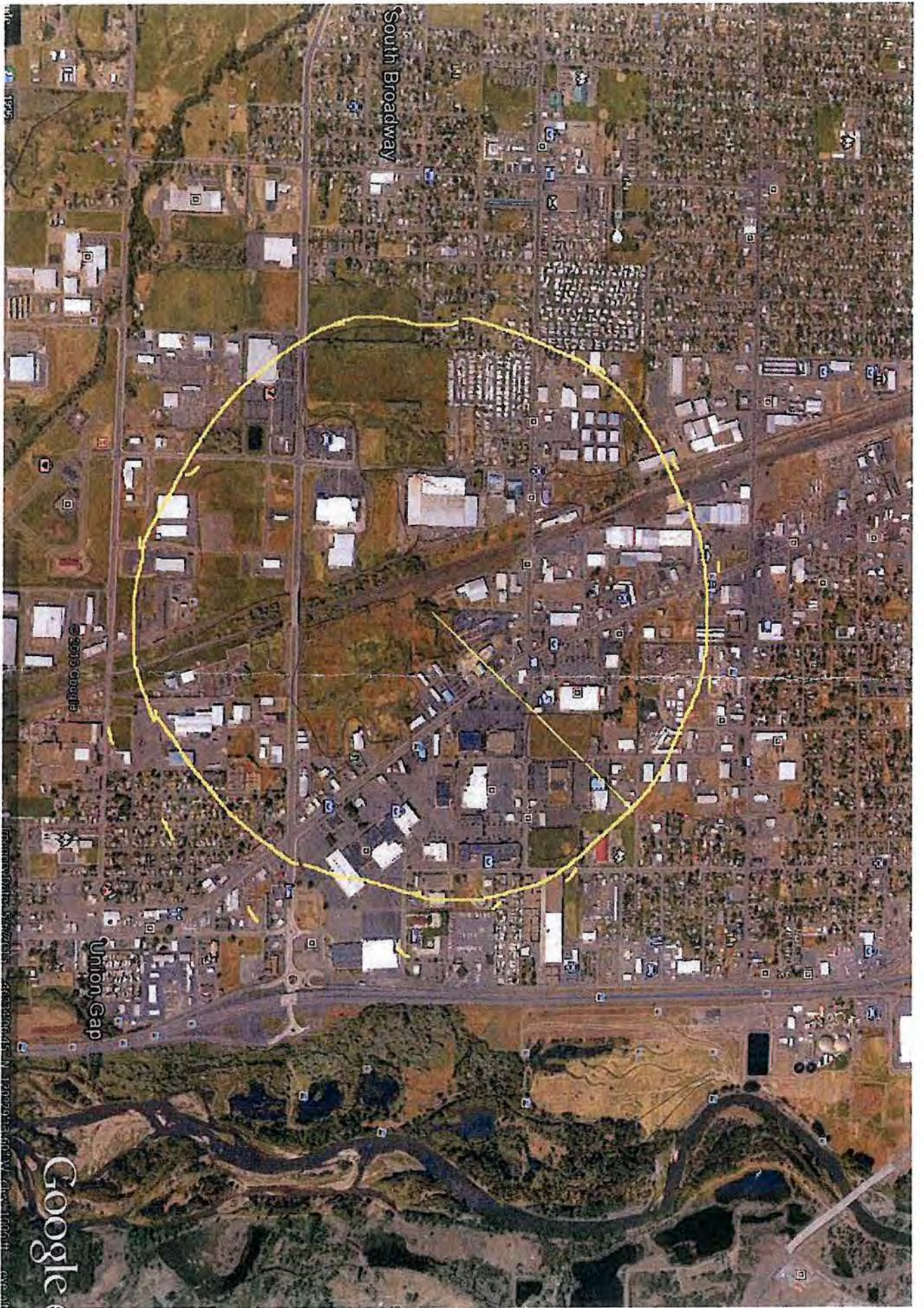
___ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

___ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).

___ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch Wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho Fescue (*Festuca idahoensis*), Sandberg Bluegrass (*Poa secunda*), Rough Fescue (*F. campestris*), or needlegrass (*Achnatherum* spp.).

___ **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.





le 3D path 3D polygon
points on the ground

150.46 Feet
150.83
297.95 degrees

Save Clear



Google

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Agritech / Bay Chemical City/County: Yakima (City) Sampling Date: 8/25/16
 Applicant/Owner: _____ State: WA Sampling Point: Hole 1
 Investigator(s): Catherine Reed Section, Township, Range: _____ ditch area
 Landform (hillslope, terrace, etc.): ancient floodplain Local relief (concave, convex, none): concave Slope (%): _____
 Subregion (LRR): _____^{terrace} Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Whole area subject to unknown underground drains. ^{Surface} Ditches located on this site and to the south of east end of the property. Installation of railroad grade and clean-up berm to west.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
2. _____				Total Number of Dominant Species Across All Strata: _____ (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. _____				Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
_____ = Total Cover				UPL species _____ x 5 = _____
				Column Totals: _____ (A) _____ (B)
				Prevalence Index = B/A = _____
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <u>reed canary grass</u>	<u>70</u>			___ Dominance Test is >50%
2. _____				___ Prevalence Index is ≤3.0 ¹
3. _____				___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. _____				___ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____				
6. _____				
7. _____				
8. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		

Remarks:
 Willows and Russian olive in adjacent buffer areas. Tree and shrub canopies influence micro-climate of area to cool it down. Also sumac and roses in buffer. No holes dug in pond area, dominated by rushes, cattails. Water surface visible. Duckweed in pond, too.

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (molst)	%	Color (molst)	%	Type ¹	Loc ²		
0-8	2.5Y 3/1		10YR 4/6	12	Distinct		Loam	sample taken at this location because pond itself known soil to contain heavy metal contamination

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 1 cm Muck (A9) (LRR C) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> 2 cm Muck (A10) (LRR B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (Inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks: Soil in this location could have been fill, but if so, probably more than 40 plus years

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|--|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Drift Deposits (B3) (Riverine) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input checked="" type="checkbox"/> Drainage Patterns (B10) man-made ditches |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present? Yes _____ No Depth (Inches): _____
 Water Table Present? Yes No _____ Depth (Inches): to surface
 Saturation Present? Yes No _____ Depth (Inches): _____
 (includes capillary fringe)

visible in adjacent pond
 Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Saturated to surface. Obvious redox in spite of altered situation

Wetland visit Yakima Steel Fabricators
Chris Wend Cally Reed.

25 AUG 2016
1200 -
1300

Location

South

- 1) duckweed on water surface
- 2) (weed canary) grass unknown?

estimated high water mark
 $\approx 2'$ above current level

russian olive above wetland

- 3) cat tails
- 4) rushes

willows on buffer so far

East side 5) unknown plantain
rose on highland

sumac on highland

Northwest corner - ditch some surface water saturated to surface

Munsell - soil color chart 2.5Y 3/1

index is 10yr 4/6 12%

willow & russian olive

Matrix @ 8"

east side of ditch

Northwest side 6) nightshade

point of shovel ≈ 1 ft above water estimated
extent of saturation picture taken

**ATTACHMENT B
RAW METALS DATA**

**METALS SOURCE EVALUATION
Agri-Tech and Yakima Steel Fabricators Site
Yakima Steel Fabricators
Yakima, Washington**

Farallon PN: 765-001

**Table B-1
Yakima Steel Facility and Bay Chemical Site Metals Data
Agri-Tech and Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001**

Data Source ¹	Sample Location	Sample ID	Sample Date	Sample Depth (Feet bgs) ²	Analytical Results (micrograms per gram) ³									Longitude (Decimal Degrees)	Latitude (Decimal Degrees)	Sample Excluded ⁴	Zone Assigned in Ratio Analysis ⁵
					Antimony	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Zinc				
Bay_Chem_RI	MW-1	MW-1-0	3/28/94	0	3.6	<2.8	2.1	20	40	250	510	0.075	660	-120.493009	46.570363	0	Flue Dust Area
Bay_Chem_RI	MW-1	MW-1-5.0	3/28/94	5	2.3	3.6	1.2	19	36	130	480	0.061	340	-120.493009	46.570363	0	Flue Dust Area
Bay_Chem_RI	MW-1	MW-1-7.5	3/28/94	7.5	<1.4	<2	0.41	25	19	14	380	0.041	56	-120.493009	46.570363	0	Flue Dust Area
Bay_Chem_RI	MW-2	MW-2-0	3/28/94	0	27	<29	150	220	650	12,000	4,300	6.23	54,000	-120.491402	46.569091	0	BC Operations Area
Bay_Chem_RI	MW-2	MW-2-2.5	3/28/94	2.5	<1.5	<2.3	16	28	150	640	690	0.453	3,900	-120.491402	46.569091	0	BC Operations Area
Bay_Chem_RI	MW-2	MW-2-7.5	3/28/94	7.5	<1.5	<2.2	2.3	92	67	18	460	0.078	640	-120.491402	46.569091	0	BC Operations Area
Bay_Chem_RI	MW-3	MW-3-0	3/28/94	0	37	210	23	59	410	970	800	0.22	5,500	-120.491046	46.56833	0	YSF West
Bay_Chem_RI	MW-3	MW-3-2.5	3/28/94	2.5	27	110	66	100	410	4,300	1,800	1.65	16,000	-120.491046	46.56833	0	YSF West
Bay_Chem_RI	MW-3	MW-3-5.0	3/28/94	5	<45	<68	2,000	180	320	2,300	2,300	0.123	68,000	-120.491046	46.56833	0	YSF West
Bay_Chem_RI	MW-4	MW-4-0	3/28/94	0	2.6	4.6	3.8	24	51	410	650	0.234	1,200	-120.49077	46.567794	0	YSF Southwest
Bay_Chem_RI	MW-4	MW-4-7.5	3/28/94	7.5	<1.5	3.9	3.7	14	21	49	390	0.047	1,700	-120.49077	46.567794	0	YSF Southwest
Bay_Chem_RI	MW-4	MW-4-10.0	3/28/94	10	2.1	<2.7	9.7	24	110	740	740	0.312	3,700	-120.49077	46.567794	0	YSF Southwest
Bay_Chem_RI	MW-4	MW-4-D	3/28/94	15	2.1	7.3	5	30	79	650	790	0.218	1,800	-120.49077	46.567794	0	YSF Southwest
Bay_Chem_RI	MW-5	MW-5-0	3/28/94	0	140	<140	460	760	2,300	28,000	23,000	0.423	290,000	-120.490528	46.567272	0	Settling Pond
Bay_Chem_RI	MW-5	MW-5-2.5	3/28/94	2.5	82	<36	330	640	1,800	35,000	13,000	8.4	180,000	-120.490528	46.567272	0	Settling Pond
Bay_Chem_RI	MW-5	MW-5-7.5	3/28/94	7.5	3.4	<1.9	30	52	130	1,700	1,300	0.357	14,000	-120.490528	46.567272	0	Settling Pond
Bay_Chem_RI	MW-6	MW-6-0	3/28/94	0	140	<170	510	900	2,700	35,000	17,000	17.4	260,000	-120.490565	46.566905	0	Settling Pond
Bay_Chem_RI	MW-6	MW-6-2.5	3/28/94	2.5	210	<170	460	880	2,600	29,000	18,000	14.6	260,000	-120.490565	46.566905	0	Settling Pond
Bay_Chem_RI	MW-6	MW-6-5.0	3/28/94	5	<78	<110	77	140	680	8,700	3,700	1.99	43,000	-120.490565	46.566905	0	Settling Pond
Bay_Chem_RI	N10E11.5	N10E11.5-1	11/8/95	1	<2.3	<3.4	27	19	29	34	54	<1.1	3,800B	-120.490547	46.566958	0	Settling Pond
Bay_Chem_RI	N10E11.5	N10E11.5-2	11/8/95	2	<1.7	<2.5	19	15	20	56	340	<0.83	2,500B	-120.490547	46.566958	0	Settling Pond
Bay_Chem_RI	N10E12.3	N10E12.3(0-0.5)	10/3/96	0	--	--	--	--	--	190	--	--	--	-120.490218	46.567034	0	YSF Southwest
Bay_Chem_RI	N10E12.3	N10E12.3(1.5-2)	10/3/96	1.5	--	--	--	--	--	82	--	--	--	-120.490218	46.567034	0	YSF Southwest
Bay_Chem_RI	N10E12.3	N10E12.3(3.5-4)	10/3/96	3.5	--	--	--	--	--	28	--	--	--	-120.490218	46.567034	0	YSF Southwest
Bay_Chem_RI	N10E12.3	N10E12.3(5.5-6)	10/3/96	5.5	--	--	--	--	--	51	--	--	--	-120.490218	46.567034	0	YSF Southwest
Bay_Chem_RI	N11.5E12.3	N11.5E12.3(0-0.5)	10/3/96	0	--	--	--	--	--	24,000	--	--	--	-120.49039	46.567422	0	YSF Southwest
Bay_Chem_RI	N11.5E12.3	N11.5E12.3(0-0.5) SPLIT	10/3/96	0	--	--	--	--	--	27,000	--	--	--	-120.49039	46.567422	0	YSF Southwest
Bay_Chem_RI	N11.5E12.3	N11.5E12.3(1.5-2)	10/3/96	1.5	--	--	--	--	--	1,700	--	--	--	-120.49039	46.567422	0	YSF Southwest
Bay_Chem_RI	N11.5E12.3	N11.5E12.3(1.5-2) SPLIT	10/3/96	1.5	--	--	--	--	--	1,300	--	--	--	-120.49039	46.567422	0	YSF Southwest
Bay_Chem_RI	N11.5E12.3	N11.5E12.3(3.5-4)	10/3/96	3.5	--	--	--	--	--	160	--	--	--	-120.49039	46.567422	0	YSF Southwest
Bay_Chem_RI	N11.5E12.3	N11.5E12.3(3.5-4) SPLIT	10/3/96	3.5	--	--	--	--	--	210	--	--	--	-120.49039	46.567422	0	YSF Southwest
Bay_Chem_RI	N11.5E12.3	N11.5E12.3(5.5-6)	10/3/96	5.5	--	--	--	--	--	44	--	--	--	-120.49039	46.567422	0	YSF Southwest
Bay_Chem_RI	N11.5E12.3	N11.5E12.3(5.5-6) SPLIT	10/3/96	5.5	--	--	--	--	--	45	--	--	--	-120.49039	46.567422	0	YSF Southwest
Bay_Chem_RI	N11E10	N11E10-0	5/20/94	0	1.9	--	--	--	--	250	--	--	--	-120.491191	46.567095	0	BC Operations Area
Bay_Chem_RI	N12.3E10	N12.3E10-0	5/20/94	0	--	--	--	--	--	560	--	--	--	-120.491343	46.56743	0	BC Operations Area
Bay_Chem_RI	N12.5E12.5	N12.5E12.5(0-0.5)	10/4/96	0	--	--	--	--	--	420	--	--	--	-120.490442	46.567703	0	YSF Southwest
Bay_Chem_RI	N12.5E12.5	N12.5E12.5(0-0.5) SPLIT	10/4/96	0	--	--	--	--	--	510	--	--	--	-120.490442	46.567703	0	YSF Southwest
Bay_Chem_RI	N12.5E12.5	N12.5E12.5(1.5-2)	10/4/96	1.5	--	--	--	--	--	140	--	--	--	-120.490442	46.567703	0	YSF Southwest
Bay_Chem_RI	N12.5E12.5	N12.5E12.5(1.5-2) SPLIT	10/4/96	1.5	--	--	--	--	--	140	--	--	--	-120.490442	46.567703	0	YSF Southwest
Bay_Chem_RI	N12.5E12.5	N12.5E12.5(3.5-4)	10/4/96	3.5	--	--	--	--	--	130	--	--	--	-120.490442	46.567703	0	YSF Southwest
Bay_Chem_RI	N12.5E12.5	N12.5E12.5(3.5-4) SPLIT	10/4/96	3.5	--	--	--	--	--	150	--	--	--	-120.490442	46.567703	0	YSF Southwest
Bay_Chem_RI	N12.5E12.5	N12.5E12.5(5.5-6)	10/4/96	5.5	--	--	--	--	--	20	--	--	--	-120.490442	46.567703	0	YSF Southwest
Bay_Chem_RI	N12.5E12.5	N12.5E12.5(5.5-6) SPLIT	10/4/96	5.5	--	--	--	--	--	11	--	--	--	-120.490442	46.567703	0	YSF Southwest
Bay_Chem_RI	N13E10.5	N13E10.5-0	5/20/94	0	--	--	--	--	--	170	--	--	--	-120.491302	46.56765	0	BC Operations Area
Bay_Chem_RI	N14E10	N14E10-0	5/20/94	0	--	--	--	--	--	1,800	--	--	--	-120.491558	46.567872	0	BC Operations Area
Bay_Chem_RI	N14E11.5	N14E11.5-0	5/20/94	0	--	--	--	--	--	850	--	--	--	-120.491059	46.567996	0	BC Operations Area
Bay_Chem_RI	N14E11.5	N14E11.5-E-1.5	10/25/94	1.5	<20	<31	--	--	--	9,100	--	0.648	--	-120.491059	46.567996	0	BC Operations Area
Bay_Chem_RI	N14E11.5	N14E11.5-E-3.5	10/25/94	3.5	--	--	--	--	--	23,000	--	--	--	-120.491059	46.567996	0	BC Operations Area
Bay_Chem_RI	N14E11.5	N14E11.5-E-5.5	10/25/94	5.5	<22	<31	78	20	57	120	490	0.097	8,600	-120.491059	46.567996	0	BC Operations Area
Bay_Chem_RI	N15E10.5	N15E10.5-0	5/20/94	0	--	--	--	--	--	9,300	--	--	--	-120.491554	46.56817	0	BC Operations Area
Bay_Chem_RI	N15E11	N15E11-0	5/20/94	0	--	--	--	--	--	24,000	--	--	--	-120.491365	46.568214	0	BC Operations Area
Bay_Chem_RI	N15E11	N15E11-N-1.5	10/25/94	1.5	<20	<30	75	110	340	5,900	2,800	1.01	28,000	-120.491365	46.568214	0	BC Operations Area
Bay_Chem_RI	N15E11	N15E11-N-3.5	10/25/94	3.5	--	--	--	--	--	310	--	--	--	-120.491365	46.568214	0	BC Operations Area
Bay_Chem_RI	N15E11	N15E11-N-5.5	10/25/94	5.5	--	--	--	--	--	97	--	--	--	-120.491365	46.568214	0	BC Operations Area
Bay_Chem_RI	N15E9.8	N15E9.8(0-0.5)	10/4/96	0	0.95	2.4	1.4	14	37	120	410	0.04	410	-120.491803	46.568113	0	BC Operations Area
Bay_Chem_RI	N15E9.8	N15E9.8(1.5-2)	10/4/96	1.5	--	--	--	--	--	14	--	--	--	-120.491803	46.568113	0	BC Operations Area
Bay_Chem_RI	N15E9.8	N15E9.8(3.5-4)	10/4/96	3.5	--	--	--	--	--	13	--	--	--	-120.491803	46.568113	0	BC Operations Area

**Table B-1
Yakima Steel Facility and Bay Chemical Site Metals Data
Agri-Tech and Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001**

Data Source ¹	Sample Location	Sample ID	Sample Date	Sample Depth (Feet bgs) ²	Analytical Results (micrograms per gram) ³									Longitude (Decimal Degrees)	Latitude (Decimal Degrees)	Sample Excluded ⁴	Zone Assigned in Ratio Analysis ⁵
					Antimony	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Zinc				
Bay_Chem_RI	N15E9.8	N15E9.8(5.5-6)	10/4/96	5.5	--	--	--	--	--	12	--	--	--	-120.491803	46.568113	0	BC Operations Area
Bay_Chem_RI	N16E10	N16E10-0	5/20/94	20	14	--	--	--	--	6,700	--	1.58	--	-120.491811	46.568387	0	BC Operations Area
Bay_Chem_RI	N16E11.5	N16E11.5-0	5/20/94	1.5	33	<3.8	280	480	1,300	16,000	9,400	5	120,000	-120.491302	46.568518	0	BC Operations Area
Bay_Chem_RI	N16E11.5	N16E11.5-3.5	10/25/94	3.5	36	<31	220	380	1,300	24,000	7,200	54.4	63,000	-120.491302	46.568518	0	BC Operations Area
Bay_Chem_RI	N16E11.5	N16E11.5-5.5	10/25/94	5.5	<19	<29	18	30	100	940	1000	2.6	3,400	-120.491302	46.568518	0	BC Operations Area
Bay_Chem_RI	N16E11.5	N16E11.5-6.5	10/25/94	6.5	<17	<26	--	--	--	200	--	6.93	--	-120.491302	46.568518	0	BC Operations Area
Bay_Chem_RI	N17E11	N17E11-0	5/20/94	0	69	<3	810	780	2,100	12,000	17,000	7.24	190,000	-120.491622	46.568718	0	BC Operations Area
Bay_Chem_RI	N17E11	N17E11-W-1.5	10/25/94	1.5	--	--	--	--	--	11,000	--	--	--	-120.491622	46.568718	0	BC Operations Area
Bay_Chem_RI	N17E11	N17E11-W-3.5	10/25/94	3.5	<20	<30	25	34	100	1000	840	1.22	4,300	-120.491622	46.568718	0	BC Operations Area
Bay_Chem_RI	N17E11	N17E11-W-6.5	10/25/94	6.5	<17	<24	17	28	87	810	870	41	3,300	-120.491622	46.568718	0	BC Operations Area
Bay_Chem_RI	N18E10.5	N18E10.5-0	5/20/94	0	110	<3.9	310	520	1,700	20,000	13,000	5.23	150,000	-120.491929	46.56894	0	BC Operations Area
Bay_Chem_RI	N18E10.5	N18E11.5-0	5/20/94	0	--	--	--	--	--	3,700	--	--	--	-120.491929	46.56894	0	BC Operations Area
Bay_Chem_RI	N18E9.8	N18E9.8(0-0.5)	10/4/96	0	--	--	--	--	--	390	--	--	--	-120.492182	46.568878	0	BC Operations Area
Bay_Chem_RI	N18E9.8	N18E9.8(1.5-2.0)	10/4/96	1.5	0.35	2.4	1.4	13	22	76	500	<0.01	350	-120.492182	46.568878	0	BC Operations Area
Bay_Chem_RI	N18E9.8	N18E9.8(3.5-4)	10/4/96	3.5	--	--	--	--	--	22	--	--	--	-120.492182	46.568878	0	BC Operations Area
Bay_Chem_RI	N18E9.8	N18E9.8(5.5-6)	10/4/96	5.5	0.13	1.4	0.33	16	14	19	320	<0.02	66	-120.492182	46.568878	0	BC Operations Area
Bay_Chem_RI	N19E10.5	N19E10.5-1	11/8/95	1	--	--	--	--	--	41,000	--	--	--	-120.492027	46.569217	0	BC Operations Area
Bay_Chem_RI	N19E10.5	N19E10.5-2	11/8/95	2	<2.3	<3.5	34	39	120	1,600	1000	<1.2	6,000	-120.492027	46.569217	0	BC Operations Area
Bay_Chem_RI	N20E10.5	N20E10.5-0	5/20/94	0	100	<3.5	--	--	--	45,000	--	--	--	-120.492186	46.569445	0	BC Operations Area
Bay_Chem_RI	N20E10.5	N20E10.5-S-1.5	10/25/94	1.5	130	<37	630	840	2,700	23,000	16,000	102	15,000	-120.492186	46.569445	0	BC Operations Area
Bay_Chem_RI	N20E10.5	N20E10.5-S-3.5	10/25/94	3.5	--	--	--	--	--	35,000	--	--	--	-120.492186	46.569445	0	BC Operations Area
Bay_Chem_RI	N20E10.5	N20E10.5-S-6	10/25/94	6	<19	<30	28	69	260	3,900	1,400	20.2	8,600	-120.492186	46.569445	0	BC Operations Area
Bay_Chem_RI	N20E11.5	N20E11.5-1	11/8/95	1	--	--	--	--	--	2,500	--	--	--	-120.491772	46.56955	0	BC Operations Area
Bay_Chem_RI	N20E11.5	N20E11.5-2	11/8/95	2	--	--	--	--	--	150	--	--	--	-120.491772	46.56955	0	BC Operations Area
Bay_Chem_RI	N20E9.8	N20E9.8(0-0.5)	10/4/96	0	--	--	--	--	--	830	--	--	--	-120.492424	46.569401	0	BC Operations Area
Bay_Chem_RI	N21E10.5	N21E10.5-1	11/8/95	1	--	--	--	--	--	1,200	--	--	--	-120.492283	46.569723	0	Flue Dust Area
Bay_Chem_RI	N21E10.5	N21E10.5-2	11/8/95	2	--	--	--	--	--	4,900	--	--	--	-120.492283	46.569723	0	Flue Dust Area
Bay_Chem_RI	N21E11.5	N21E11.5-0	5/20/94	0	160	<3.8	--	--	--	22,000	--	2.52	--	-120.491952	46.569813	0	Flue Dust Area
Bay_Chem_RI	N21E11.5	N21E11.5-W-1.5	10/25/94	1.5	100	<31	--	--	--	24,000	--	10.6	--	-120.491952	46.569813	0	Flue Dust Area
Bay_Chem_RI	N21E11.5	N21E11.5-W-3.5	10/25/94	3.5	<18	<28	--	--	--	2,300	--	1.19	--	-120.491952	46.569813	0	Flue Dust Area
Bay_Chem_RI	N21E12	N21E12-0	5/20/94	0	24	<4.3	150	150	480	8,700	3,800	5.1	52,000	-120.491778	46.569867	0	Flue Dust Area
Bay_Chem_RI	N22.5E11.5	N22.5E11.5 (0-0.5)	10/3/96	0	--	--	--	--	--	2,000	--	--	--	-120.49211	46.570211	0	Flue Dust Area
Bay_Chem_RI	N22.5E11.5	N22.5E11.5 (1.5-2)	10/3/96	1.5	--	--	--	--	--	2,000	--	--	--	-120.49211	46.570211	0	Flue Dust Area
Bay_Chem_RI	N22.5E11.5	N22.5E11.5 (3.5-4)	10/3/96	3.5	--	--	--	--	--	180	--	--	--	-120.49211	46.570211	0	Flue Dust Area
Bay_Chem_RI	N22.5E11.5	N22.5E11.5 (5.5-6)	10/3/96	5.5	--	--	--	--	--	23	--	--	--	-120.49211	46.570211	0	Flue Dust Area
Bay_Chem_RI	N22.5E10.5	N22.5E10.5	11/7/95	0	<49	<74	1,100	850	2,600	510,00J	5,100	<25	260,000B	-120.49249	46.570127	0	Flue Dust Area
Bay_Chem_RI	N22.5E10.5	N22.5E10.5-1	11/7/95	1	<48	<72	1,100	930	2,800	55,000J	23,000	<24	290,000B	-120.49249	46.570127	0	Flue Dust Area
Bay_Chem_RI	N22.5E10.5	N22.5E10.5-2	11/7/95	2	<45	<67	210	170	520	10,000J	4,900	<22	560,000B	-120.49249	46.570127	0	Flue Dust Area
Bay_Chem_RI	N22E10	N22E10-0	5/20/94	0	110	<4.2	1,100	870	2,400	28,000	27,000	0.42	260,000	-120.492568	46.569935	0	Flue Dust Area
Bay_Chem_RI	N22E10	N22E10E-1.5	10/25/94	1.5	60	<28	1,100	790	2,500	22,000	21,000	0.706	280,000	-120.492568	46.569935	0	Flue Dust Area
Bay_Chem_RI	N22E10	N22E10E-3	10/25/94	3	<21	<32	--	--	--	22,000	--	0.323	--	-120.492568	46.569935	0	Flue Dust Area
Bay_Chem_RI	N22E10	N22E10-E-5.5	10/25/94	5.5	<17	<24	11	21	160	270	540	0.171	2,000	-120.492568	46.569935	0	Flue Dust Area
Bay_Chem_RI	N22E10.5	N22E10.5-1	11/7/95	0	<47	<71	1,200	960	2,800	46,000J	24,000	<24	290,000B	-120.492421	46.569994	0	Flue Dust Area
Bay_Chem_RI	N22E11	N22E11-0	5/20/94	0	--	--	--	--	--	22,000	--	--	--	-120.492263	46.57003	0	Flue Dust Area
Bay_Chem_RI	N22E11.5	N22E11.5(0-0.5)	10/3/96	0	--	--	--	--	--	16,000	--	--	--	-120.492263	46.57003	0	Flue Dust Area
Bay_Chem_RI	N23E11.5	N23E11.5(1.5-2)	10/3/96	1.5	--	--	--	--	--	2,500	--	--	--	-120.492151	46.570352	0	Flue Dust Area
Bay_Chem_RI	N23E11.5	N23E11.5(3.5-4)	10/3/96	3.5	--	--	--	--	--	4,000	--	--	--	-120.492151	46.570352	0	Flue Dust Area
Bay_Chem_RI	N23.2E9.8	N23.2E9.8(0-0.5)	10/4/96	0	--	--	--	--	--	34	--	--	--	-120.49286	46.570218	0	Flue Dust Area
Bay_Chem_RI	N23.2E9.8	N23.2E9.8(1.5-2)	10/4/96	1.5	0.51	2.9	0.59	21	21	35	650	<0.01	100	-120.49286	46.570218	0	Flue Dust Area
Bay_Chem_RI	N23E11	N23E11(0.5) DUPLICATE	10/3/96	0	--	--	--	--	--	810	--	--	--	-120.49236	46.570297	0	Flue Dust Area
Bay_Chem_RI	N23E11	N23E11(1.5-2)	10/3/96	1.5	--	--	--	--	--	97	--	--	--	-120.49236	46.570297	0	Flue Dust Area
Bay_Chem_RI	N23E11	N23E11(3.5-4)	10/3/96	3.5	--	--	--	--	--	15	--	--	--	-120.49236	46.570297	0	Flue Dust Area
Bay_Chem_RI	N23E11	N23E11(5.5-6)	10/3/96	5.5	--	--	--	--	--	11	--	--	--	-120.49236	46.570297	0	Flue Dust Area
Bay_Chem_RI	N8.9E10.7	N8.9E10.7-0	11/11/96	0	--	--	--	--	--	260	--	--	--	-120.490658	46.566596	0	BC South
Bay_Chem_RI	N8.9E10.7	N9.75E10.3-0	11/11/96	0	--	--	--	--	--	7,000	--	--	--	-120.490658	46.566596	0	BC South
Bay_Chem_RI	S01	S01A	1/31/96	0	16J	<8	203	705	--	44,600	11,300	--	50,700	-120.490251	46.566824	0	BC South

Table B-1
Yakima Steel Facility and Bay Chemical Site Metals Data
Agri-Tech and Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

Data Source ¹	Sample Location	Sample ID	Sample Date	Sample Depth (Feet bgs) ²	Analytical Results (micrograms per gram) ³									Longitude (Decimal Degrees)	Latitude (Decimal Degrees)	Sample Excluded ⁴	Zone Assigned in Ratio Analysis ⁵
					Antimony	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Zinc				
Bay_Chem_RI	S02	S02B	1/31/96	0	<4J	21	73.9	173	--	10,600	3,020	--	18,000	-120.490434	46.56668	0	BC South
Bay_Chem_RI	S02	S02A	1/31/96	0	<3J	<8	39.7	41.2	79.8	1,090	299	--	4,180	-120.490434	46.56668	0	BC South
Bay_Chem_RI	S02	S02B	1/31/96	0	<3J	10	0.39	13.8	28.4	23.2	191	--	520	-120.490434	46.56668	0	BC South
Bay_Chem_RI	S02	S02C	1/31/96	0	<4J	12	<0.3	14.8	28	14	583	--	8,304	-120.490434	46.56668	0	BC South
Bay_Chem_RI	S03	S03A	1/31/96	0	<3J	11	2	14.3	34.1	151	890	--	655	-120.490335	46.566366	0	BC South
Bay_Chem_RI	S03	S03B	1/31/96	0	<4J	11	0.3	14.8	26.9	9.3	410	--	74	-120.490335	46.566366	0	BC South
Bay_Chem_RI	S04	S04A	1/31/96	0	<3J	<8	0.53	12.3	23.7	48	749	--	126	-120.489147	46.566367	0	BC South
Bay_Chem_RI	S04	S04B	1/31/96	0	<3J	14	0.3	13.6	35.5	13	886	--	107	-120.489147	46.566367	0	BC South
Bay_Chem_RI	S05	S05A	1/31/96	0	<3J	12	6.88	23.9	--	1,060	--	--	1,670	-120.489905	46.566653	0	BC South
Bay_Chem_RI	S06	S06A	1/31/96	0	5.5J	<8	2.35	651	--	42,700	--	--	51,800	-120.489892	46.566827	0	BC South
Bay_Chem_RI	1026-1	SED1026-1	10/26/94	0	45	<20	220	630	1,400	19,000	9,800	9.94	47,000	-120.489687	46.566868	0	Sludge Sediment
Bay_Chem_RI	1026-2	SED1026-2	10/26/94	0	<32	<48	150	540	1,200	25,000	6,800	10	36,000	-120.489886	46.566865	0	Sludge Sediment
Bay_Chem_RI	1026-3	SED1026-3	10/26/94	0	<33	<50	290	1,100	2,700	65,000	18,000	27.3	73,000	-120.490118	46.566867	0	Sludge Sediment
Bay_Chem_RI	1026-4	SED1026-4	10/26/94	0	<140	<220	340	1,300	3,000	34,000	22,000	36	81,000	-120.490361	46.566878	0	Sludge Sediment
Bay_Chem_RI	1026-5	SED1026-5A	10/26/94	0	310	100	410	1,500	3,800	46,000	27,000	32.7	100,000	-120.49071	46.566869	0	Sludge Sediment
Bay_Chem_RI	1026-5	SED1026-5B	10/26/94	0	290	100	410	1,500	3,400	40,000	26,000	21.9	97,000	-120.49071	46.566869	0	Sludge Sediment
Bay_Chem_RI	1026-6	SED1026-6	10/26/94	0	170	<17	300	1,200	2,700	25,000	21,000	16.7	71,000	-120.491036	46.566894	0	Sludge Sediment
Farallon_Sup_RI	A-TP1	A-TP1-052711-5.0	5/27/11	5	<2.9	<2.9	<0.49	--	24	6.3	170	0.035	830	-120.4908	46.568129	0	YSF West
Farallon_Sup_RI	A-TP2	A-TP2-052711-5.0	5/27/11	5	<3.1	<3.1	<0.51	--	23	5.9	310	0.26	54	-120.4906	46.568145	0	YSF West
Farallon_Sup_RI	B-TP2	B-TP2-052611-5.5	5/26/11	5.5	<2.9	<2.9	<0.48	--	24	4.6	210	0.052	56	-120.490493	46.56789	0	YSF Southwest
Farallon_Sup_RI	B-TP3	B-TP3-052611-5.5	5/26/11	5.5	<2.7	<2.7	<0.45	--	20	13	330	0.053	69	-120.490403	46.567836	0	YSF Southwest
Farallon_Sup_RI	C-TP1	C-TP1-052611-5.0	5/26/11	5	<3.5	<3.5	<0.58	--	29	5.8	280	0.088	69	-120.490355	46.567665	0	YSF Southwest
Farallon_Sup_RI	C-TP2	C-TP2-052611-8.0	5/26/11	8	<2.9	<2.9	0.95	--	25	41	240	0.09	610	-120.490554	46.567641	0	YSF Southwest
Farallon_Sup_RI	C-TP3	C-TP3-052611-4.5	5/26/11	4.5	<3.1	<3.1	<0.51	--	23	5.2	340	0.05	58	-120.49044	46.567775	0	YSF Southwest
Farallon_Sup_RI	D-TP1	D-TP1-052511-4.5	5/25/11	4.5	<3.5	<3.5	<0.59L	--	27	20	370	0.1	340	-120.490427	46.567313	0	YSF Southwest
Farallon_Sup_RI	D-TP2	D-TP2-052511-5.5	5/25/11	5.5	<5.3	<5.3	88	--	74	1000	410	0.43	7,000	-120.490339	46.56748	0	YSF Southwest
Farallon_Sup_RI	D-TP3	D-TP3-052611-4.5	5/26/11	4.5	<2.9	<2.9	<0.49	--	24	13	330	0.041	260	-120.490246	46.567422	0	YSF Southwest
Farallon_Sup_RI	E-TP1	E-TP1-052511-4.5	5/25/11	4.5	<2.5L	<2.5	8.8	--	19	27	570	0.041	2,200	-120.49029	46.566988	0	YSF Southwest
Farallon_Sup_RI	E-TP2	E-TP2-052511-3.0	5/25/11	3	<2.7L	<2.7	6.2	--	28	100	480	0.087	2,400	-120.490367	46.56721	0	YSF Southwest
Farallon_Sup_RI	G-TP1	G-TP1-052511-0.0-0.5	5/25/11	0.5	<2.8L	8.6	1.3	--	19	27	540	0.19	61	-120.489899	46.567526	0	YSF East
Farallon_Sup_RI	G-TP1	G-TP1-052511-2.0-2.5	5/25/11	2.5	<3.3L	7.6	1.6	--	25	44	550	2.4	150	-120.489899	46.567526	0	YSF East
Farallon_Sup_RI	G-TP2	G-TP2-052511-0.0-0.5	5/25/11	0.5	<3.7	5.2	1.3	--	25	31	510	0.07	80	-120.490164	46.567533	0	YSF Central
Farallon_Sup_RI	G-TP3	G-TP3-052511-0.0-0.5	5/25/11	0.5	<3.3L	4.4	1.7	--	28	30	530	0.055	100	-120.490078	46.567437	0	YSF Central
Farallon_Sup_RI	G-TP3	G-TP3-052511-2.0-2.5	5/25/11	2.5	<3.3	3.9	1.2	--	23	150	240	0.48	450	-120.490078	46.567437	0	YSF Central
Farallon_Sup_RI	H-TP1	H-TP1-052611-0.0-0.5	5/26/11	0.5	3.3	<2.7	1	--	360	72	440	0.048	270	-120.490058	46.567751	0	YSF Central
Farallon_Sup_RI	H-TP2	H-TP1-052611-3.5-4.0	5/26/11	4	<2.8	7.1	<0.46	--	23	36	420	0.086	82	-120.490242	46.567755	0	YSF Central
Farallon_Sup_RI	H-TP2	H-TP2-052611-1.0-1.5	5/26/11	1.5	<2.7	4.1	1.1	--	39	110	460	0.13	350	-120.490242	46.567755	0	YSF Central
Farallon_Sup_RI	H-TP3	H-TP2-052611-2.0-2.5	5/26/11	2.5	<3.3	<3.3	<0.55	--	24	84	530	0.19	200	-120.490121	46.567608	0	YSF Central
Farallon_Sup_RI	H-TP3	H-TP3-052611-0.0-0.5	5/26/11	0.5	<2.5	4.3	0.76	--	25	42	400	0.054	150	-120.490121	46.567608	0	YSF Central
Farallon_Sup_RI	H-TP3	H-TP3-052611-3.5-4.0	5/26/11	4	<2.8	<2.8	1.1	--	100	170	360	0.053	210	-120.490121	46.567608	0	YSF Central
Farallon_Sup_RI	I-TP3	I-TP3-052411-0.0-0.5	5/24/11	0.5	<2.1	<2.9	<0.49	--	41	67	560	0.14	210	-120.490283	46.568058	0	YSF Central
Farallon_Sup_RI	I-TP3	I-TP3-052411-1.5	5/24/11	1.5	3.6	8.2	<0.51	--	53	370	380	0.4	570	-120.490283	46.568058	0	YSF Central
Farallon_Sup_RI	I-TP3	I-TP3-052411-3.0	5/24/11	3	3.2	<3	0.82	--	160	730	390	0.38	870	-120.490283	46.568058	0	YSF Central
Farallon_Sup_RI	J-TP1	J-TP1-052411-0.0-0.5	5/24/11	0.5	2.9	<2.9	<0.48	--	57	50	380	0.25	190	-120.49027	46.568264	0	YSF Central
Farallon_Sup_RI	J-TP2	J-TP2-052411-0.0-0.5	5/24/11	0.5	7.1	<3.1	1.4	--	74	410	520	0.38	790	-120.49032	46.568199	0	YSF Central
Farallon_Sup_RI	J-TP3	J-TP3-052511-1.5-2.0	5/25/11	2	<2.8	8.5	0.48	--	29	600	300	0.17	480	-120.490406	46.56836	0	YSF Central
Farallon_Sup_RI	M-TP1	M-TP1-052511-0.0-0.5	5/25/11	0.5	<3.1	6.2	2.8	--	1,300	130	550	0.07	120	-120.489933	46.56779	0	YSF East
Farallon_Sup_RI	M-TP1	M-TP1-052511-3.0-3.5	5/25/11	3.5	<3.7	4.4	<0.62L	--	23	13	430	0.095	37	-120.489933	46.56779	0	YSF East
Farallon_Sup_RI	M-TP2	M-TP2-052511-0.0-0.5	5/25/11	0.5	<3	5.3	--	--	67	160	420	0.26	490	-120.489846	46.56788	0	YSF East
Farallon_Sup_RI	N-TP1	N-TP1-052411-0.0-0.5	5/24/11	0.5	<3.3	4.9	<0.54L	--	25	40	500	0.096	97	-120.489733	46.567534	0	YSF East
ECY_EPI_Sampling	Pit A		7/9/07	2	--	11.9	5.38	79.8	--	439	569	--	1,710	-120.489733	46.567534	0	YSF West
ECY_EPI_Sampling	Pit B		7/9/07	0.5	--	13	4.22	136	--	290	524	--	1,200	-120.489733	46.567534	0	YSF Southwest
ECY_EPI_Sampling	Pit C		7/9/07	0.5	--	13	7.6	944	--	674	645	--	2,200	-120.489733	46.567534	0	YSF Southwest
ECY_EPI_Sampling	Pit D		7/9/07	2	--	55	330	1,820	--	22,500	12,500	--	123,000	-120.489733	46.567534	0	YSF Southwest
ECY_EPI_Sampling	Pit E		7/9/07	0	--	2.9	15.3	57.9	--	762	515J	--	3,100	-120.489733	46.567534	0	YSF Southwest
ECY_EPI_Sampling	Pit K		7/9/07	2	--	12.5	1.1	62	--	409	369	--	465	-120.489733	46.567534	0	YSF Central

**Table B-1
Yakima Steel Facility and Bay Chemical Site Metals Data
Agri-Tech and Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001**

Data Source ¹	Sample Location	Sample ID	Sample Date	Sample Depth (Feet bgs) ²	Analytical Results (micrograms per gram) ³									Longitude (Decimal Degrees)	Latitude (Decimal Degrees)	Sample Excluded ⁴	Zone Assigned in Ratio Analysis ⁵
					Antimony	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Zinc				
ECY_EPI_Sampling	Pit L		7/9/07	1	--	6.17	0.67	30.4	--	212	336	--	369	-120.489733	46.567534	0	YSF Central
ECY_EPI_Sampling	Pit M		7/9/07	0	--	8.12	4.3	5,560	--	433	2,270	--	995	-120.489733	46.567534	0	YSF Central
ECY_EPI_Sampling	Pit N		7/9/07	0	--	1.5	<0.1	77.4J	--	5.67	160	--	69	-120.489733	46.567534	0	YSF Southwest
ECY_EPI_Sampling	TP-2		7/9/07	1.25	<3	<5	6.9	51	16	630	--	0.26	2,100	-120.490625	46.567993	0	YSF Southwest
ECY_EPI_Sampling	TP-3		7/9/07	2.25	<3	<5	2	35	6.7	300	--	0.09	150	-120.490358	46.567659	0	YSF Southwest
ECY_EPI_Sampling	TP-4		7/9/07	2	65	<5	310	2,000	490	27,000	--	14	140,000	-120.490478	46.567328	0	YSF Southwest
ECY_EPI_Sampling	TP-8		7/9/07	1	<3	<5	2.9	82	15	2,800	--	0.09	1,700	-120.489951	46.567728	0	YSF East
ECY_EPI_Sampling	TP-11		7/9/07	1	<3	<5	1.3	22	15	170	--	0.23	310	-120.48994	46.568041	0	YSF East
ECY_EPI_Sampling	TP-13		7/9/07	0	<3	<5	1.2	21	8.6	31	--	0.04	99	-120.489709	46.567547	0	YSF East
Farallon_Sup_RI	E-WETSOIL-1	E-wetsoil-052611-0.0-0.5	5/26/11	0.5	<5.1	<5.1	3.7	--	39	110	190	0.14	1,700	-120.490058	46.567036	0	YSF Southwest
Farallon_Sup_RI	E-WETSOIL-1	E-wetsoil-052611-0.5-1.0	5/26/11	1	<2.4	<2.4	<0.4	--	17	4.2	160	0.043	310	-120.490058	46.567036	0	YSF Southwest
Farallon_Sup_RI	E-WETSOIL-2	E-wetsoil-2-052611-0.5-1.0	5/26/11	1	<3.4	<3.4	1.6	--	19	19	250	0.071	670	-120.490198	46.56707	0	YSF Southwest
Farallon_Sup_RI	E-WETSOIL-2	E-wetsoil-2-052611-1.0-2.0	5/26/11	2	<3	<3	1.8	--	20	4.4	270	0.059	870	-120.490198	46.56707	0	YSF Southwest
Farallon_Sup_RI	E-WETSED-1	E-wetsed-1-053111	5/23/11	0.5	<5.8	<5.8	9.2	--	36	190	210	--	2,700	-120.490271	46.567233	0	YSF Southwest
Farallon_Sup_RI	E-WETSED-2	E-wetsed-2-053111	5/23/11	0.5	<6.9	7.6	6.8	--	41	150	220	--	2,800	-120.490116	46.567259	0	YSF Southwest
Farallon_Sup_RI	E-WETSED-3	E-wetsed-3-053111	5/23/11	0.5	<6.1	8.5	7.8	--	52	180	270	--	2,700	-120.490103	46.567126	0	YSF Southwest
Farallon_Sup_RI	G-WETSOIL	G-wetsoil-052611-0.0-0.5	5/26/11	0.5	<2.4	<2.4	<0.4	--	16	3.5	210	0.044	41	-120.490078	46.567437	0	YSF Southwest
Farallon_Sup_RI	G-WETSOIL	G-wetsoil-052611-1.0-2.0	5/26/11	2	<4.2	<4.2	1.5	--	40	80	470	0.14	510	-120.490078	46.567437	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YSF7B4	BC-082907-YSF-7B4	8/29/07	0	--	6.81	2.19	19.4	37.3	187	642	0.134	--	-120.4911566	46.56907284	0	YSF Northwest
YSF_Soil_Data_EIM	CD1906-YSFE800	BC-083007-YSF-E800	8/30/07	0	--	1.43	1.16	88.31	<19	110	500	5.44	--	-120.491161	46.5688865	0	YSF West
YSF_Soil_Data_EIM	CD1906-YSFE850	BC-083007-YSF-E850	8/30/07	0	--	6.26	2.26	165.62	43.1	167	420	0.175	--	-120.4911047	46.56875857	0	YSF West
YSF_Soil_Data_EIM	CD1906-YSFE900	BC-083007-YSF-E900	8/30/07	0	--	5.39	<17	78.52	40.94	172.07	438.53	<0.113	--	-120.4910484	46.56863173	0	YSF West
YSF_Soil_Data_EIM	CD1906-YSFE950	BC-083007-YSF-E950	8/30/07	0	--	3.57	<17	24.1	48.04	16.31	669.06	10.2	--	-120.4909803	46.56850162	0	YSF West
YSF_Soil_Data_EIM	CD1906-CP6A2	BC-091407-CP-6A2	9/14/07	0	--	8.37	<17	15	25	90.2	749	0.114	--	-120.491388	46.56935943	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CP6B3	BC-091407-CP-6B3	9/14/07	0	--	6.79	<5.44	104.95	13.7	11.2	1,317	<5	--	-120.4911987	46.56934918	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CPE650	BC-091407-CP-E650	9/14/07	0	--	<6	<6	42.2	77.9	1,169	417	0.819	--	-120.4910573	46.56935858	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CPE6A4	BC-091407-CP-E6A4	9/14/07	0	--	<5.4	<5.4	8.7	11.6	7.13	252	<5	--	-120.4910896	46.56936376	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CPN100	BC-091407-CP-N100	9/14/07	0	--	<5.14	<5.14	12.4	30.9	175	145	<5	--	-120.4911357	46.56939988	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CPN50	BC-091407-CP-N50	9/14/07	0	--	<5.38	<5.38	13.2	25	172.73	662	5.18	--	-120.4913308	46.56940224	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CPN75	BC-091407-CP-N75	9/14/07	0	--	<5.34	<17	18.8	31.23	231.71	444.23	5.38	--	-120.4912208	46.56939852	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CP5A1	BC-092107-CP-5A1	9/21/07	0	--	<5.36	<5.36	17.8	23.9	42.5	635	<5	--	-120.4915993	46.56959261	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CP5B1	BC-092107-CP-5B1	9/21/07	0	--	<6	<17	104.72	23.1	11.57	510.51	<5	--	-120.491421	46.5696315	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CP5D2	BC-092107-CP-5D2	9/21/07	0	--	<5.44	<5.44	14.8	31.61	<5.44	289	6.92	--	-120.4914535	46.56948485	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CP4B4	BC-092407-CP-4B4	9/24/07	0	--	<5.18	<5.18	15.8	<19	95.78	408	7.18	--	-120.4915052	46.56979152	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CP4C4	BC-092407-CP-4C4	9/24/07	0	--	<6	<17	15	25.8	123	448	0.286	--	-120.4914457	46.56970002	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-YSF7EB2	BC-092407-YSF-7EB2	9/24/07	0	--	<5.66	<17	61.94	20.92	75.92	738.56	0.156	--	-120.4909826	46.56919286	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CPE500	BC-092507-CP-E500	9/25/07	0	--	5.17	<5.02	20	<19	129	502	<0.0972	--	-120.4913777	46.56968257	0	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CPN430	BC-092507-CP-N430	9/25/07	0	--	<5.24	<17	<55	<19	16.87	867.44	<5	--	-120.4915706	46.56981706	0	YSF Northwest
YSF_Soil_Data_EIM	CD1906-YSFE750	BC-092507-YSF-E750	9/25/07	0	--	<5.35	<5.35	15.9	12.5	21.8	430	<5	--	-120.491209	46.56901565	1	YSF West
YSF_Soil_Data_EIM	CD1906-YSE1425W	BC-092707-YS-E1425W	9/27/07	0	--	8.8	<4.81	97.16	29.2	74.4	431	<5	--	-120.4903222	46.56736712	1	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YSFS758	BC-092807-YSF-S758	9/28/07	0	--	<6	<5.74	13.8	16.9	27.8	411	<5	--	-120.4910072	46.5691057	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-YS12WA1	BC-080307-YS-12W-A1	8/3/07	4	--	2.56	5.47	17	28.3	47.9	610	<0.112	--	-120.4907591	46.56782687	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YS12WC1	BC-080307-YS-12W-C1	8/3/07	4	--	2.64	<0.433	<55	<19	7.23	231	<0.118	--	-120.490527	46.56774259	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YS12WD1	BC-080307-YS-12W-D1	8/3/07	4	--	2.18	1.06	17.1	37.31	4.63	318	<0.114	--	-120.4906947	46.56770893	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YS13WD4	BC-080307-YS-13W-D4	8/3/07	4	--	1.65	0.733	18.3	30.8	11.6	382	<5	--	-120.4905443	46.5673754	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YS14WA4	BC-080307-YS-14W-A4	8/3/07	4	--	9.17	4.66	14.9	24.92	151	603	0.123	--	-120.490473	46.56724873	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YS14WD4	BC-080307-YS-14W-D4	8/3/07	4	--	2.85	1.72	78.04	<19	97.78	451	6.26	--	-120.4904157	46.56712926	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YS15WA4	BC-080307-YS-15W-A4	8/3/07	4	--	2.54	1.57	<55	26.6	88.07	334	<0.102	--	-120.4903602	46.56701448	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YS15WD4	BC-080307-YS-15W-D4	8/3/07	4	--	2.56	<17	17	21.8	30.9	449	11.23	--	-120.490339	46.5669706	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YSF6C4	BC-082907-YSF-6C4	8/29/07	4	--	2.45	<17	108.93	<19	119.54	780.52	6.89	--	-120.4912205	46.56919869	0	YSF Northwest
YSF_Soil_Data_EIM	CD1906-YSF6D4	BC-082907-YSF-6D4	8/29/07	4	--	<6	<17	72.26	<19	22.6	820.4	<5	--	-120.491404	46.56916118	0	YSF Northwest
YSF_Soil_Data_EIM	CD1906-YSF7A2	BC-082907-YSF-7A2	8/29/07	4	--	19.88	1.84	15.9	28.1	146	670.53	0.0969	--	-120.4912637	46.56911166	0	YSF Northwest
YSF_Soil_Data_EIM	CD1906-YSF8A3	BC-083007-YSF-8A3	8/30/07	4	--	22.46	<4.84	16.9	28.2	73.7	884.31	10.43	--	-120.4911419	46.56878699	0	YSF West
YSF_Soil_Data_EIM	CD1906-YSF8D3	BC-083007-YSF-8D3	8/30/07	4	--	13.98	<17	127.04	<19	91.03	712	<5	--	-120.4910918	46.56866317	0	YSF West
YSF_Soil_Data_EIM	CD1906-YSF10B1	BC-090507-YSF-10B1	9/5/07	4	--	<5.57	<5.57	15.2	28.3	8.58	443	6.22	--	-120.4908464	46.56838123	1	YSF West
YSF_Soil_Data_EIM	CD1906-YSF10C4	BC-090507-YSF-10C4	9/5/07	4	--	<6	<6.17	13.3	26.5	14.4	312	<5	--	-120.4907552	46.56816853	1	YSF West
YSF_Soil_Data_EIM	CD1906-YSF11A2	BC-090507-YSF-11A2	9/5/07	4	--	7.82	<6.36	11.7	20.9	11.7	266	<0.139	--	-120.4908115	46.56809212	1	YSF West

**Table B-1
Yakima Steel Facility and Bay Chemical Site Metals Data
Agri-Tech and Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001**

Data Source ¹	Sample Location	Sample ID	Sample Date	Sample Depth (Feet bgs) ²	Analytical Results (micrograms per gram) ³									Longitude (Decimal Degrees)	Latitude (Decimal Degrees)	Sample Excluded ⁴	Zone Assigned in Ratio Analysis ⁵
					Antimony	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Zinc				
BC_Soil_Data_EIM	CD1906-14EB3	BC-041207-14E-B3	4/12/07	4	--	<5.03	<11.5	13.7	21.4	19.87	1,320	<0.0957	--	-120.4905909	46.56723603	0	Settling Pond
BC_Soil_Data_EIM	CD1906-14EC2	BC-041207-14E-C2	4/12/07	4	--	<4.62	15.7	14.2	31.63	48.2	578	<0.102	--	-120.4907785	46.56704312	0	Settling Pond
BC_Soil_Data_EIM	CD1906-14ED4	BC-041207-14E-D4	4/12/07	4	--	4.89	<11.5	73	19.4	26.7	705	7.49	--	-120.4905616	46.56717153	0	Settling Pond
BC_Soil_Data_EIM	CD1906-14WB3	BC-041307-14W-B3	4/13/07	4	--	4.02	6.21	17.9	18.7	23.7	1,170	<3.7	--	-120.4909313	46.56715819	0	Settling Pond
BC_Soil_Data_EIM	CD1906-14WC4	BC-041307-14W-C4	4/13/07	4	--	<3.7	<5.21	15.6	16.9	133	788	<0.114	--	-120.4909269	46.5670047	0	BC Operations Area

NOTES:

-- denotes sample not analyzed.

< denotes analyte not detected at or exceeding the laboratory reporting limit listed.

B denotes blank contamination.

L denotes a negative instrument reading with an absolute value exceeding the reporting limit.

J denotes the associated value is an estimated quantity.

<J denotes the material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

¹Data transcribed from the following sources:

Bay_Chem_RI = Table 6, *Bay Chemical Site RI Soil Data Used for Analysis*, provided in the *Former Bay Chemical Site Remedial Investigation Report, Volume 1* dated March 1997, prepared by ERC/Pacific Groundwater Group.

ECY_EPI_Sampling = Results of soil sampling conducted by the Washington State Department of Ecology and Environmental Partners Inc of Issaquah, Washington in 2007.

Farallon_Sup_RI = Results of soil sampling conducted by Farallon in 2011.

BC_Soil_Data_EIM = Sampling results provided in *Completion and Compliance Monitoring Report, Bay Chemical Site, Yakima, Washington* dated November 17, 2009, prepared by Farallon.

YSF_Soil_Data_EIM = Sampling results provided in *Completion and Compliance Monitoring Report, Bay Chemical Site, Yakima, Washington* dated November 17, 2009, prepared by Farallon.

²Depth in feet below ground surface (bgs).

³Analyzed by U.S. Environmental Protection Agency Methods 6000/6010/7000 Series.

⁴Excluded samples include those located within the remediation footprint collected after September 1, 2007.

⁵Zones are used to group points plotted in ratio analysis shown in Figures 6 and 7.

ATTACHMENT C
WIND DATA FOR HISTOGRAMS IN FIGURE 5

METALS SOURCE EVALUATION
Agri-Tech and Yakima Steel Fabricators Site
Yakima Steel Fabricators
Yakima, Washington

Farallon PN: 765-001

APPENDIX C
BORINGS AND TEST PIT LOGS

FEASIBILITY STUDY REPORT
Agri-Tech and Yakima Steel Fabricators
6 and 10½ East Washington Avenue
Yakima, Washington

Farallon PN: 765-001


PROJECT: *AGRI-Tech/Yakima Steel Fabricators*

GEOPROBE NO. *SP-1*

Elevation reference: *Unknown* Well completed: *N/A*
 Ground surface elevation: *Unknown* Casing elevation: *N/A*


AS-BUILT DESIGN


Page 1 of 1

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVN READING	GROUND WATER	TESTING
0	2" concrete over moist, brown, gravelly, medium SAND with trace silt (sulfur odor noted)						No Well Installed EPA 8260, 8080
			SP1-4		35		
	Grades to moist to wet, gray, medium/coarse SAND and GRAVEL with trace silt						
5			SP1-6		31	 ATD	
Geoprobe terminated at 6 feet.							
10							
15							
20							
25							
30							

JOB NO.: 7-9881-0 | DWG DATE: 02-11-98 | FILE NAME: SP-01.DS4

LEGEND

 2-inch O.D. split-spoon sample

 Observed groundwater level
 ATD = at time of drilling

AGRA Earth & Environmental
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 Kirkland, Washington 98034-6918

Drilling started: 21 October 1997

Drilling completed: 21 October 1997

Logged by: JK

PROJECT: *AGRI-Tech/Yakima Steel Fabricators*


GEOPROBE NO. *SP-2*

Elevation reference: *Unknown*
 Ground surface elevation: *Unknown*

Well completed: *N/A*
 Casing elevation: *N/A*


AS-BUILT DESIGN


Page
1 of 1

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	No Well Installed	TESTING
0	2" concrete over moist, brown, gravelly, medium SAND		SP2-4		193			<div style="border: 1px solid black; padding: 5px; width: fit-content;"> EPA 8260, 8080 </div>
5	Moist yellow/brown, granular SULFUR and medium SAND with trace wood debris		SP2-7		54			
	Wet, gray, medium SAND and GRAVEL					 ATD		
Geoprobe terminated at 7 feet.								
10								
15								
20								
25								
30								

JOB NO.: 7-91 | DWG DATE: 02-11-98 | FILE NAME: SP-02.DS4

LEGEND

 2-inch O.D. split-spoon sample


 Observed groundwater level
 ATD = at time of drilling


AGRA Earth & Environmental
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 11335 NE 122nd Way, Suite 100
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Elevation reference: <i>Unknown</i>		Well completed: <i>N/A</i>		AS-BUILT DESIGN		Page 1 of 1	
Ground surface elevation: <i>Unknown</i>		Casing elevation: <i>N/A</i>				TESTING	
DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	No Well Installed
0	3" concrete over moist, brown, gravelly, medium SAND		SP2A-4		12		
5			SP2A-6.5		2	ATD	
Geoprobe terminated at 6.5 feet.							
10							EPA 8260, 8080
15							
20							
25							
30							

JOB NO.: 7-91 | DWG DATE: 02-11-98 | FILE NAME: SP-02A.DS4

LEGEND

 2-inch O.D. split-spoon sample

 Observed groundwater level
 ATD = at time of drilling

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Elevation reference: <i>Unknown</i>		Well completed: <i>N/A</i>		AS-BUILT DESIGN		Page 1 of 1
Ground surface elevation: <i>Unknown</i>		Casing elevation: <i>N/A</i>		No Well Installed		TESTING
DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER
0	4.5" concrete over moist, brown, medium SAND with some gravel		SP3-4		46	
5	Moist to wet, gray, GRAVEL with some sand and silt		SP3-6		2	ATD
Geoprobe terminated at 6 feet.						
10						
15						
20						
25						
30						

EPA
8260,
8080

JOB NO.: 7-91-81-0 | DWG DATE: 02-11-98 | FILE NAME: SP-03.DS4

LEGEND

-  2-inch O.D. split-spoon sample
-  Observed groundwater level
-  ATD = at time of drilling

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PROJECT: *AGRI-Tech/Yakima Steel Fabricators*

GEOPROBE NO. *SP-4*

Elevation reference: *Unknown* Well completed: *N/A* AS-BUILT DESIGN Page 1 of 1
 Ground surface elevation: *Unknown* Casing elevation: *N/A*

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	TESTING
0	2" concrete over moist, brown, medium SAND and GRAVEL		SP4-4		185		No Well Installed
5	Moist brown/yellow, granular SULFUR, SAND and GRAVEL with some wood debris Wet, yellow/gray, thick clayey substance with trace sand and gravel		SP4-7		693	ATD	
Geoprobe terminated at 7 feet.							
10							
15							
20							
25							
30							

EPA
8260,
8080,
8150/8151,
8140 TOC

JOB NO.: 7-91 | DWG DATE: 02-11-98 | FILE NAME: SP-04.DS4

LEGEND

-  2-inch O.D. split-spoon sample
-  Observed groundwater level
-  ATD = at time of drilling

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PROJECT: *AGRI-Tech/Yakima Steel Fabricators*

GEOPROBE NO. *SP-5*

Elevation reference: *Unknown* Well completed: *N/A*
 Ground surface elevation: *Unknown* Casing elevation: *N/A*


AS-BUILT DESIGN


Page
1 of 1

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVIM READING	GROUND WATER	TESTING
0	2" concrete over moist, brown, medium SAND and GRAVEL						No Well Installed
			SP5-4		104		
	Moist brown/yellow, granular SULFUR with medium sand and gravel						EPA 8260, 8080
5	Wet, black, medium sand and gravel with some silt		SP5-6.5		27	 ATD	
Geoprobe terminated at 6.5 feet.							
10							
15							
20							
25							
30							

JOB NO.: 7-91 | DWG DATE: 02-11-98 | FILE NAME: SP-05.DS4

LEGEND

 2-inch O.D. split-spoon sample

 Observed groundwater level
ATD = at time of drilling

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PROJECT: *AGRI-Tech/Yakima Steel Fabricators*


GEOPROBE NO. *SP-6*

Elevation reference: <i>Unknown</i>		Well completed: <i>N/A</i>		AS-BUILT DESIGN		Page 1 of 1
Ground surface elevation: <i>Unknown</i>		Casing elevation: <i>N/A</i>		No Well Installed		TESTING
DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER			
0	2" asphalt over moist, brown, medium SAND and GRAVEL					
	Moist, brown, silty, medium SAND and GRAVEL		SP6-4		0	
5	Moist to wet, brown, medium SAND and GRAVEL with trace silt		SP6-5.5		2	ATD ▽
Geoprobe terminated at 5.5 feet.						
10						
15						
20						
25						
30						

EPA
8260,
8080

LEGEND

 2-inch O.D. split-spoon sample

 Observed groundwater level
ATD = at time of drilling

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JOB NO.: 7-91 | DWG DATE: 02-11-98 | FILE NAME: SP-06.DS4

PROJECT: *AGRI-Tech/Yakima Steel Fabricators*


GEOPROBE NO. *SP-7*


Elevation reference: <i>Unknown</i>	Well completed: <i>N/A</i>	AS-BUILT DESIGN	Page 1 of 1
Ground surface elevation: <i>Unknown</i>	Casing elevation: <i>N/A</i>		

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	No Well Installed	TESTING
0	2" asphalt over moist, brown, medium SAND with some gravel and trace of granular sulfur		SP7-4		0	ATD		
	Wet, yellow/gray, medium SAND with some gravel							
5	Wet, yellow/gray, clayey substance		SP7-7		15			
	Wet, gray, medium SAND with some gravel and silt							
Geoprobe terminated at 7 feet.								
10								
15								
20								
25								
30								

JOB NO.: 7-911 | DWG DATE: 02-11-98 | FILE NAME: SP-07.DS4

LEGEND

 2-inch O.D. split-spoon sample

 Observed groundwater level
ATD = at time of drilling


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
Elevation reference: <i>Unknown</i>		Well completed: <i>N/A</i>		AS-BUILT DESIGN		Page 1 of 1
Ground surface elevation: <i>Unknown</i>		Casing elevation: <i>N/A</i>		No Well Installed		TESTING
DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER			
0	2" asphalt over moist, brown, medium SAND and GRAVEL with some silt and trace granular sulfur		SP8-4		2	
5	Becomes wet and black Wet, black, medium SAND and GRAVEL with gray/white clayey substance		SP8-7		31	ATD
Geoprobe terminated at 7 feet.						
10						
15						
20						
25						
30						

EPA
8260,
8080

JOB NO.: 7-911 | DWG DATE: 02-11-98 | FILE NAME: SP-08.DS4

LEGEND

 2-inch O.D. split-spoon sample


 Observed groundwater level
ATD = at time of drilling



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11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918

Elevation reference: <i>Unknown</i>		Well completed: <i>N/A</i>		AS-BUILT DESIGN		Page 1 of 1
Ground surface elevation: <i>Unknown</i>		Casing elevation: <i>N/A</i>		No Well Installed		TESTING
DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER			BLOW COUNTS
0	2" asphalt over moist, brown, medium SAND and GRAVEL					
	Moist to wet, brown/gray SILT with some organics, gravel, and sand		SP9-4		0	▽ ATD
5	Wet, brown, medium/coarse SAND and GRAVEL		SP9-7.5		3	
Geoprobe terminated at 7.5 feet.						
10						
15						
20						
25						
30						

EPA
8260,
8080

LEGEND

 2-inch O.D. split-spoon sample

 Observed groundwater level
 ATD = at time of drilling

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JOB NO.: 7-91K | DWG DATE: 02-11-98 | FILE NAME: SP-09.DS4

Elevation reference: <i>Unknown</i>	Well completed: <i>N/A</i>	AS-BUILT DESIGN
Ground surface elevation: <i>Unknown</i>	Casing elevation: <i>N/A</i>	Page 1 of 1

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	TESTING
0	2" asphalt over moist, brown, medium/coarse SAND and GRAVEL with some silt		SP10-4		0		<div style="border: 1px solid black; padding: 2px; width: fit-content; margin: auto;">EPA 8260, 8080</div>
5		Becomes wet	SP10-5		0		
5	Geoprobe terminated at 5 feet.						
10							
15							
20							
25							
30							

JOB NO.: 7-911 | DWG DATE: 02-11-98 | FILE NAME: SP-10.DS4

LEGEND


- 2-inch O.D. split-spoon sample
- Observed groundwater level
- ATD = at time of drilling


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Elevation reference: <i>Unknown</i>		Well completed: <i>N/A</i>		AS-BUILT DESIGN		Page 1 of 1	
Ground surface elevation: <i>Unknown</i>		Casing elevation: <i>N/A</i>		No Well Installed		TESTING	
DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OMV READING	GROUND WATER	
0	2" asphalt over moist, brown, silty, medium SAND and GRAVEL						
	Becomes wet		SP11-4		1		
						ATD	
5	Wet, black, SILT with sand, gravel and some wood debris		SP11-6		9		EPA 8260, 8080
Geoprobe terminated at 6 feet.							
10							
15							
20							
25							
30							

JOB NO.: 7-9711 | DWG DATE: 02-11-98 | FILE NAME: SP-11.DS4

LEGEND

 2-inch O.D. split-spoon sample


 Observed groundwater level
ATD = at time of drilling

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Elevation reference: *Unknown* Well completed: *N/A*
 Ground surface elevation: *Unknown* Casing elevation: *N/A*

AS-BUILT DESIGN


Page 1 of 1


DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	TESTING
0	2" asphalt over moist, brown, silty, medium SAND and GRAVEL		SP12-4		0		No Well Installed
5	Wet, gray, medium SAND and GRAVEL with trace silt		SP12-8		16	 ATD	
10	Geoprobe terminated at 8 feet.						
15							
20							
25							
30							

EPA
8260,
8080,
8150/8151,
8140 TOC

JOB NO.: 7-974 | DWG DATE: 02-11-98 | FILE NAME: SP-12.DS4

LEGEND

 2-inch O.D. split-spoon sample

 Observed groundwater level
 ATD = at time of drilling

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PROJECT: *AGRI-Tech/Yakima Steel Fabricators*

GEOPROBE NO. *SP-13/14*

Elevation reference: *Unknown*

Well completed: *N/A*

AS-BUILT DESIGN

Page
1 of 1

Ground surface elevation: *Unknown*

Casing elevation: *N/A*

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVN READING	GROUND WATER	TESTING
0	2" asphalt over moist, brown/gray, silty, medium SAND and GRAVEL with some granular sulfur						No Well Installed
5	Wet, brown, medium/coarse SAND and GRAVEL		SP13/14-6		0	ATD	
Geoprobe terminated at 6 feet.							
10							
15							
20							
25							
30							

EPA
8260,
8080

JOB NO.: 7-91M | DWG DATE: 02-11-98 | FILE NAME: SP-13-14.DSA

LEGEND

2-inch O.D. split-spoon sample

ATD Observed groundwater level
ATD = at time of drilling

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Elevation reference: *Unknown* Well completed: *N/A*
 Ground surface elevation: *Unknown* Casing elevation: *N/A*


AS-BUILT DESIGN


Page 1 of 1

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	No Well Installed	TESTING
0	2" asphalt over moist, brown, silty medium/coarse SAND		SP15-4		0			
5	Wet, black GRAVEL with some sand and silt		SP15-6		0	ATD		EPA 8260, 8080
Geoprobe terminated at 6 feet.								
10								
15								
20								
25								
30								

JOB NO.: 7-9 | DWG DATE: 02-11-98 | FILE NAME: SP-15.DS4

LEGEND

 2-inch O.D. split-spoon sample

 Observed groundwater level
 ATD = at time of drilling

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PROJECT: *AGRI/Yakima Steel Fabricators*

GEOPROBE NO. *SP-16*

Elevation reference: *Unknown* Well completed: *N/A*
 Ground surface elevation: *Unknown* Casing elevation: *N/A*

AS-BUILT DESIGN

Page
1 of 1

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER
0	2" asphalt over moist, brown, silty, medium SAND and GRAVEL					
			SP16-4		1	
	Moist, brown, medium SAND and GRAVEL with granular sulfur					
5						▽ ATD
	Wet, gray/white, clayey substance with some sand and gravel		SP16-8		0	
	Wet, black, GRAVEL with some silty sand					
	Wet, brown, coarse SAND					
	Wet, brown SILT		SP16-11		0	
10	Wet, black, GRAVEL with some medium sand and trace silt					

No Well Installed


TESTING


EPA
8260,
8080

Geoprobe terminated at 11 feet.

15						
20						
25						
30						

LEGEND

 2-inch O.D. split-spoon sample

 Observed groundwater level
 ATD = at time of drilling

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JOB NO.: 7-9114 I-0 | DWG DATE: 01-22-98 | FILE NAME: SP-16.DS4

Elevation reference: *Unknown*


Well completed: *N/A*

AS-BUILT DESIGN

Page
1 of 1

Ground surface elevation: *Unknown*


Casing elevation: *N/A*


DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	TESTING
0	2" asphalt over moist, brown/gray, silty medium SAND and GRAVEL		SP17-4		0		<div style="border: 1px solid black; padding: 2px; width: fit-content;"> EPA 8260, 8080 </div>
5	Becomes wet		SP17-7		0	 ATD	
Geoprobe terminated at 7 feet.							
10							
15							
20							
25							
30							

31-0 | DWG DATE: 02-11-98 | FILE NAME: SP-17.DS4

JOB NO.: 7-91

LEGEND


 2-inch O.D. split-spoon sample

 Observed groundwater level
ATD = at time of drilling

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Elevation reference: *Unknown* Well completed: *N/A*
 Ground surface elevation: *Unknown* Casing elevation: *N/A*

AS-BUILT DESIGN

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	TESTING
0	2" asphalt over moist, brown/gray, silty medium SAND and GRAVEL		SP18-4		0		No Well Installed EPA 8260, 8080
5	Wet, brown, SILT and silty medium SAND with gravel layers		SP18-7		0	 ATD	
Geoprobe terminated at 7 feet.							
10							
15							
20							
25							
30							

JOB NO.: 7-91M | DWG DATE: 02-11-98 | FILE NAME: SP-18.DS4

LEGEND



2-inch O.D. split-spoon sample



Observed groundwater level
 ATD = at time of drilling

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Elevation reference: <i>Unknown</i>	Well completed: <i>N/A</i>	AS-BUILT DESIGN	Page 1 of 1
Ground surface elevation: <i>Unknown</i>	Casing elevation: <i>N/A</i>		

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	No Well Installed	TESTING
0	3" to 4" concrete over moist, brown, silty, medium SAND and GRAVEL		SP19-4		0		No Well Installed	TESTING
5		Wet, brown GRAVEL with some medium/ coarse sand and trace silt		SP19-7		0		
Geoprobe terminated at 7 feet.								
10								
15								
20								
25								
30								


EPA
8260,
8080

JOB NO.: 7-91M | DWG DATE: 02-11-98 | FILE NAME: SP-19.DS4

LEGEND

-  2-inch O.D. split-spoon sample
-  Observed groundwater level
-  ATD = at time of drilling


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Elevation reference: <i>Unknown</i>		Well completed: <i>N/A</i>		AS-BUILT DESIGN		Page 1 of 1
Ground surface elevation: <i>Unknown</i>		Casing elevation: <i>N/A</i>		No Well Installed		TESTING
DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER			
0	3" to 4" concrete over moist, brown, silty, medium SAND with gravel		SP20-4		0	
5	Wet, brown, coarse SAND and GRAVEL		SP20-8		0	 ATD
Geoprobe terminated at 8 feet.						
10						
15						
20						
25						
30						

EPA
8260,
8080

JOB NO.: 7-91M | DWG DATE: 02-11-98 | FILE NAME: SP-20.DS4

LEGEND

 2-inch O.D. split-spoon sample

 Observed groundwater level
ATD = at time of drilling

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

Elevation reference: *Unknown* Well completed: *N/A*
 Ground surface elevation: *Unknown* Casing elevation: *N/A*

AS-BUILT DESIGN

Page 1 of 1

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OMV READING	GROUND WATER	TESTING
0	3" to 4" concrete over moist, brown, silty, medium SAND with gravel		SP21-5		0		No Well Installed <div style="border: 1px solid black; padding: 2px; width: fit-content;"> EPA 8260, 8080 </div>
5	Geoprobe terminated at 5 feet.						
10							
15							
20							
25							
30							

LEGEND


 2-inch O.D. split-spoon sample
 ATD = at time of drilling
 Observed groundwater level



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JOB NO.: 7-971 | DWG DATE: 02-11-98 | FILE NAME: SP-21.DS4

Elevation reference: <i>Unknown</i>		Well completed: <i>N/A</i>		AS-BUILT DESIGN		Page 1 of 1	
Ground surface elevation: <i>Unknown</i>		Casing elevation: <i>N/A</i>				No Well Installed	
DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING		
0	2" asphalt over moist, brown, silty medium SAND and GRAVEL		SP22-4		0		
5	Becomes wet		SP22-7		0	ATD	EPA 8260, 8080
Geoprobe terminated at 7 feet.							
10							
15							
20							
25							
30							

LEGEND

 2-inch O.D. split-spoon sample


 Observed groundwater level
 ATD = at time of drilling

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JOB NO.: 7-91N | DWG DATE: 02-11-98 | FILE NAME: SP-22.DS4


Elevation reference: *Unknown* Well completed: *N/A*
 Ground surface elevation: *Unknown* Casing elevation: *N/A*

AS-BUILT DESIGN

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OMV READING	GROUND WATER	TESTING
0	Gravel surface over moist, brown, silty, medium SAND and GRAVEL						No Well Installed WTPH-D EXT., EPA 8260, EPA 8080, Priority Metals, PAHs
			SP23-4		0		
	Moist, black, medium SAND with some silt and organics						
5			SP23-8		0		
	Moist, brown, silty, medium SAND and GRAVEL with trace orgnics					 ATD	
10	Geoprobe terminated at 8 feet.						
15							
20							
25							
30							

LEGEND

 2-inch O.D. split-spoon sample

 Observed groundwater level
 ATD = at time of drilling

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JOB NO.: 7-917-0 | DWG DATE: 02-11-98 | FILE NAME: SP-23.DS4


Elevation reference: <i>Unknown</i>		Well completed: <i>N/A</i>		AS-BUILT DESIGN		Page 1 of 1
Ground surface elevation: <i>Unknown</i>		Casing elevation: <i>N/A</i>		No Well Installed		TESTING
DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER
0	Gravel surface over moist, brown, silty, medium SAND and GRAVEL		SP24-4		0	
	Moist, black, medium SAND with some silt and organics					
5	Moist, brown, SILT with some medium sand and gravel and trace organics		SP24-7.5		0	ATD
Geoprobe terminated at 7.5 feet.						
10						
15						
20						
25						
30						

WTPH-D EXT., EPA 8260, EPA 8080, Priority Metals, PAHs

JOB NO.: 7-91M-0 | DWG DATE: 02-11-98 | FILE NAME: SP-24.DS4

LEGEND

 2-inch O.D. split-spoon sample

 Observed groundwater level
ATD = at time of drilling


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
Elevation reference: <i>Unknown</i>		Well completed: <i>N/A</i>		AS-BUILT DESIGN		Page 1 of 1	
Ground surface elevation: <i>Unknown</i>		Casing elevation: <i>N/A</i>		No Well Installed		TESTING	
DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER			BLOW COUNTS	OMV READING
0	Gravel surface over moist, brown, medium SAND and GRAVEL with some silt		SP25-4		0		
5	Moist, black, medium SAND with some silt and organics						
	Moist, brown, SILT with some sandy gravel and organics		SP25-8		0		
	Wet, medium SAND and GRAVEL with trace silt					ATD	
10	Geoprobe terminated at 8 feet.						
15							
20							
25							
30							

WTPH-D
EXT.,
EPA 8260,
EPA 8080,
PAHs

Priority
Metals

LEGEND

 2-inch O.D. split-spoon sample

 Observed groundwater level
ATD = at time of drilling

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JOB NO.: 7-91A | DWG DATE: 02-11-98 | FILE NAME: SP-25.DS4

PROJECT: *AGRI-Tech/Yakima Steel Fabricators*

GEOPROBE NO. *SP-26*


Elevation reference: *Unknown* Well completed: *N/A*
 Ground surface elevation: *Unknown* Casing elevation: *N/A*


AS-BUILT DESIGN

Page
1 of 1

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	TESTING
0	Gravel surface over moist, brown, silty SAND and GRAVEL						No Well Installed
	Moist, yellow/white, powdery substance		SP26-4		0		
5	Moist, brown, silty, medium SAND and GRAVEL with some organics Wet, brown, medium SAND and GRAVEL with some silt		SP26-6.5		0	ATD	EPA 8260, 8080
	Geoprobe terminated at 6.5 feet.						
10							
15							
20							
25							
30							

LEGEND

 2-inch O.D. split-spoon sample

 Observed groundwater level
ATD = at time of drilling

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JOB NO.: 7-91W -0 DWG DATE: 02-11-98 FILE NAME: SP-26.DS4

PROJECT: *AGRI-Tech/Yakima Steel Fabricators*

GEOPROBE NO. *SP-27*

Elevation reference: <i>Unknown</i>		Well completed: <i>N/A</i>		AS-BUILT DESIGN		Page 1 of 1	
Ground surface elevation: <i>Unknown</i>		Casing elevation: <i>N/A</i>				No Well Installed	
DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING		
0	Gravel surface over moist, brown, medium SAND and GRAVEL with some silt						
	Trace of white/yellow powder		SP27-4		0		
5	Moist, white/yellow powder		SP27-7.5		0		
	Wet, gray, SILT with some medium sand					ATD	EPA 8260, 8080
Geoprobe terminated at 7.5 feet.							
10							
15							
20							
25							
30							

LEGEND

-  2-inch O.D. split-spoon sample
-  Observed groundwater level
-  ATD = at time of drilling

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JOB NO.: 7-9 | DWG DATE: 02-11-98 | FILE NAME: SP-27.DS4

Elevation reference: *Unknown* Well completed: *N/A*
 Ground surface elevation: *Unknown* Casing elevation: *N/A*

AS-BUILT DESIGN

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	TESTING
0	Gravel surface over moist, brown, medium SAND and GRAVEL with some silt and trace organics		SP28-4		0		No Well Installed
5	Wet, brown, medium SAND and GRAVEL with some silt		SP28-7.5		0	ATD	
Geoprobe terminated at 7.5 feet.							
10							
15							
20							
25							
30							

EPA
8260,
8080

LEGEND

— 2-inch O.D. split-spoon sample

▽ Observed groundwater level
ATD = at time of drilling

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Elevation reference: *Unknown* Well completed: *N/A*
 Ground surface elevation: *Unknown* Casing elevation: *N/A*

AS-BUILT DESIGN


Page 1 of 2


DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	TESTING
0	2" asphalt over medium dense, moist, gray, silty, medium SAND and GRAVEL				0		No Well Installed
5	Medium stiff, wet, gray SILT with granular sulfur				0	ATD	
	Very dense, moist to wet, black, silty, medium SAND and GRAVEL (Sulfur odor noted)		B1-5	50+	0		
			B1-7.5	50+	0		
	Very dense, wet, black/gray, medium/coarse SAND and GRAVEL with trace to some silt						
10			B1-10	50+	0		
			B1-12.5	50+	0		
			B1-15	50+	0		
15			B1-17.5	50+	0		
			B1-20	50+	0		
20							
			B1-25	50+	0		
25							
30							

EPA 8260

(Continued)

LEGEND

 3-inch O.D. split-spoon sample

 Observed groundwater level
ATD = at time of drilling

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PROJECT: *AGRI-Tech/Yakima Steel Fabricators*

BORING NO. *B-1*

Elevation reference: <i>feet</i>	Well completed: <i>04 December 1997</i>	AS-BUILT DESIGN	Page 2 of 2
Ground surface elevation: <i>feet</i>	Casing elevation: <i>feet</i>		

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	No Well Installed	TESTING
								EPA 8260
30	<i>Very dense, wet, black/gray, medium/coarse SAND and GRAVEL with trace to some silt</i>		<i>B1- 30</i>	<i>50+</i>	<i>0</i>			
<i>Bottom of boring at 31.5 feet.</i>								
35								
40								
45								
50								
55								
60								

JOB NO.: 7-91M-00 | DWG DATE: 02-11-98 | FILE NAME: B-01B.DS4

LEGEND

-  3-inch O.D. split-spoon sample
-  Observed groundwater level
-  ATD = at time of drilling

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PROJECT: *AGRI-Tech/Yakima Steel Fabricators*

BORING NO. *B-2*

Elevation reference: *Unknown* Well completed: *N/A*
 Ground surface elevation: *Unknown* Casing elevation: *N/A*

AS-BUILT DESIGN

Page 1 of 1


DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	TESTING
0	Fill Dirt over 3" to 6" sunken asphalt over loose, moist to wet, brown/gray, silty, medium SAND and GRAVEL with somewood debris				0	ATD	No Well Installed
5	Medium stiff, wet, gray SILT, medium sand, gravel, and some white/green, paste-like substance and some sulfur		B2-5	50+	2		
	Very dense, wet, black/gray, medium coarse SAND and GRAVEL with trace to some silt		B2-7.5	50+	5		
10			B2-10	50+	0		
			B2-12.5	50+	0		
15			B2-15	50+	0		
			B2-17.5	50+	0		
20			B2-20	50+	0		
25			B2-25	50+	0		
27	(Refusal) Bottom of boring at 27 feet.						


EPA 8260

EPA 8260

JOB NO.: 7-91A | DWG DATE: 02-11-98 | FILE NAME: B-012.DS4

LEGEND

 3-inch O.D. split-spoon sample

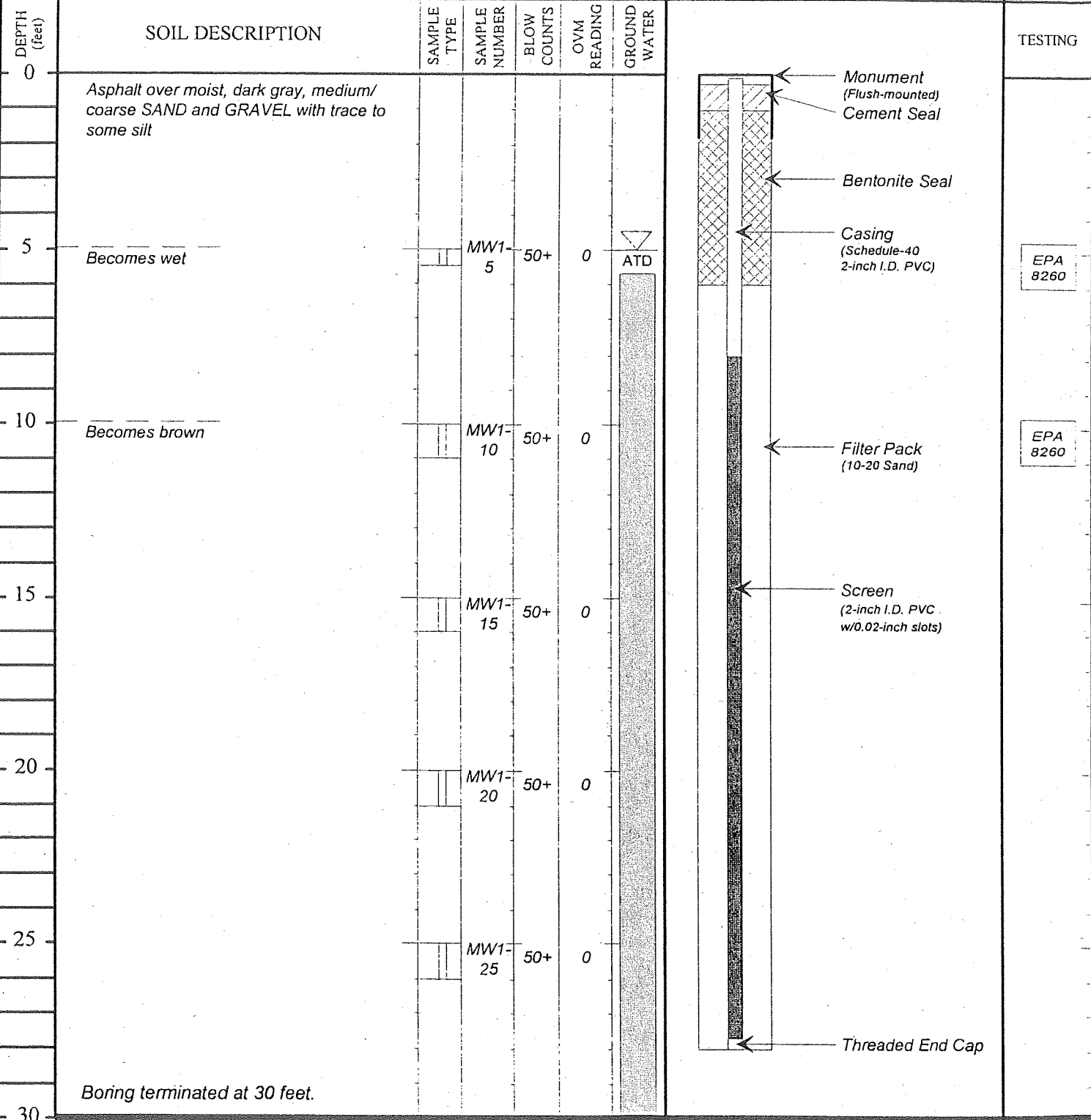
 Observed groundwater level
ATD = at time of drilling

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PROJECT: *AGRI-Tech/Yakima Steel Fabricators*

WELL NO. *MW-1*

Elevation reference: *NAVD 29* Well completed: *10/23/97*
 Ground surface elevation: *Unknown* Casing elevation: *1002.88 Feet*



JOB NO.: 7-9114-1-0 | DWG DATE: 02-11-98 | FILE NAME: MW-01.DS4

LEGEND

-  3-inch O.D. split-spoon sample
-  Observed groundwater level
-  ATD = at time of drilling

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Elevation reference: <i>NAVD 29</i>	Well completed: <i>10/24/97</i>	AS-BUILT DESIGN
Ground surface elevation: <i>Unknown</i>	Casing elevation: <i>1002.59</i>	Page 1 of 1

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	AS-BUILT DESIGN	TESTING
0	<i>2" Asphalt over moist, gray, silty medium SAND and GRAVEL</i>							
5	<i>Wet, brown medium/coarse SAND and GRAVEL with trace to some silt (inferred)</i>				0	▽ ATD		
10					0			
15	<i>Boring terminated at 13 feet.</i>							
20								
25								
30								

JOB NO.: 7-91k-01-0 | DWG DATE: 02-11-98 | FILE NAME: MW-02.DS4

LEGEND



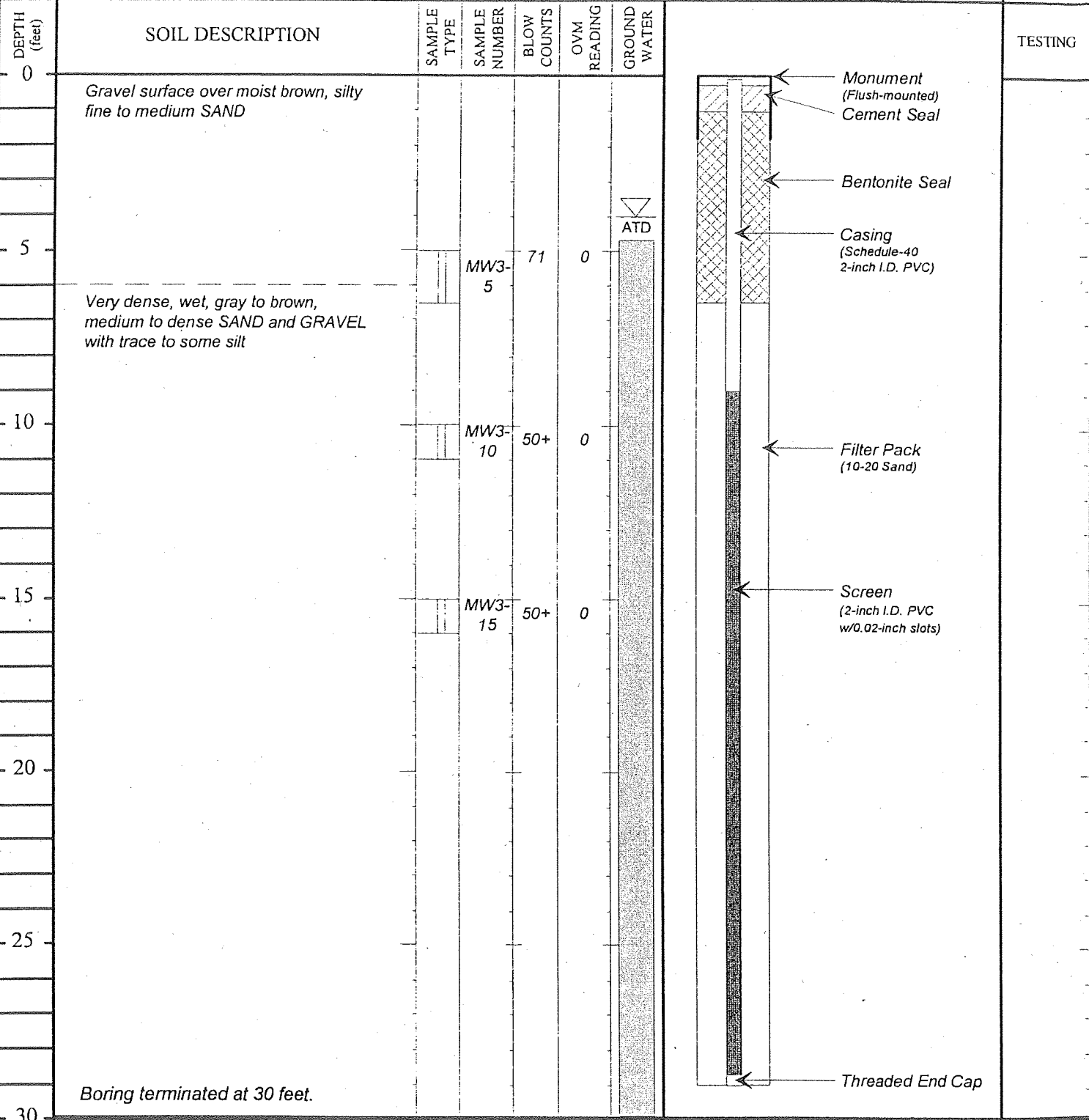
3-inch O.D. split-spoon sample



Observed groundwater level
ATD = at time of drilling

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Elevation reference: *NAVD 29* Well completed: *10/24/97*
 Ground surface elevation: *Unknown* Casing elevation: *1000.81 feet*



LEGEND

-  3-inch O.D. split-spoon sample
-  Observed groundwater level
-  ATD = at time of drilling

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JOB NO.: 7-91M-31-0 | DWG DATE: 02-11-98 | FILE NAME: MW-03.DS4

PROJECT: *AGRI-Tech/Yakima Steel Fabricators*

WELL NO. *MW-4*

Elevation reference: *NAVD 29*

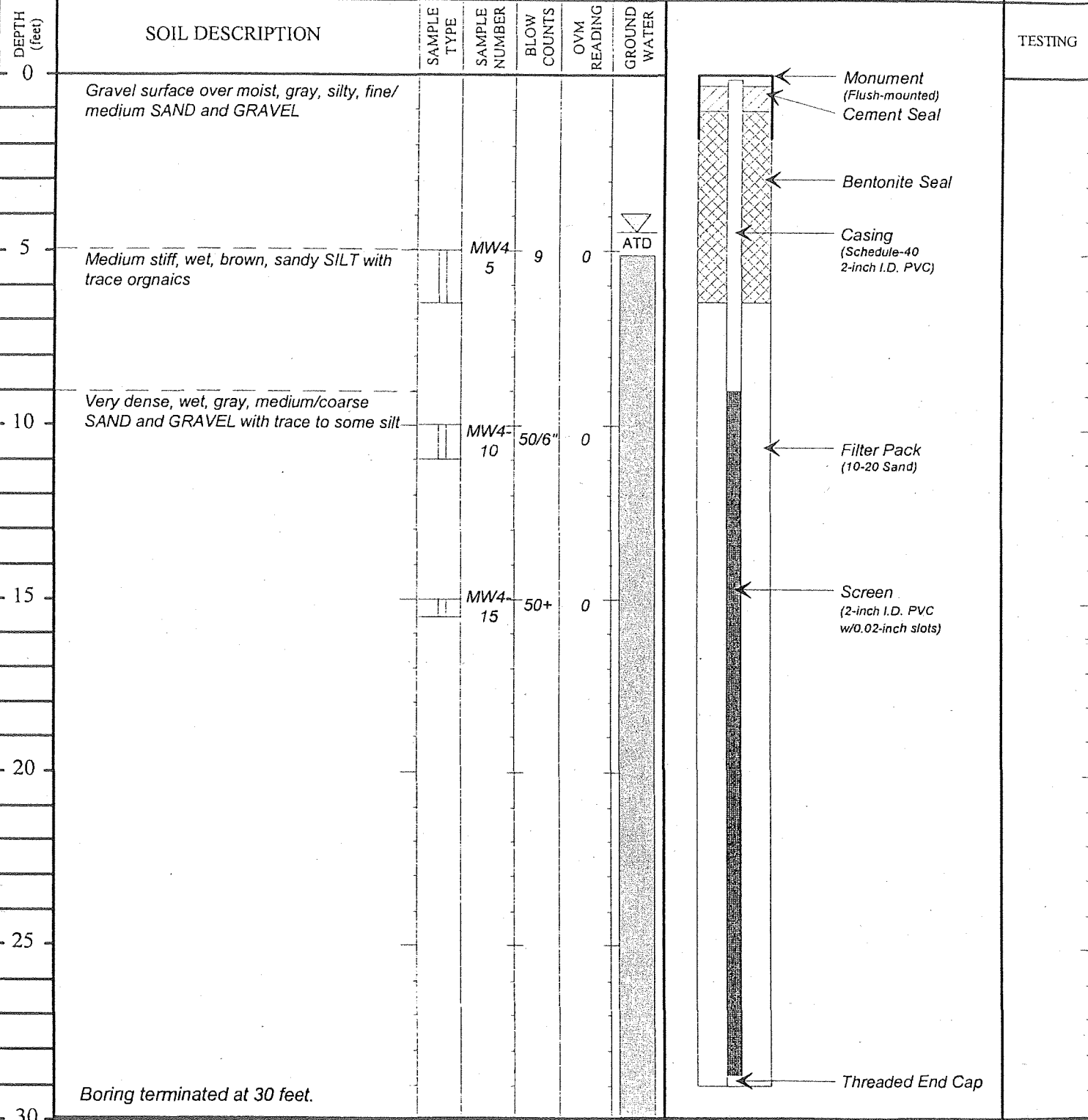
Well completed: *11/3/97*

Ground surface elevation: *Unknown*

Casing elevation: *1000.82 Feet*

AS-BUILT DESIGN

Page
1 of 1



LEGEND

3-inch O.D. split-spoon sample

Observed groundwater level
ATD = at time of drilling

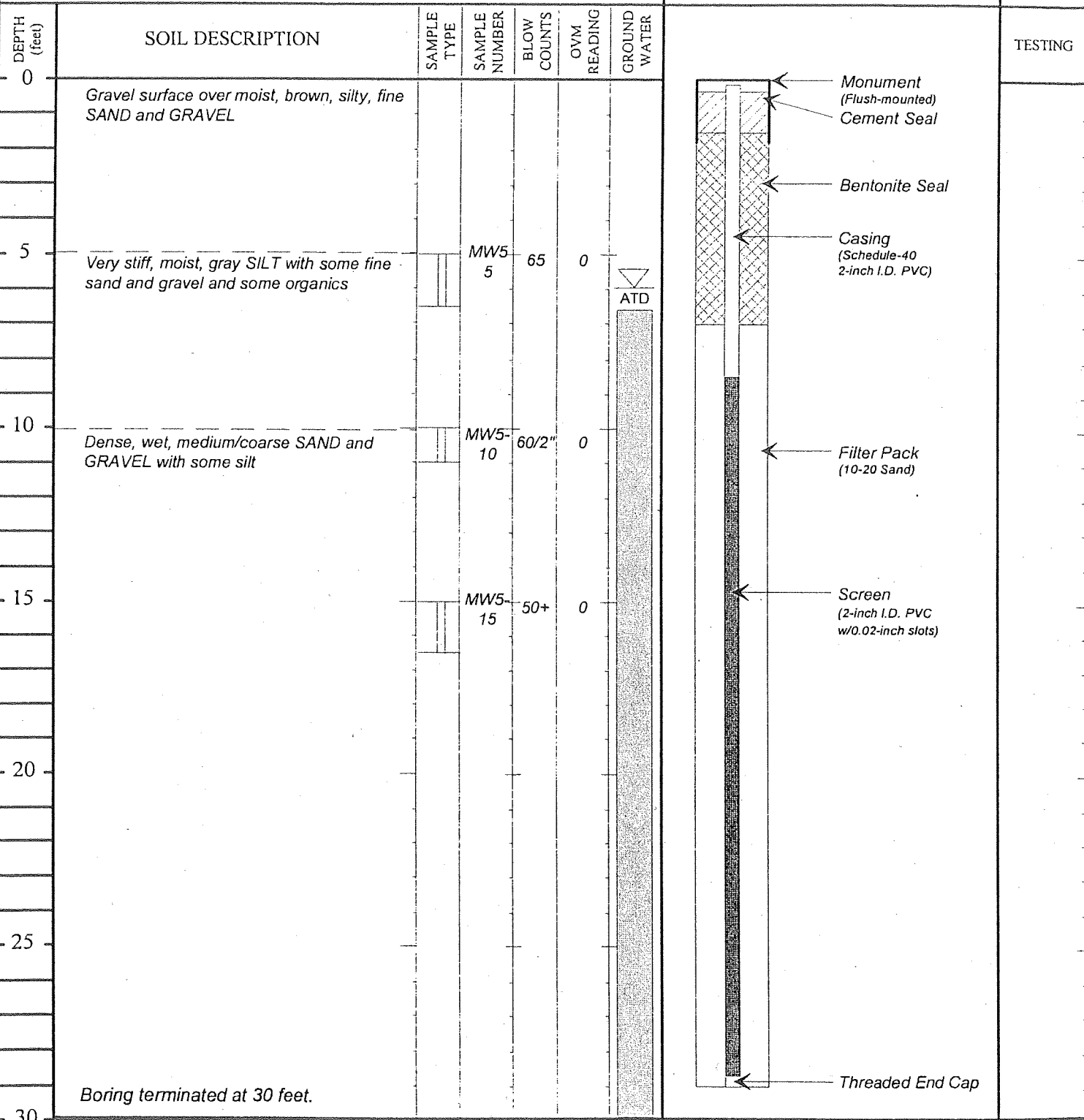
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JOB NO.: 7-911w-1-0 | DWG DATE: 02-11-98 | FILE NAME: MW-04.DS4

Elevation reference: *NAVD 29*
 Ground surface elevation: *Unknown*

Well completed: *10/23/97*
 Casing elevation: *1001.45 Feet*

AS-BUILT DESIGN



LEGEND

3-inch O.D. split-spoon sample

Observed groundwater level
 ATD = at time of drilling

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JOB NO.: 7-91M-31-0 | DWG DATE: 02-11-98 | FILE NAME: MW-05.DS4

Elevation reference: *NAVD 29* Well completed: *10/24/97*
 Ground surface elevation: *Unknown* Casing elevation: *1002.28*


DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	AS-BUILT DESIGN	
							TESTING	
0	2" Asphalt over moist, gray/brown, silty, fine/medium SAND and GRAVEL				0		Monument (Flush-mounted)	EPA 8260
5	Wet, gray SILT with some fine sand and gravel and trace organics	C/S	MW6-6		0	ATD	Cement Seal	
	Wet, brown, medium/coarse SAND and GRAVEL with trace to some silt							Bentonite Seal
10					0		Casing (Schedule-40 2-inch I.D. PVC)	
							Screen (2-inch I.D. PVC w/0.02-inch slots)	
							Filter Pack (10-20 Sand)	
							Threaded End Cap	

Boring terminated at 13 feet.

15								
20								
25								
30								

LEGEND

 Grab sample

 Observed groundwater level
ATD = at time of drilling

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JOB NO.: 7-91-031-0 | DWG DATE: 02-11-98 | FILE NAME: MW-02.DS4

RECORD OF SUBSURFACE EXPLORATION

WDOE-6 Agri-Tech/Yakima Steel, 6 East Washington

Logged By: Charles San Juan, WDOE

T.O.C. Elevation: 1002.27 ft.

Drilled By: Roger Kelly, Ponderosa Drilling

Ground Surface Elevation: 1002.51 ft.

Drilling Method: Air Rotary

Ground Water Depth: 4.00 ft.

Date/Time Started: 5 Nov 92, 1600 hrs

Total Well Depth: 17 ft. (16.6 ft from TOC)

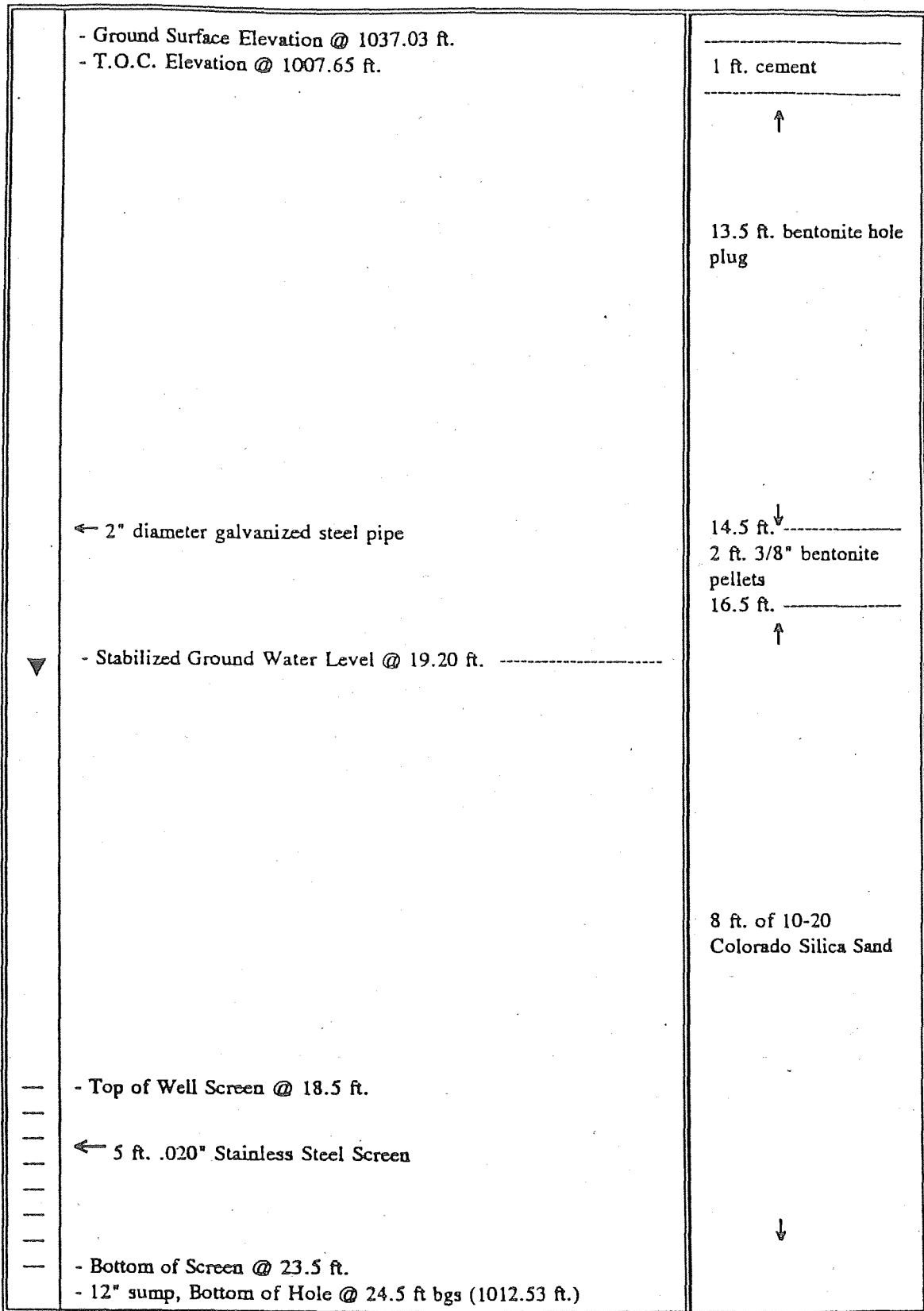
Date/Time Completed: 6 Nov 92, 1300 hrs

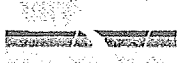
Formation Type: Alluvial

Sample No.	Analyzed For	Depth (Ft.)	G.W. @	Description	USCS
		1			
		2			
		3			
		4	▽	Initial ground water level @ 4 ft. Grayish-black formation water and extremely pungent odors (went to Level "C" protection, up to 50 ppm on the Microtip). Open hole to 4 ft.; collected split-spoon sample. Recovered white to gray-colored clayey waste material of unknown origin.	
468106 468107	Pesticide	5			
		6			
		7			
		8			
		9			
110	VOA	10		0 - 10 ft., waste material, sand, and gravel, poorly sorted, wet,. Extremely pungent odors.	SW
		11			
		12			
		13			
		14			
		15			
		16			
		17		Bottom of hole @ 17.0 ft. Poorly sorted gravel and cobbles, wet. Installed 10' 6" of 2" diameter galvanized steel casing and 6 ft. of 0.020 inch stainless steel screen. Removed 6" I.D. temporary casing upon completion. Completed well while in Level C protective gear.	SW.GP

MONITOR WELL CONSTRUCTION DIAGRAM

WDOE-6





FARALLON CONSULTING

320 3rd Avenue NE
Issaquah, WA 98027

LOG OF WELL MW-7A

(Page 1 of 1)

Yakima Steel Fabricators
6 East Washington Avenue
Yakima, Washington

Date/Time Started : 11/21/02; 1145
Date/Time Completed : 11/22/02; 1430

Drilling Method : Air Rotary
Sampler Type : N/A
Depth Of Water ATD : 3-feet
Total Depth of Well : 16-feet

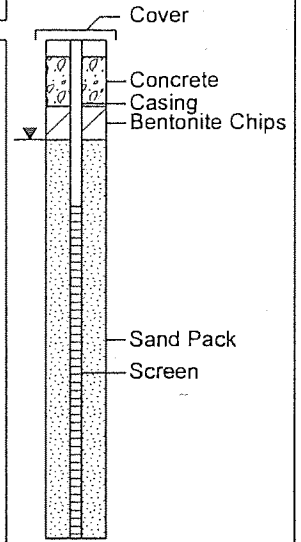
Farallon PN: 765-001

Drilling Company : Cascade Drilling, Inc.
Drilling Forman : Todd

Logged By: C. Brock

Depth in Feet	Sample Interval	Blow Counts 6/6/6	% Recovery	Sample ID	Samples Analyzed	PID (units)	USCS	GRAPHIC	DESCRIPTION
0									
5							GP		Cuttings: Sandy GRAVEL, fine to coarse, fine to coarse sand, dark gray, very moist to wet
10									
15									
20									
25									
30									
35									

Well: MW-7A
Elev.: 994.39



WELL INFORMATION

Cover: Aboveground well completion
Casing: 2-inch, Schedule 40 PVC
Screen: 2-inch, Schedule 40 PVC, with 0.020-slot Sand Pack: 2/12 Drillers
N/A = Not Applicable

LOG OF WELL MW-7A

(Page 1 of 1)



FARALLON CONSULTING

320 3rd Avenue NE
Issaquah, WA 98027

LOG OF WELL MW-7B

(Page 1 of 1)

Yakima Steel Fabricators
6 East Washington Avenue
Yakima, Washington

Farallon PN: 765-001

Logged By: C. Brock

Date/Time Started : 11/21/02; 1430
Date/Time Completed : 11/22/02; 0830

Drilling Company : Cascade Drilling, Inc.
Drilling Forman : Todd

Drilling Method : Air Rotary
Sampler Type : N/A
Depth Of Water ATD : 3-feet
Total Depth of Well : 32.5-feet

Depth in Feet	Sample Interval	Blow Counts 6/6/6	% Recovery	Sample ID	Samples Analyzed	PID (units)	USCS	GRAPHIC	DESCRIPTION
0									Well: MW-7B Elev.: 994.07
5								Cuttings: Sandy GRAVEL, fine to coarse, fine to coarse sand, dark gray, very moist to wet	
10									
15							GP		
20									Color changes to brown
25									Color changes to light brown Contains minor silt
30									
35									

WELL INFORMATION

Cover: Aboveground well completion
Casing: 2-inch, Schedule 40 PVC
Screen: 2-inch, Schedule 40
PVC, with 0.020-slot

Sand Pack: 2/12 Drillers

LOG OF WELL MW-7B

(Page 1 of 1)



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

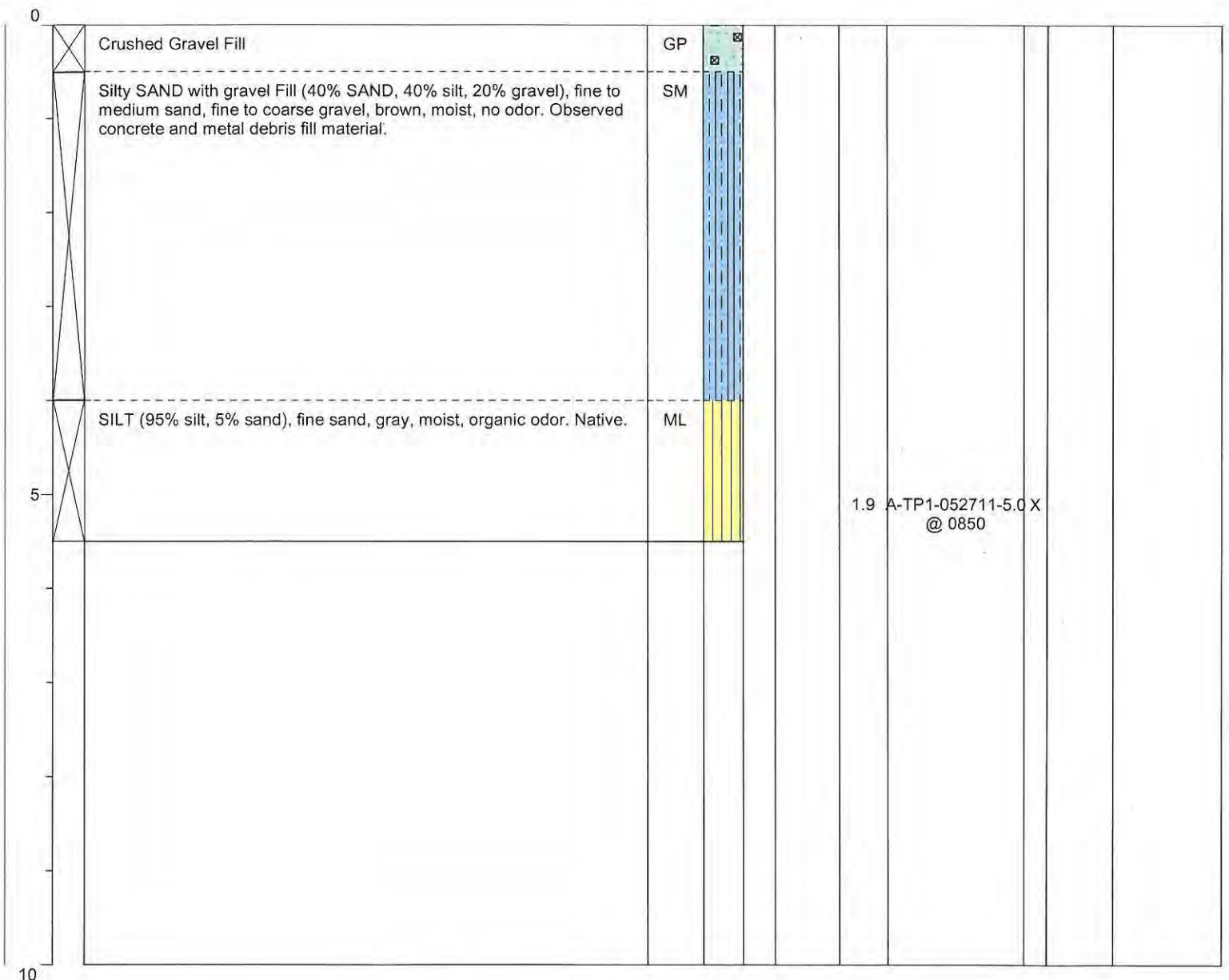
Date/Time Started: 5/27/11 0840
Date/Time Completed: 5/27/11 0855
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): Not Encountered
Total Boring Depth (ft bgs): 5.5
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

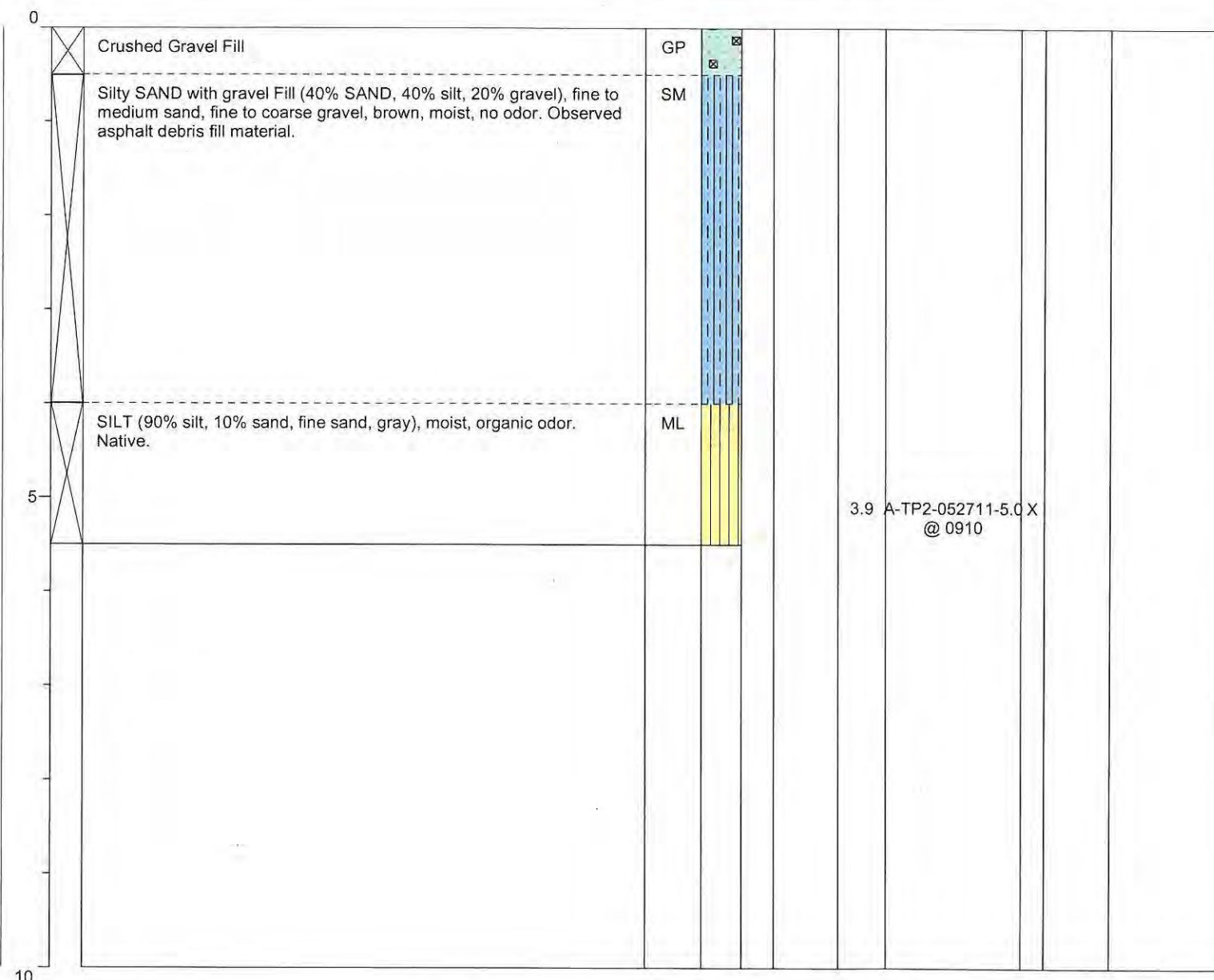
Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/27/11 0905 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/27/11 0920 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 5.5
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

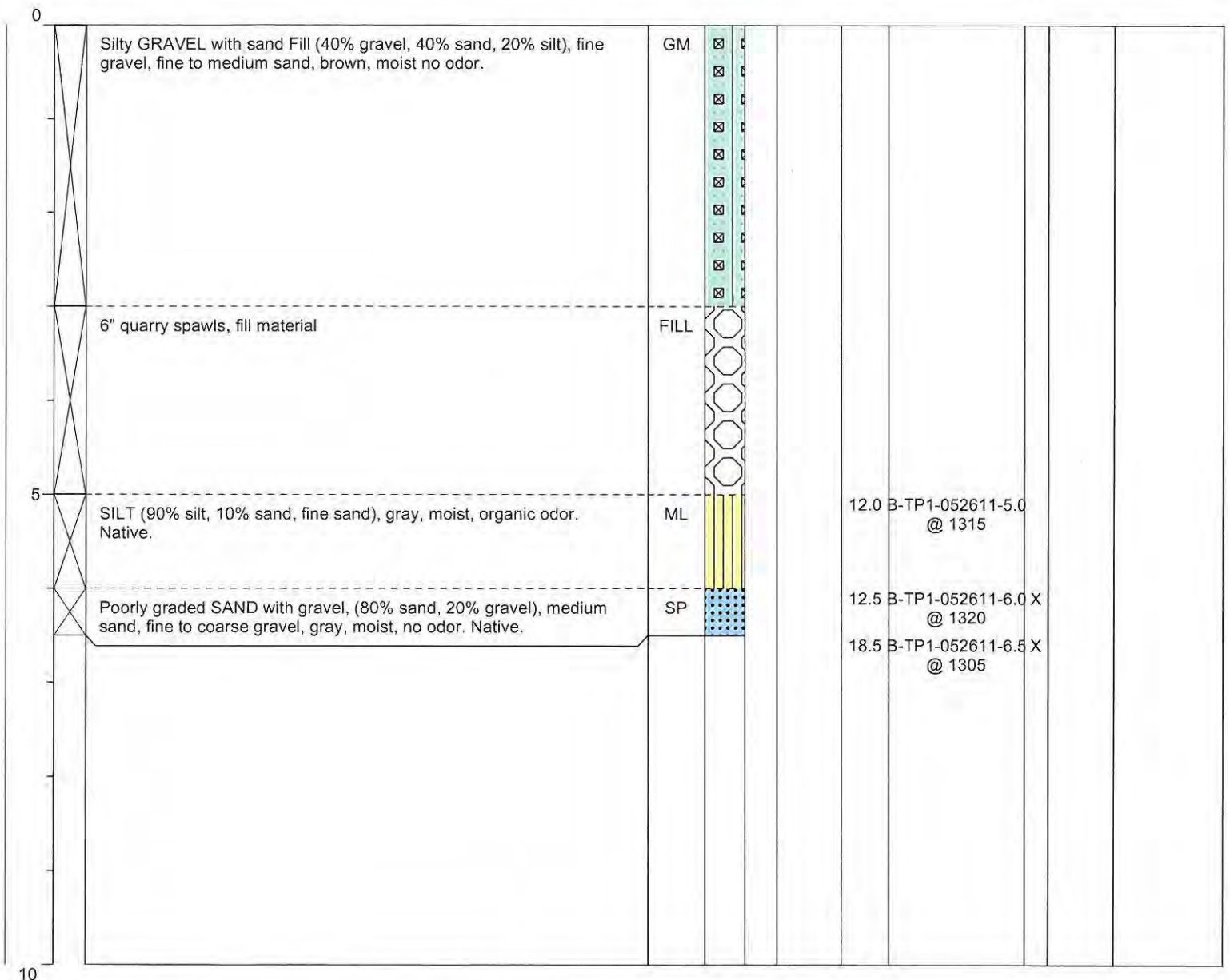
Date/Time Started: 5/26/11 1250
Date/Time Completed: 5/26/11 1330
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): Not Encountered
Total Boring Depth (ft bgs): 6.5
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

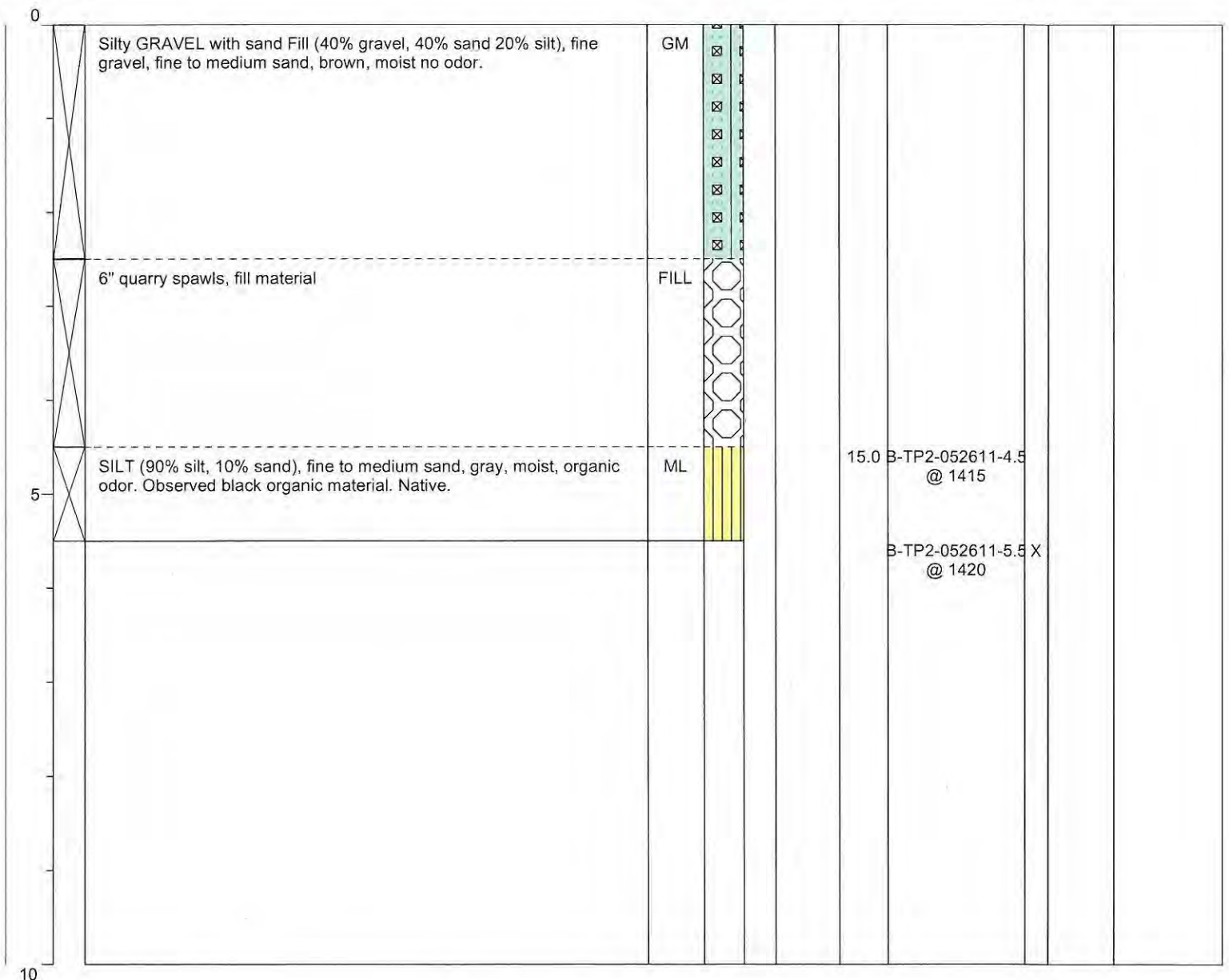
Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/26/11 1400 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/26/11 1420 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 5.5
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type:
Casing Diameter (inches):
Screen Slot Size (inches):
Screened Interval (ft bgs):

Filter Pack:
Surface Seal:
Annular Seal:

Ground Surface Elevation (ft):
Top of Casing Elevation (ft):
Boring Abandonment:
Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

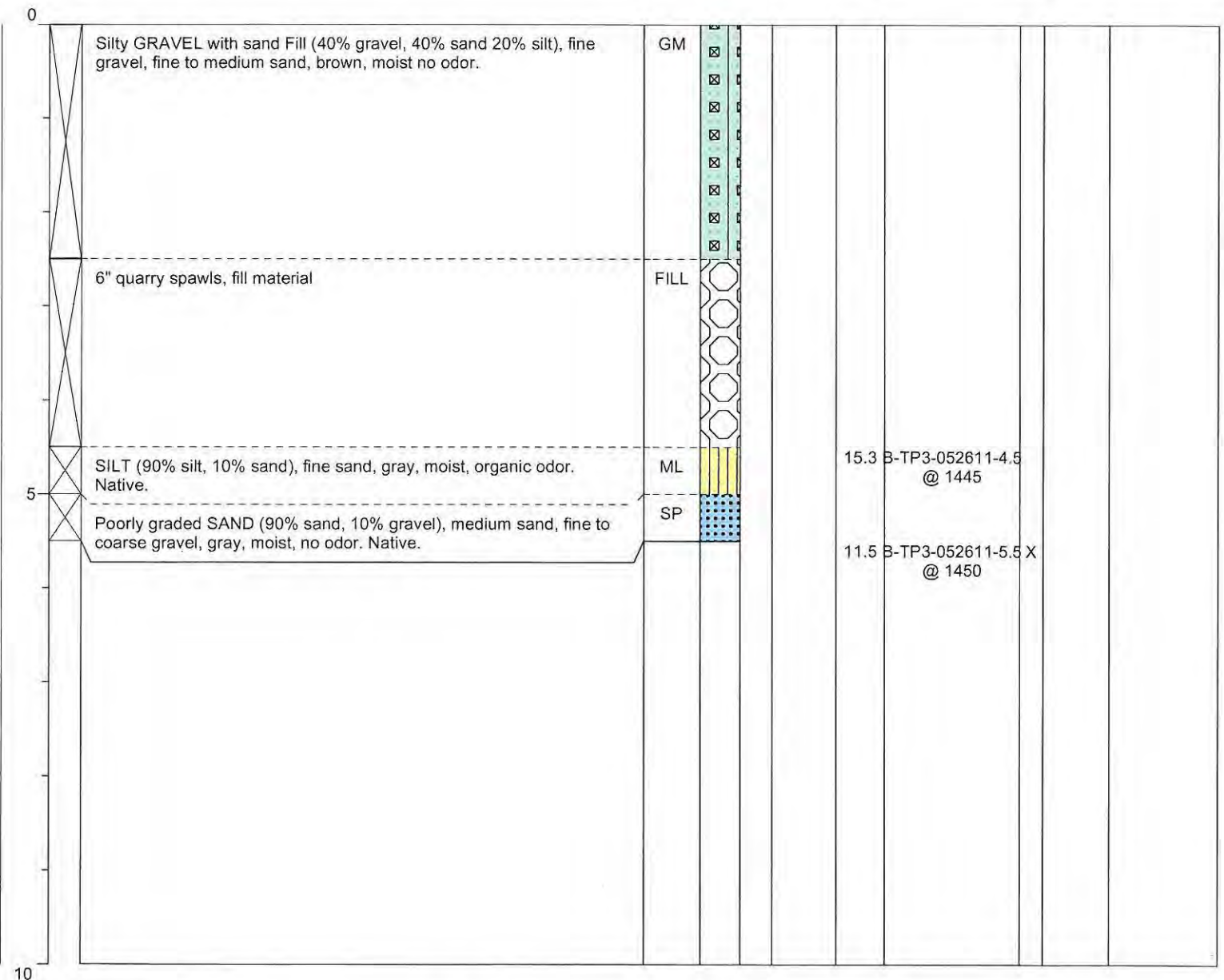
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Date/Time Completed: 5/26/11 1455
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): Not Encountered
Total Boring Depth (ft bgs): 5.5
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/26/11 1040 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/26/11 1115 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 5.0
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		Silty GRAVEL with sand Fill (40% gravel, 40% sand 20% silt), fine gravel, fine to medium sand, brown, moist no odor.	GM							
		Poorly graded SAND with silt and gravel (50% sand, 40% gravel, 10% silt), medium sand, fine to coarse gravel, dark brown, moist, no odor. Observed brick, concrete and metal debris fill material.	SM				12.5	C-TP1-052611-2.5 @ 1100		
		SILT (90% silt, 10% sand), fine sand, gray, moist, organic odor. Native.	ML							
5							6.1	C-TP1-052611-5.0 X @ 1105		
10										

Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

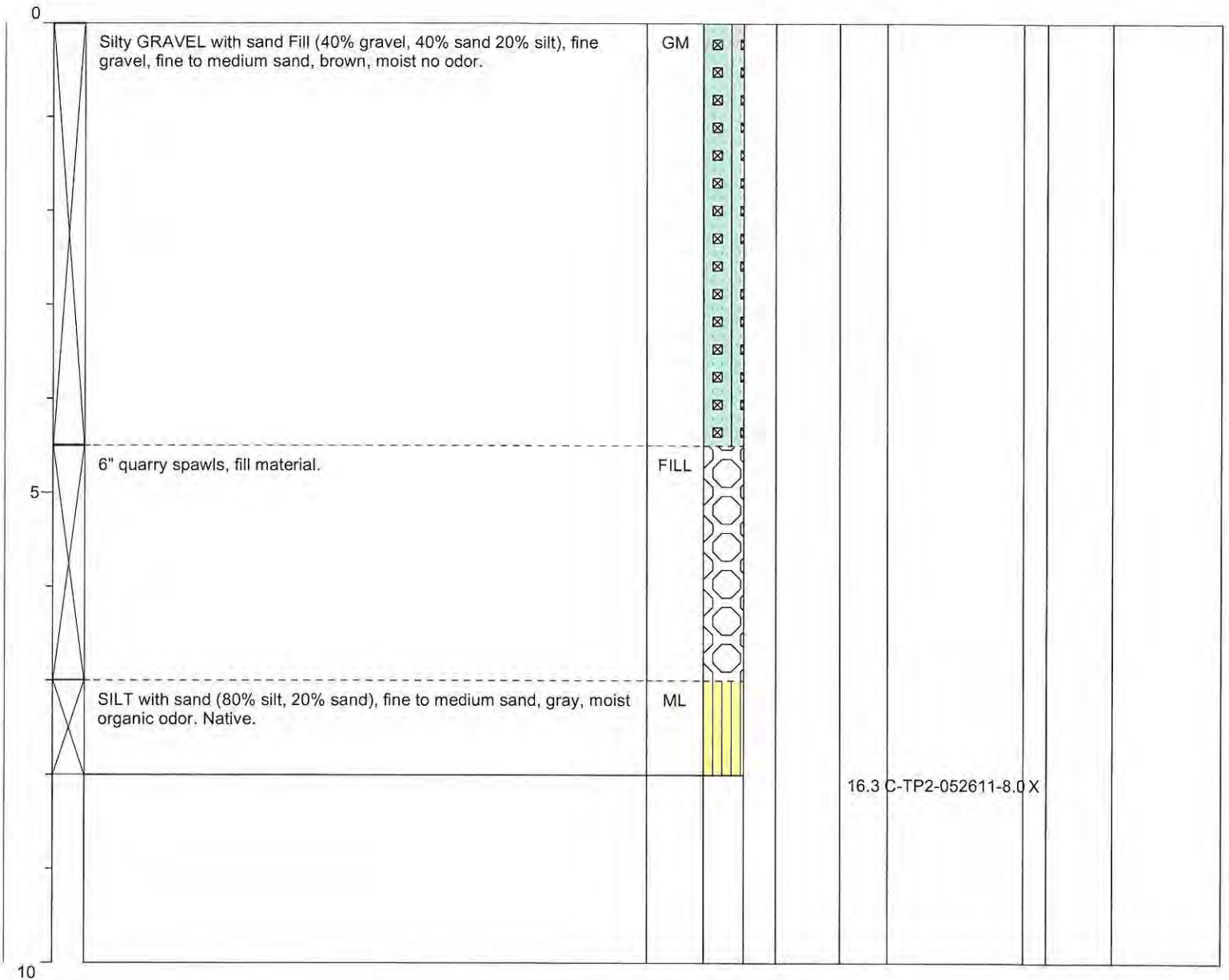
Date/Time Started: 5/26/11 1120
Date/Time Completed: 5/26/11 1135
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): Not Encountered
Total Boring Depth (ft bgs): 8.0
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

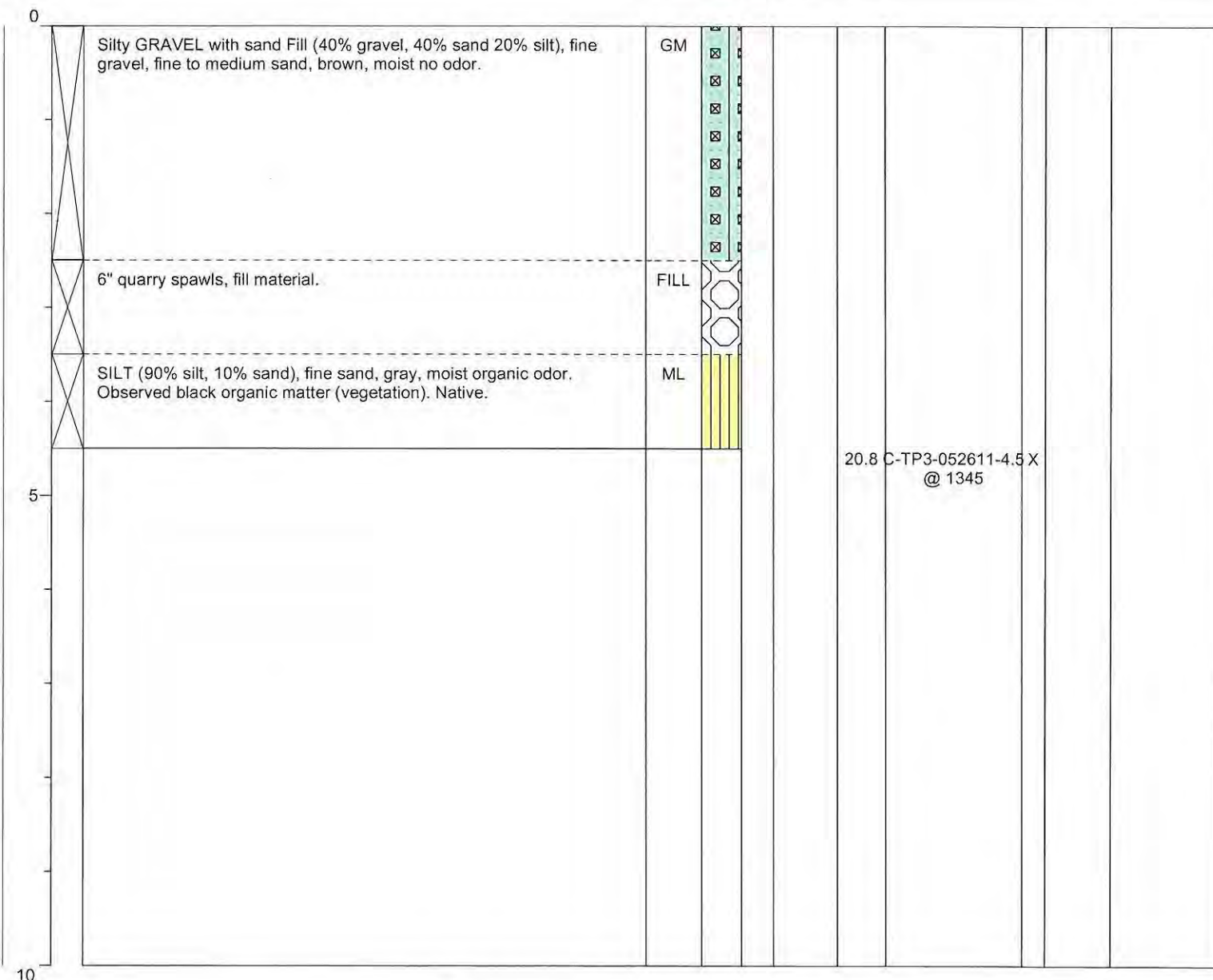
Date/Time Started: 5/26/11 1330
Date/Time Completed: 5/26/11 1355
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): Not Encountered
Total Boring Depth (ft bgs): 4.5
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

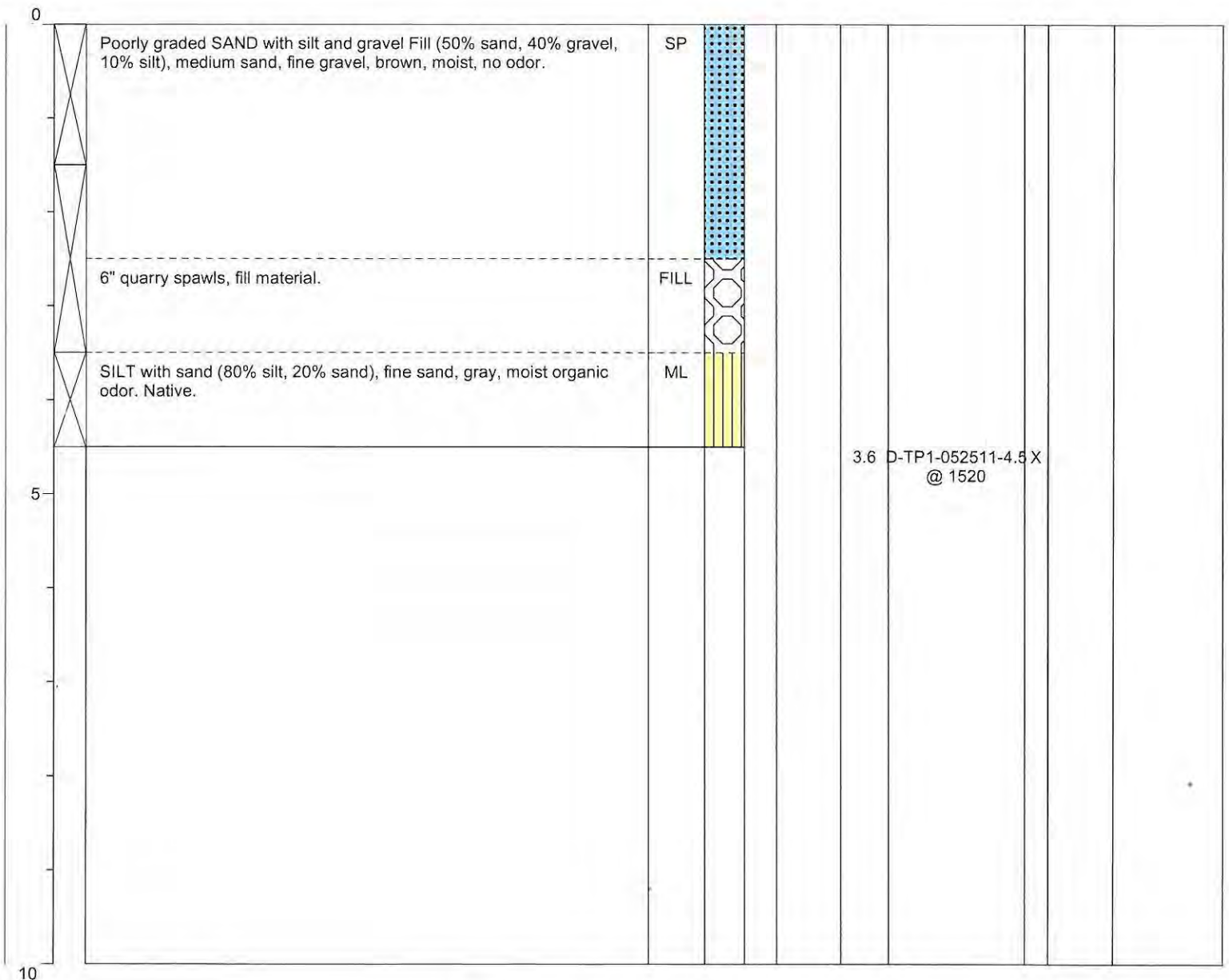
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Date/Time Completed: 5/25/11 1530
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): Not Encountered
Total Boring Depth (ft bgs): 4.5
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

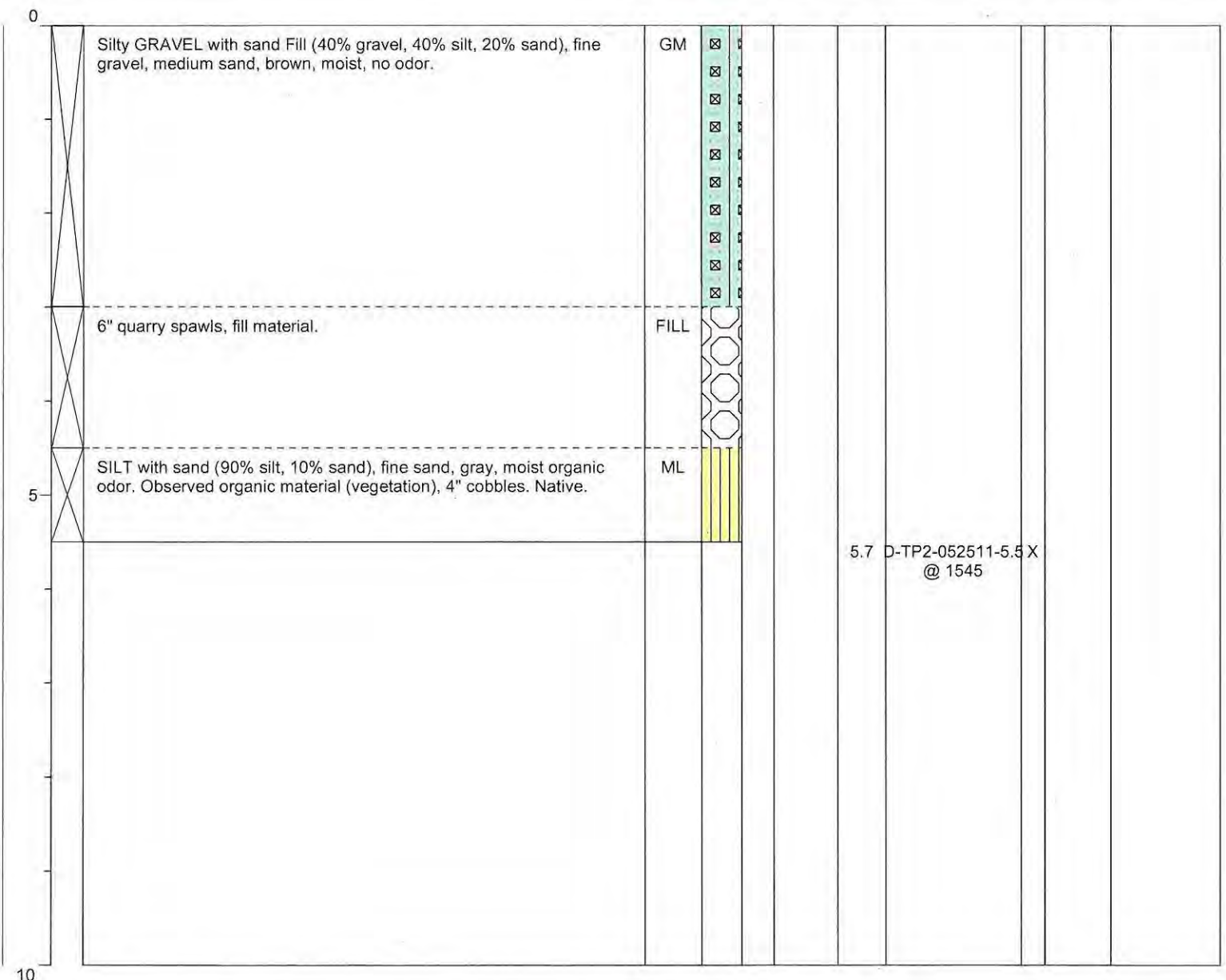
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Date/Time Completed: 5/25/11 1550
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): Not Encountered
Total Boring Depth (ft bgs): 5.5
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/26/11 1015 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/26/11 1035 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 4.5
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		Silty GRAVEL with sand Fill (60% gravel, 20% silt, 20% sand), fine gravel, fine sand, light brown, moist, no odor.	GM							
		Sandy SILT Fill (70% silt, 30% sand, fine sand), gray, moist, no odor. Observed concrete debris fill material.	ML							
		Silty GRAVEL with sand (40% gravel, 40% sand, 20% silt), fine to coarse gravel, medium sand, dark brown, moist, no odor. Native.	GM							
		SILT with sand (80% silt, 10% sand, 10% gravel), fine to medium sand, fine to coarse gravel, gray/ dark brown, moist, organic odor. Native.	ML							
5								12.2 D-TP3-052611-4.5 X @ 1020		
10										

Well Construction Information

Monument Type:
Casing Diameter (inches):
Screen Slot Size (inches):
Screened Interval (ft bgs):

Filter Pack:
Surface Seal:
Annular Seal:

Ground Surface Elevation (ft):
Top of Casing Elevation (ft):
Boring Abandonment:
Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/25/11 0945
Date/Time Completed: 5/25/11 1105
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): Not Encountered
Total Boring Depth (ft bgs): 4.5
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty GRAVEL with sand (40% gravel, 30% silt, 30% sand), fine to coarse gravel, fine to medium sand, brown, moist, no odor. Native.	GM							
		Poorly graded GRAVEL with silt and sand (45% gravel, 45% sand, 10% silt), fine to coarse gravel, fine to coarse sand, dark brown, moist no odor. Observed large cobbles. Native.	GP					2.8 E-TP1-052511-4.5 X @ 1005		
5										
10										



Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/25/11 1020 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/25/11 1030 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 3.0
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		Silty GRAVEL with sand (40% gravel, 40% sand, 20% silt), fine gravel, medium sand, brown, moist, no odor. Native.	GM							
		Poorly graded GRAVEL with silt and sand (45% gravel, 45% sand, 10% silt), fine to coarse gravel, fine to coarse sand, dark brown, moist no odor. Native.	GP							
								2.5 E-TP2-052511-3.0 X @ 1025		
5										
10										

Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

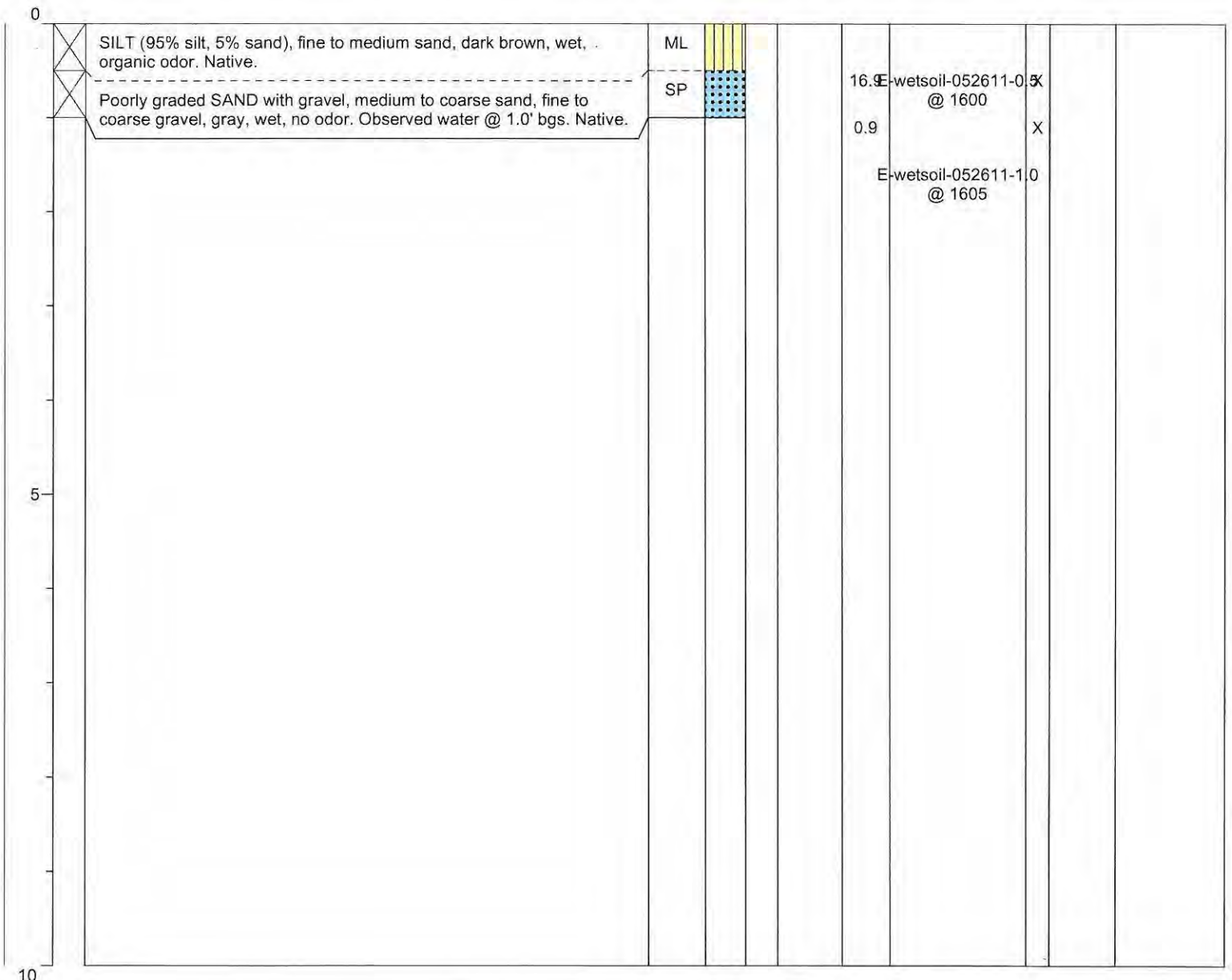
Date/Time Started: 5/26/11 1552
Date/Time Completed: 5/26/11 1620
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 1.0
Total Boring Depth (ft bgs): 1.0
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type:
Casing Diameter (inches):
Screen Slot Size (inches):
Screened Interval (ft bgs):

Filter Pack:
Surface Seal:
Annular Seal:

Ground Surface Elevation (ft):
Top of Casing Elevation (ft):
Boring Abandonment:
Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/26/11 1620
Date/Time Completed: 5/26/11 1655
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 2.0
Total Boring Depth (ft bgs): 2.0
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Poorly graded SAND with gravel (80% sand, 20% gravel), medium sand, fine to coarse gravel, brown, wet, no odor. Native.	SP							
		Poorly graded SAND with gravel (80% sand, 20% gravel), medium sand, fine to coarse gravel, gray, wet, no odor. Observed water @ 2.0' bgs. Native.	SP					7. E-wetsoil-2-052611-1.0 @ 1647	X	
								3. E-wetsoil-2-052611-2.0 @ 1655		
5										
10										

Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

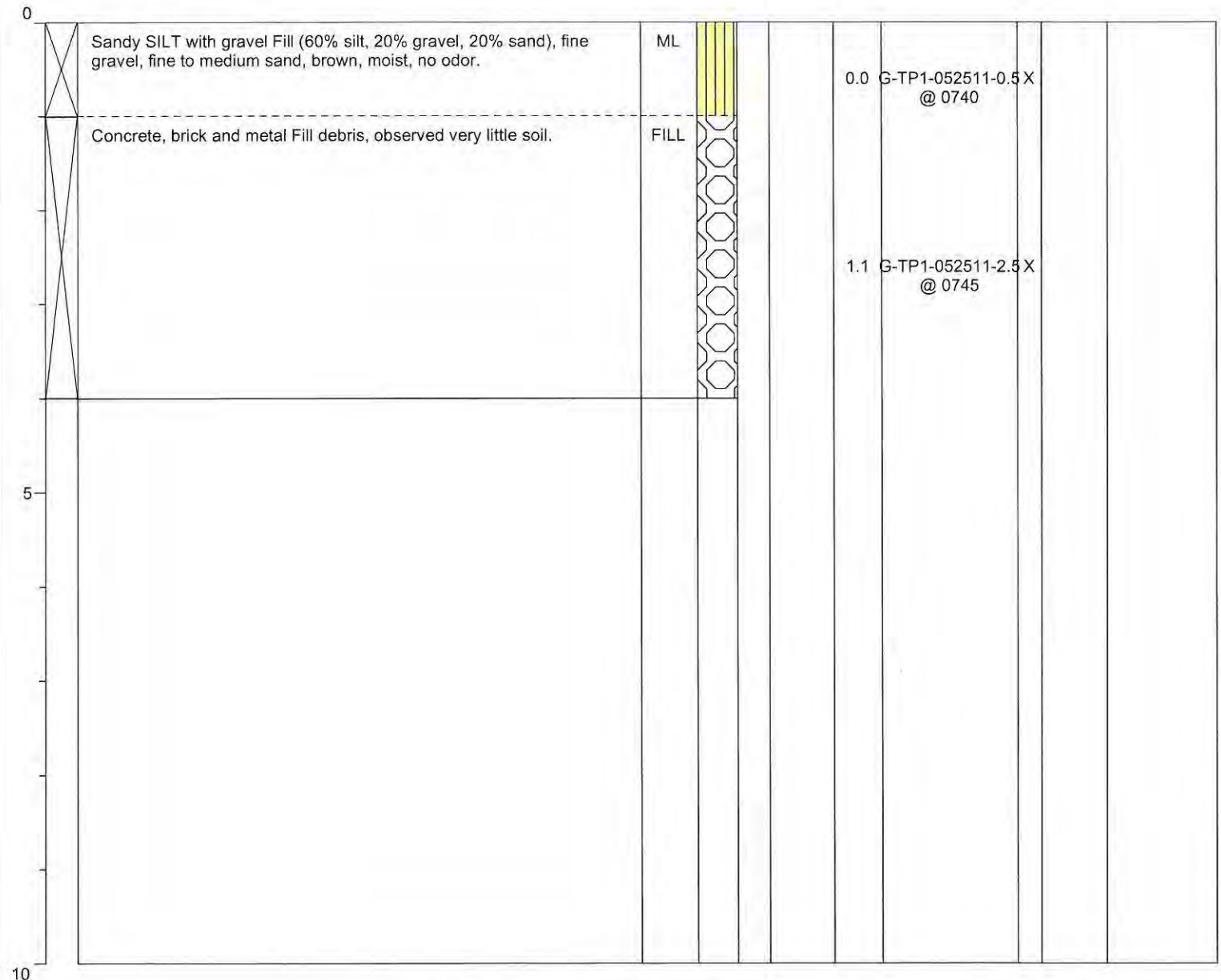
Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/25/11 0715 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/25/11 0750 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 4.0
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:



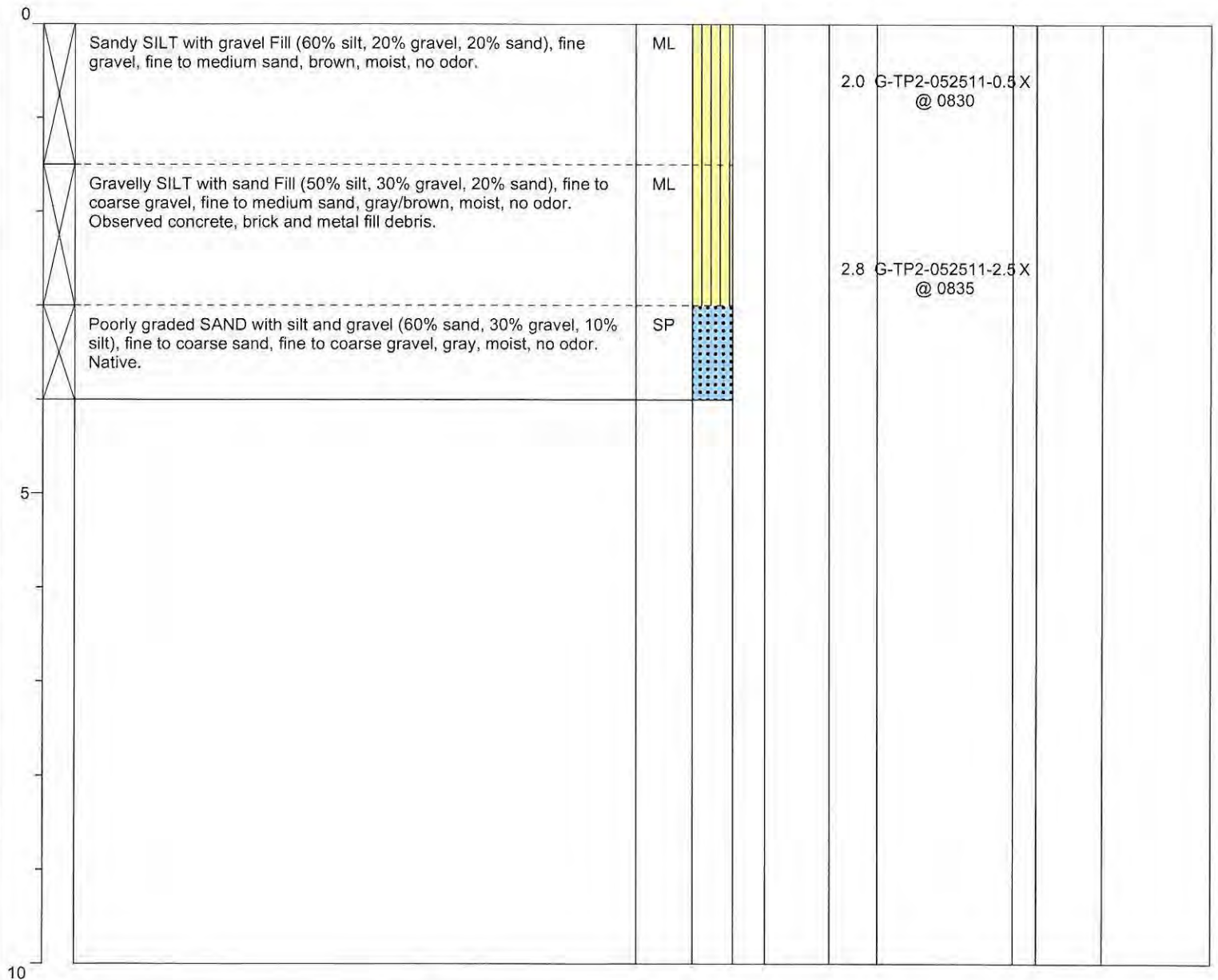
Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/25/11 0810 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/25/11 0840 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 4.0
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

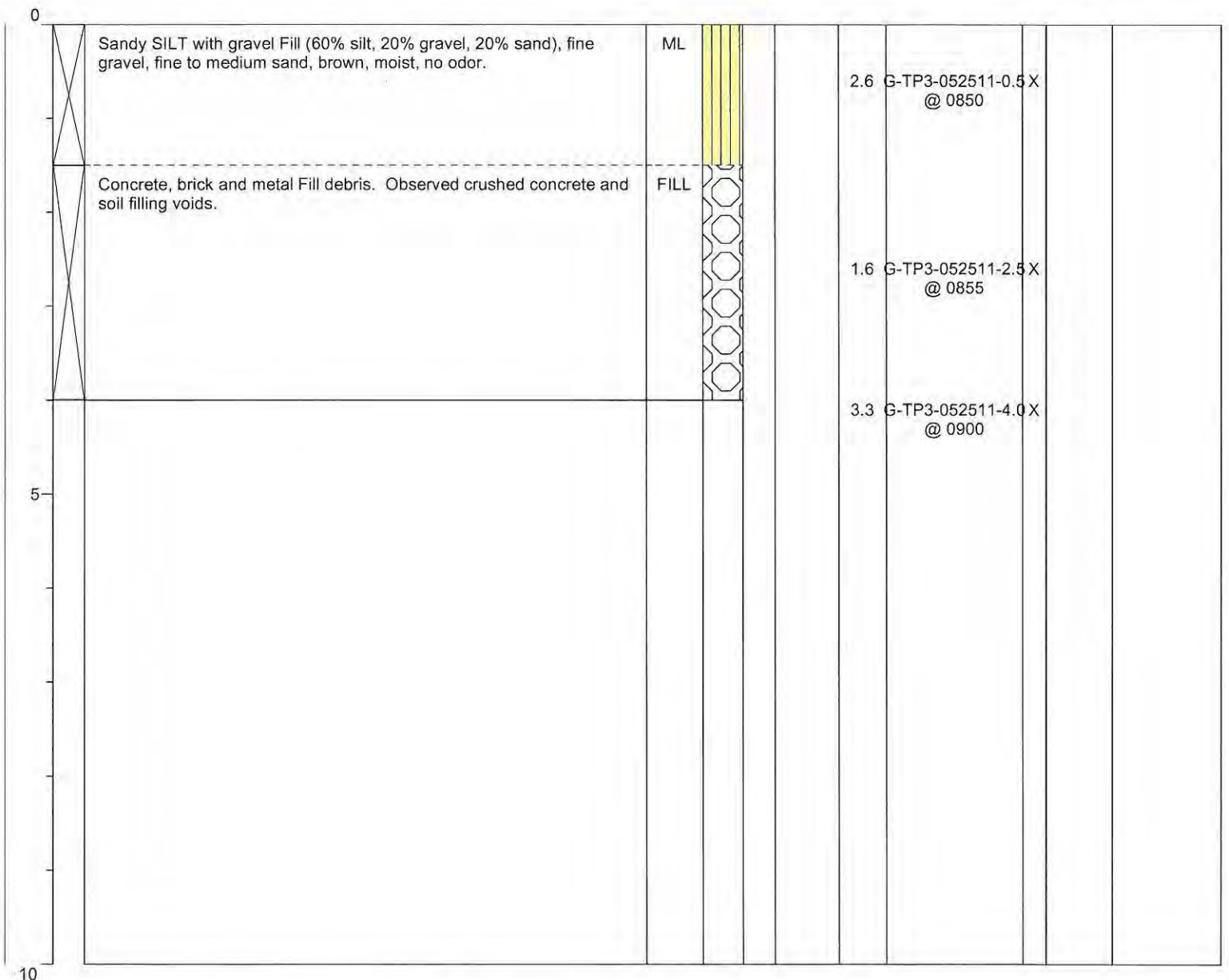
Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/25/11 0840 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/25/11 0915 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 4.0
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

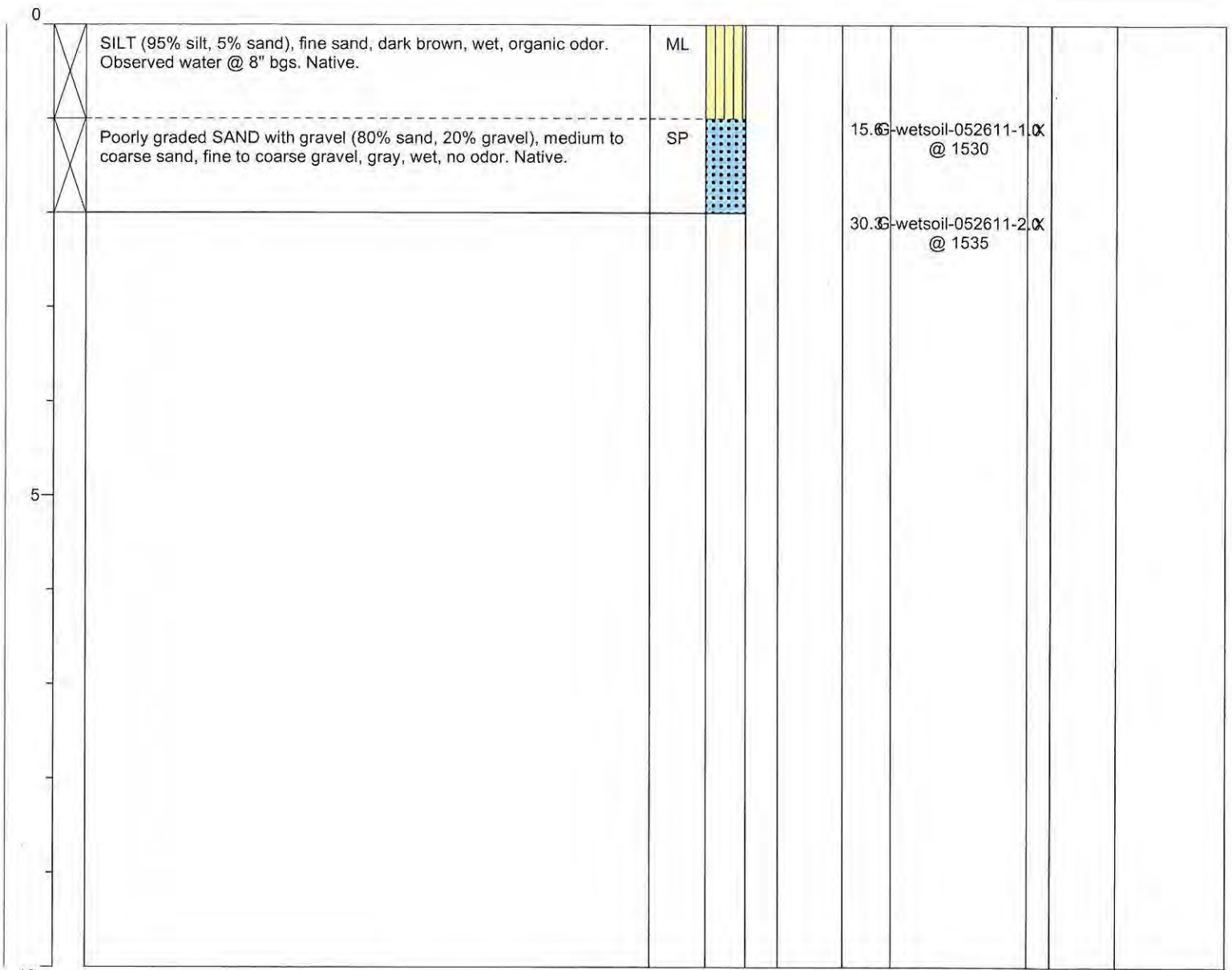
Date/Time Started: 5/26/11 1510
Date/Time Completed: 5/26/11 1545
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 8" bgs
Total Boring Depth (ft bgs): 2.0
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

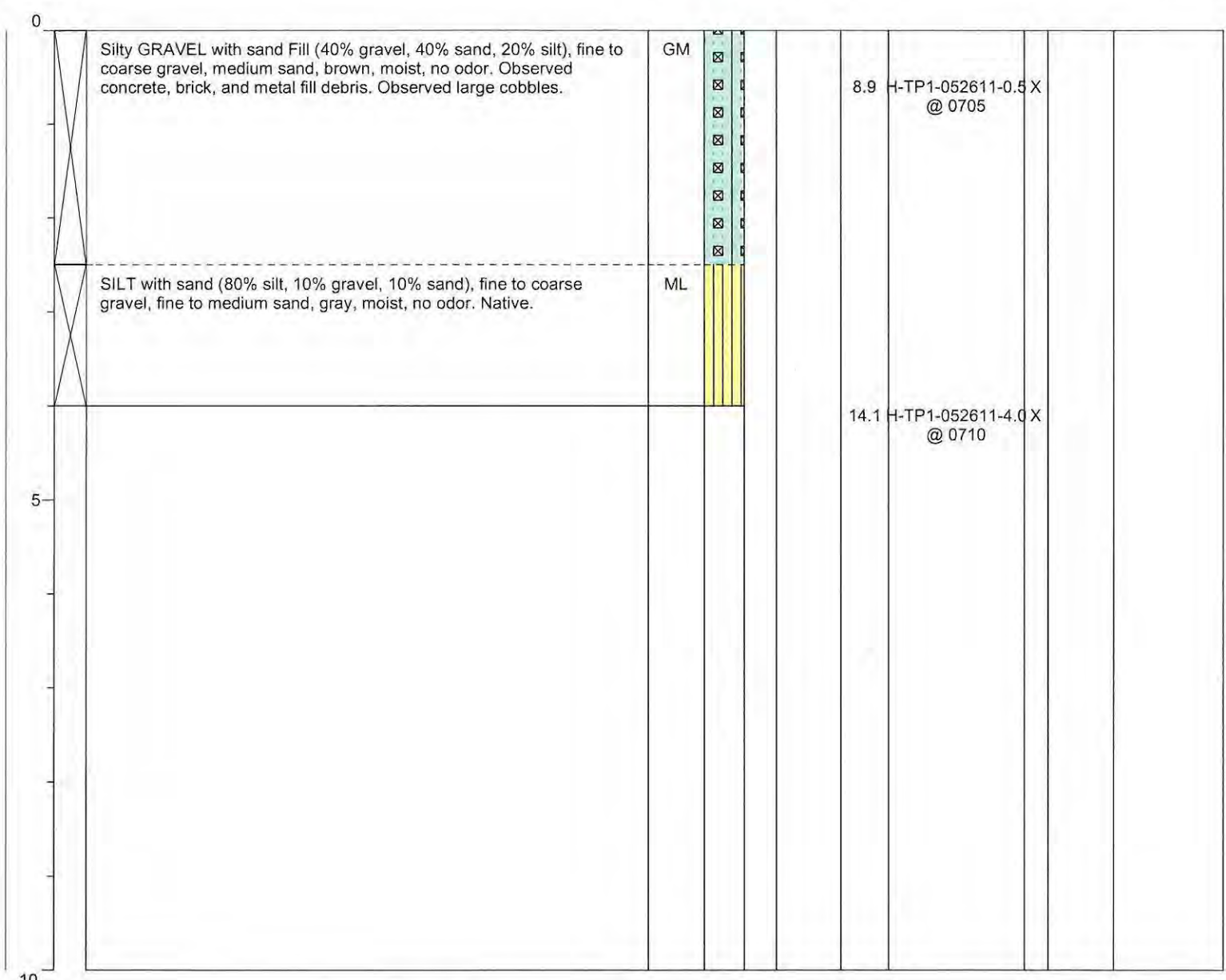
Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/26/11 0645 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/26/11 0750 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 4.0
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

Client: Agri-Tech and Yakima Steel

Project: Yakima Steel Fabricators

Location: Yakima, WA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Date/Time Started: 5/26/11 0755

Date/Time Completed: 5/26/11 0900

Equipment: John Deere 310G

Drilling Company: Glacier Environmental

Drilling Foreman: Shawn Tolbert

Drilling Method: Backhoe

Sampler Type: Backhoe Bucket



Drive Hammer (lbs.):

Depth of Water ATD (ft bgs): Not Encountered

Total Boring Depth (ft bgs): 4.0

Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty GRAVEL with sand Fill (40% gravel, 40% sand, 20% silt), fine to coarse gravel, medium sand, brown, moist, no odor. Observed concrete, brick, and metal fill debris fill. Observed large cobbles.	GM							
								13.3 H-TP2-052611-1.0 X @ 0820		
								13.4 H-TP2-052611-2.5 X @ 0825		
		SILT (90% silt, 10% sand), fine sand, gray, moist, organic odor. Observed some black organic material. Native.	ML							
								19.2 H-TP2-052611-4.0 @ 0830		
5										
10										

Well Construction Information

Monument Type:

Casing Diameter (inches):

Screen Slot Size (inches):

Screened Interval (ft bgs):

Filter Pack:

Surface Seal:

Annular Seal:

Ground Surface Elevation (ft):

Top of Casing Elevation (ft):

Boring Abandonment:

Surveyed Location: X:

Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/26/11 0915
Date/Time Completed: 5/26/11 1000
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): Not Encountered
Total Boring Depth (ft bgs): 4.0
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty GRAVEL with sand Fill (60% gravel, 20% sand, 20% silt), fine gravel, medium sand, brown, moist, no odor.	GM							
		Silty GRAVEL with sand Fill (40% gravel, 40% sand, 20% silt), fine to coarse gravel, medium sand, dark brown, moist, no odor. Observed concrete and metal fill debris. Observed large cobbles.	GM					14.6 H-TP3-052611-0.5 X @ 0945		
		Sandy SILT (60% silt, 30% sand, 10% gravel), medium sand, coarse gravel, gray, moist, sweet odor. Native.	ML					17.5 H-TP3-052611-2.5 @ 0950		
								26.5 H-TP3-052611-4.0 X @ 0955		
5										
10										

Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

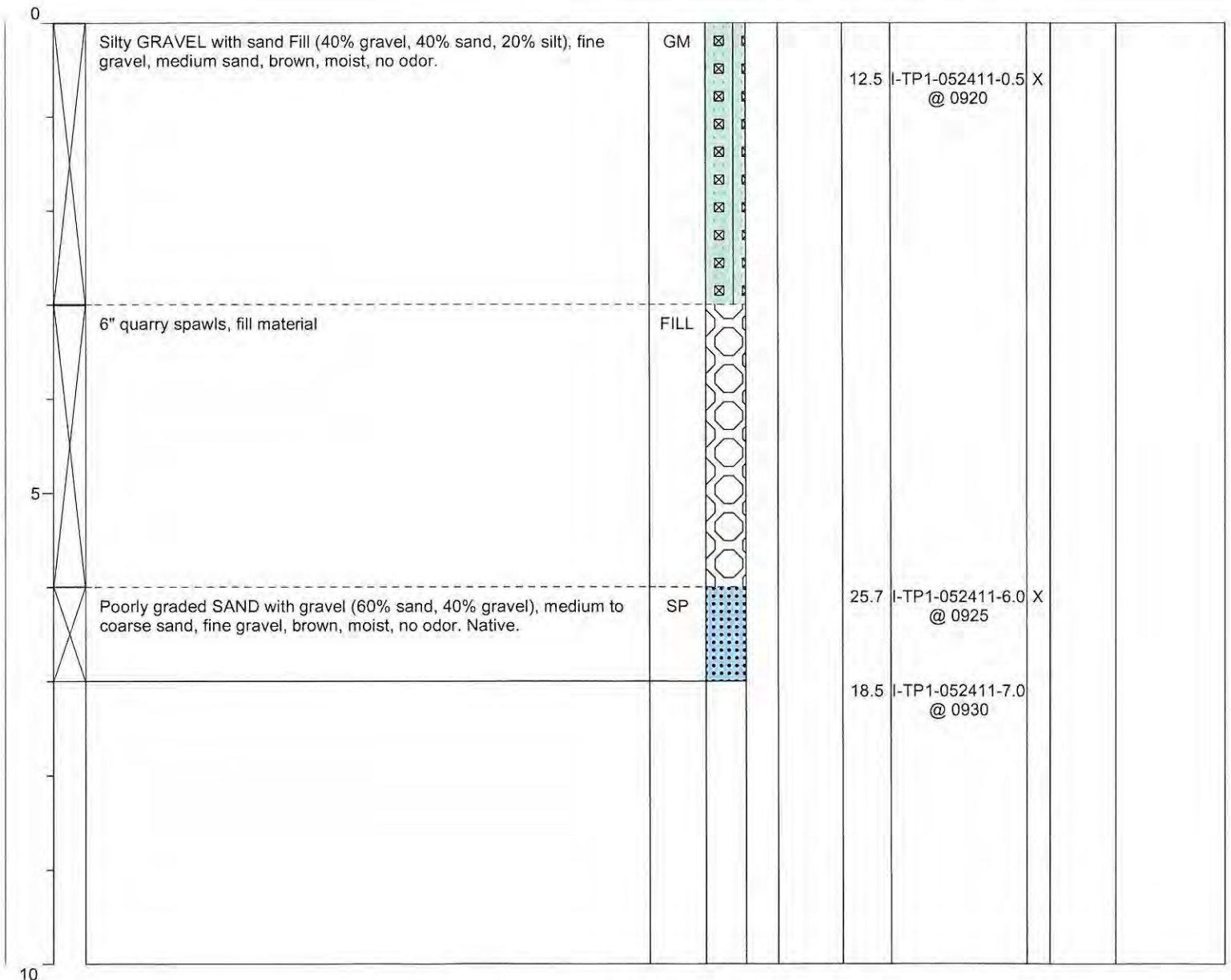
Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/24/11 0850 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/24/11 0935 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 7.0
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/24/11 0945
Date/Time Completed: 5/24/11 1015
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): Not Encountered
Total Boring Depth (ft bgs): 4.0
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty GRAVEL with sand Fill (60% gravel, 20% sand, 20% silt), fine to coarse gravel, medium sand, brown, moist, no odor.	GM							
		Silty SAND with gravel Fill (50% sand, 25% gravel, 25% silt), medium sand, fine to coarse gravel, dark brown, moist, no odor. Observed concrete, brick and metal fill debris.	SM				13.1	I-TP2-052411-0.5 @ 1005	X	
		Poorly graded SAND Fill (90% sand, 10% gravel), medium sand, fine gravel, dark brown, moist, no odor. Observed concrete, brick and metal fill debris.	SP							
		Silty SAND (60% sand, 40% silt), fine to medium sand, gray, moist, odor. Native.	SM				12.1	I-TP2-052411-2.5 @ 1010	X	
5										
10										

Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/24/11 1030
Date/Time Completed: 5/24/11 1245
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 7.5
Total Boring Depth (ft bgs): 7.5
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty GRAVEL with sand Fill (40% gravel, 40% sand, 20% silt), fine to coarse gravel, medium sand, brown, moist, odor. Observed cobbles.	GM							
		Silty GRAVEL with sand Fill (40% gravel, 40% sand, 20% silt), fine to coarse gravel, medium sand, brown/ black, moist, strong petroleum odor. Observed concrete, brick, piping and metal fill debris. Observed 4-inch pipe entering test pit on east edge of excavation 2.0-feet bgs.	GM				721.8	I-TP3-052411-1.5 @ 1235	X	
		SILT with sand (80% silt, 20% sand), fine sand, gray with black staining, moist, petroleum odor. Organic material is observed throughout interval.	ML				825.4	I-TP3-052411-3.0 @ 1130	X	
		Poorly graded SAND with gravel (60% sand, 40% gravel), medium sand, fine to coarse gravel, gray, wet, petroleum odor. Water @ 7.5-feet bgs. Water accumulated in test pit was observed to have a sheen.	SP							
5										
							226.1	I-TP3-052411-7.5 @ 1115	X	
10										

Well Construction Information

Monument Type:
Casing Diameter (inches):
Screen Slot Size (inches):
Screened Interval (ft bgs):

Filter Pack:
Surface Seal:
Annular Seal:

Ground Surface Elevation (ft):
Top of Casing Elevation (ft):
Boring Abandonment:
Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/27/11 0715
Date/Time Completed: 5/27/11 0757
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): 8.0
Total Boring Depth (ft bgs): 8.0
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		Silty GRAVEL with sand Fill (40% gravel, 40% sand, 20% silt), fine to coarse gravel, medium sand, brown, moist, no odor. Observed concrete, asphalt and metal fill debris.	GM							
								26.3 I-TP4-052711-2.5 X @ 0745		
		SILT (90% silt, 10% sand), fine sand, gray, moist, organic odor. Native.	ML							
5		Poorly graded SAND with gravel (60% sand, 40% gravel), medium sand, fine to coarse gravel, gray, wet, no odor. Water @ 8.0-feet bgs. Native.	SP					2.1 I-TP4-052711-5.0 @ 0750		
								1.8 I-TP4-052711-8.0 X @ 0755		
10										

Well Construction Information

Monument Type:
Casing Diameter (inches):
Screen Slot Size (inches):
Screened Interval (ft bgs):

Filter Pack:
Surface Seal:
Annular Seal:

Ground Surface Elevation (ft):
Top of Casing Elevation (ft):
Boring Abandonment:
Surveyed Location: X: Y:



Log of Boring: I-TP5

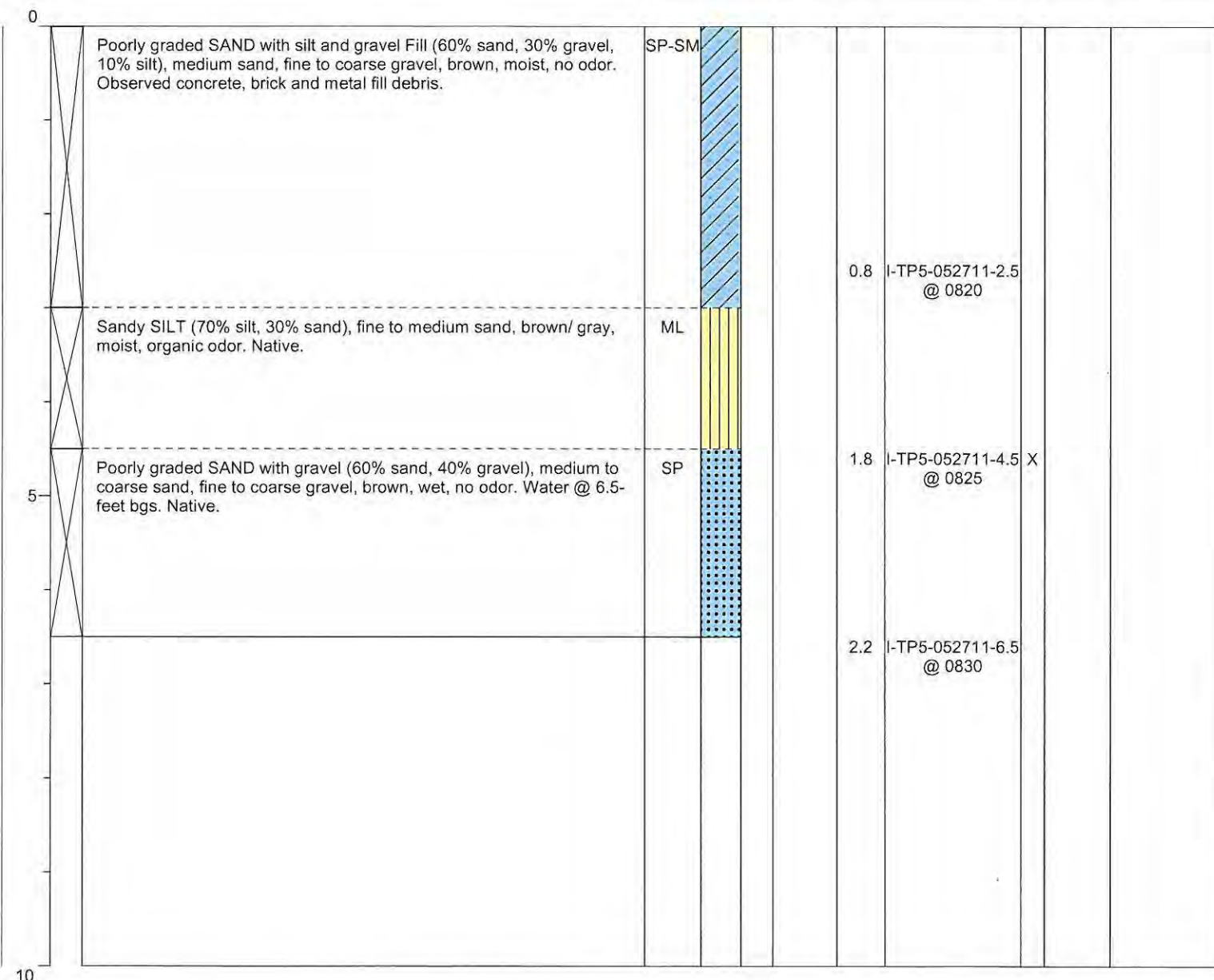
Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/27/11 0800 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/27/11 0830 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** 6.5
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 6.5
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

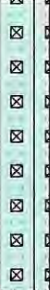
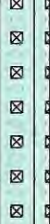


Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/27/11 0925 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/27/11 0945 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** 6.0
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 6.0
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty GRAVEL with sand Fill (40% gravel, 40% sand, 20% silt), fine to coarse gravel, fine to medium sand, brown, moist, no odor. Observed 6-inch slab of concrete on west half of test pit 2.5-feet bgs, does not appear to be debris.	GM							
		Silty GRAVEL with sand Fill (40% gravel, 40% sand, 20% silt), fine to coarse gravel, fine to medium sand, brown, moist, no odor. Observed concrete, brick, plastic, piping and metal fill debris.	GM				1.3	I-TP6-052711-2.5 @ 0930		
5		SILT (90% silt, 10% sand), fine sand, gray, moist, organic odor. Native.	ML				2.1	I-TP6-052711-4.5 X @ 0935		
		Poorly graded SAND with gravel (60% sand, 40% gravel), fine to coarse sand, fine to coarse gravel, brown, wet, no odor. Observed large cobbles. Water @ 6.0-feet bgs. Native.	SP				1.9	I-TP6-052711-5.5 @ 0940		
10										

Well Construction Information

Monument Type:
Casing Diameter (inches):
Screen Slot Size (inches):
Screened Interval (ft bgs):

Filter Pack:
Surface Seal:
Annular Seal:

Ground Surface Elevation (ft):
Top of Casing Elevation (ft):
Boring Abandonment:
Surveyed Location: X: Y:



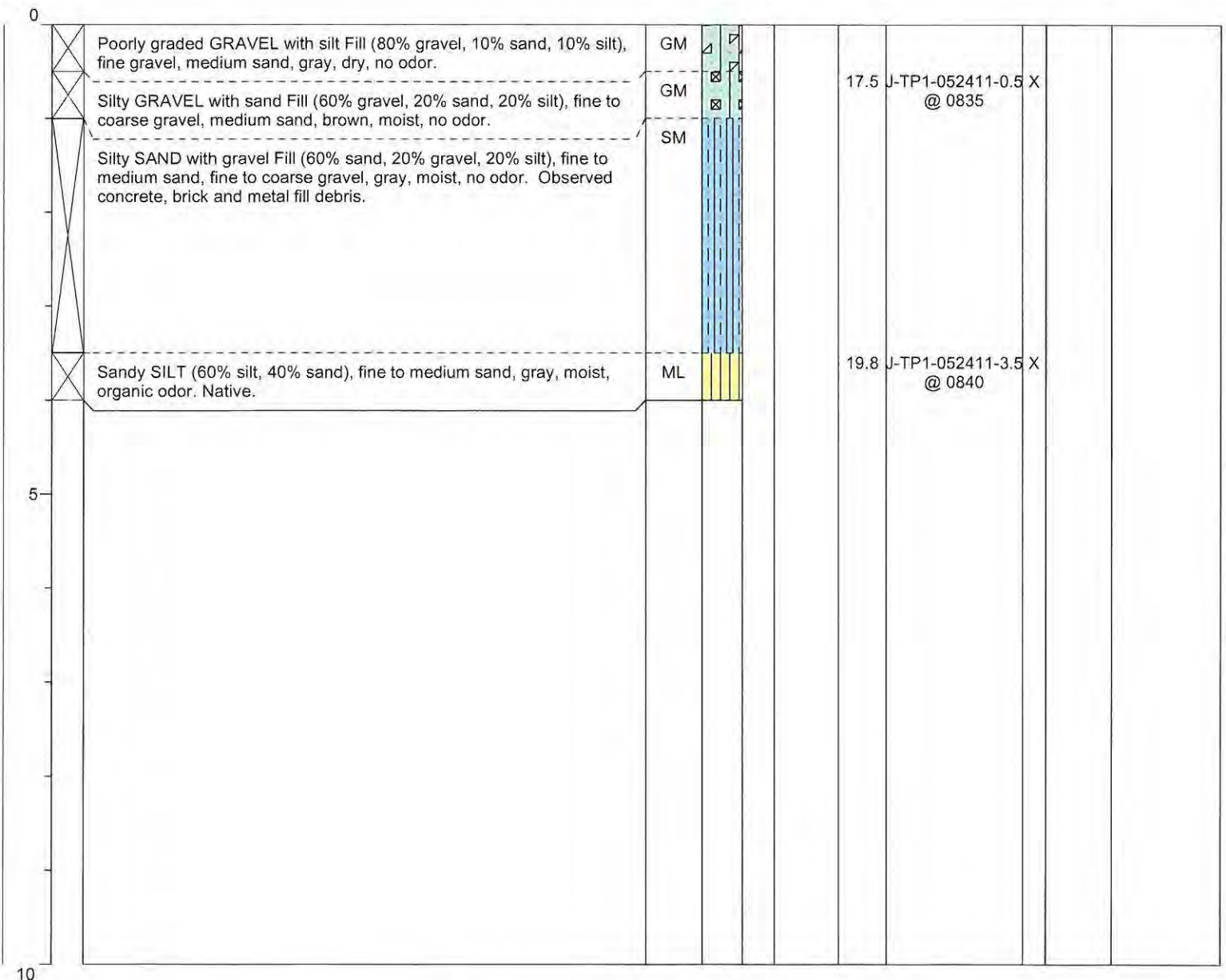
Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/24/11 0811 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/24/11 0845 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 4.0
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/24/11 1350
Date/Time Completed: 5/24/11 1435
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): Not Encountered
Total Boring Depth (ft bgs): 4.0
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Crushed rock Fill.	GP							
		Silty GRAVEL with sand Fill (60% gravel, 20% sand, 20% silt), fine to coarse gravel, medium sand, brown, moist, no odor. Observed concrete, brick, piping and metal fill debris.	GM					12.8 J-TP2-052411-0.5 X @ 1430		
								17.7 J-TP2-052411-2.5 X @ 1435		
5										
10										

Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

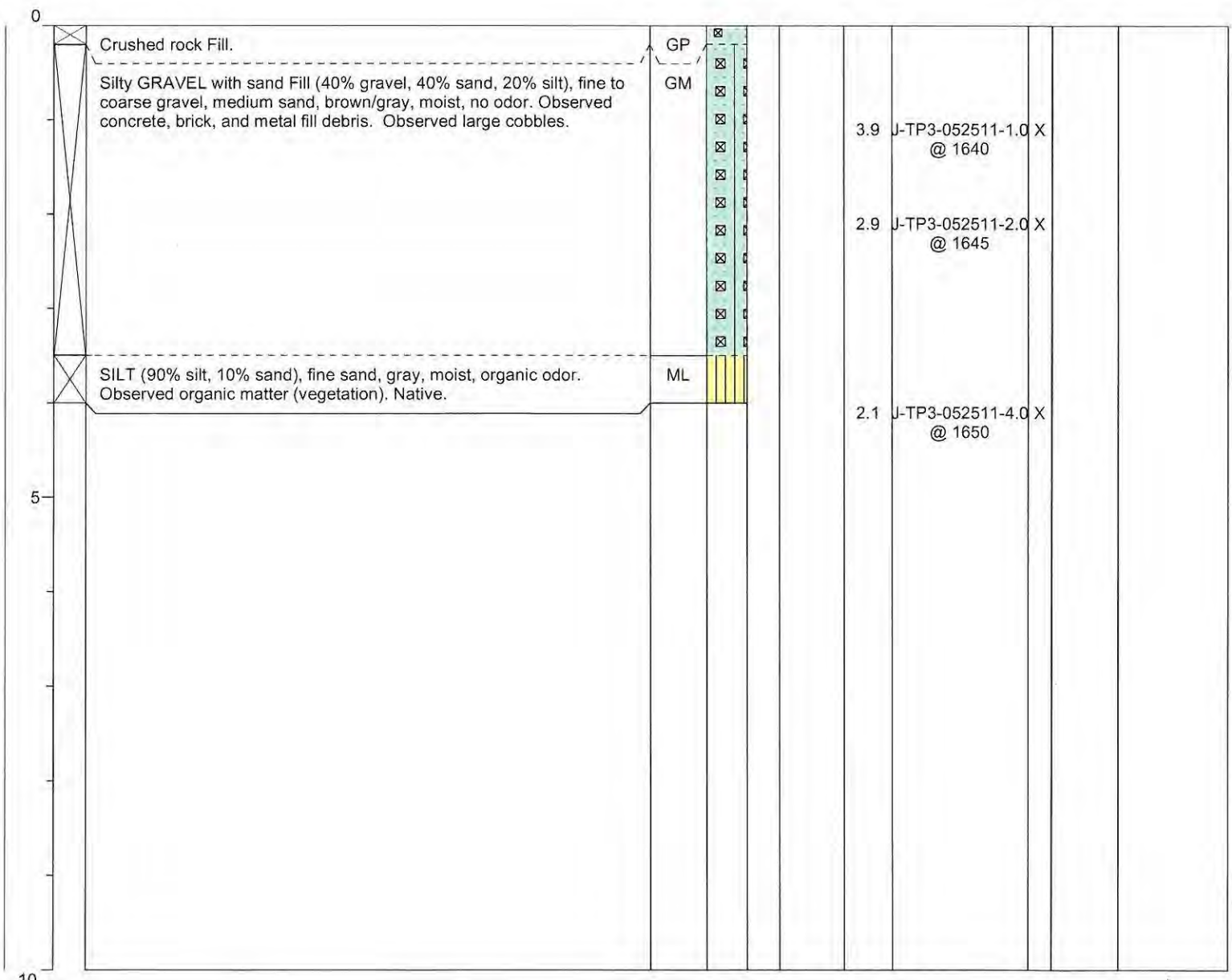
Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/25/11 1605 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/25/11 1650 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 4.0
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type:
Casing Diameter (inches):
Screen Slot Size (inches):
Screened Interval (ft bgs):

Filter Pack:
Surface Seal:
Annular Seal:

Ground Surface Elevation (ft):
Top of Casing Elevation (ft):
Boring Abandonment:
Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/23/11 1240
Date/Time Completed: 5/23/11 1407
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): Not Encountered
Total Boring Depth (ft bgs): 4.0
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty GRAVEL with sand Fill (40% gravel, 40% sand, 20% silt), fine gravel, medium sand, brown, moist, no odor. Observed metal fill debris.	GM					30.1 K-TP1-052311-0.5 X @ 1350		
		Silty SAND with gravel Fill (50% sand, 30% gravel, 20% silt), medium sand, fine gravel, brown, moist, no odor. Observed brick fill debris.	SM					17.3 K-TP1-052311-2.5 X @ 1355		
5										
10										

Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/23/11 1415 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/23/11 1450 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 4.0
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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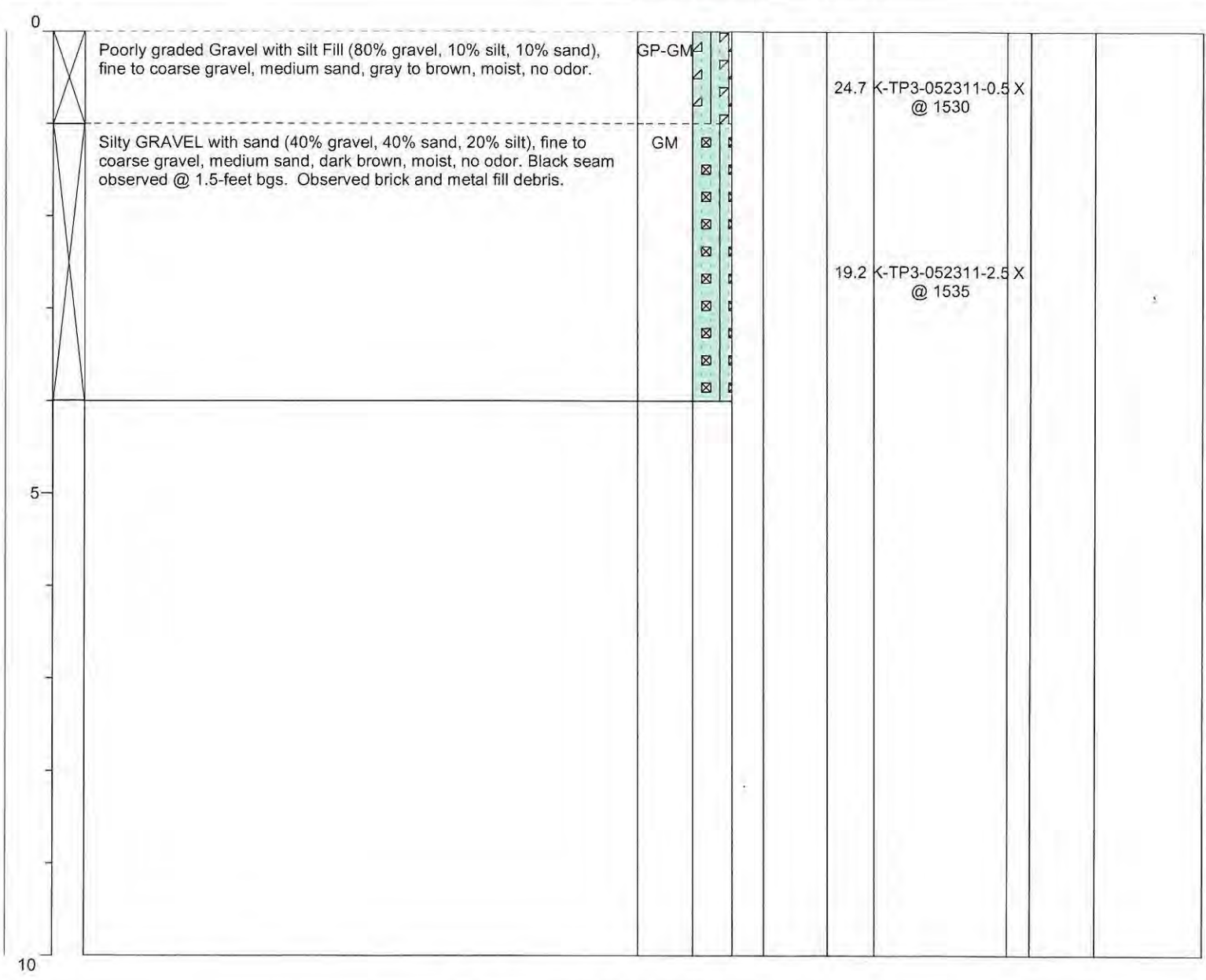
0		Silty GRAVEL with sand Fill (70% gravel, 15% sand, 15% silt), fine to coarse gravel, medium sand, light gray to brown, dry to moist, no odor.	GM							
		Silty SAND Fill (80% sand, 20% silt), fine sand, black, moist, no odor. Observed brick fill debris.	SM				14.3	K-TP2-052311-1.5 X @ 1440		
		Silty SAND (60% sand, 40% silt), fine to coarse sand, gray, moist, no odor. Native.	SM				23.5	K-TP2-052311-4.0 X @ 1445		
5										
10										

Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA
Farallon PN: 765-001
Logged By: Ryan Hibbs

Date/Time Started: 5/23/11 1505 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/23/11 1535 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 4.0
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

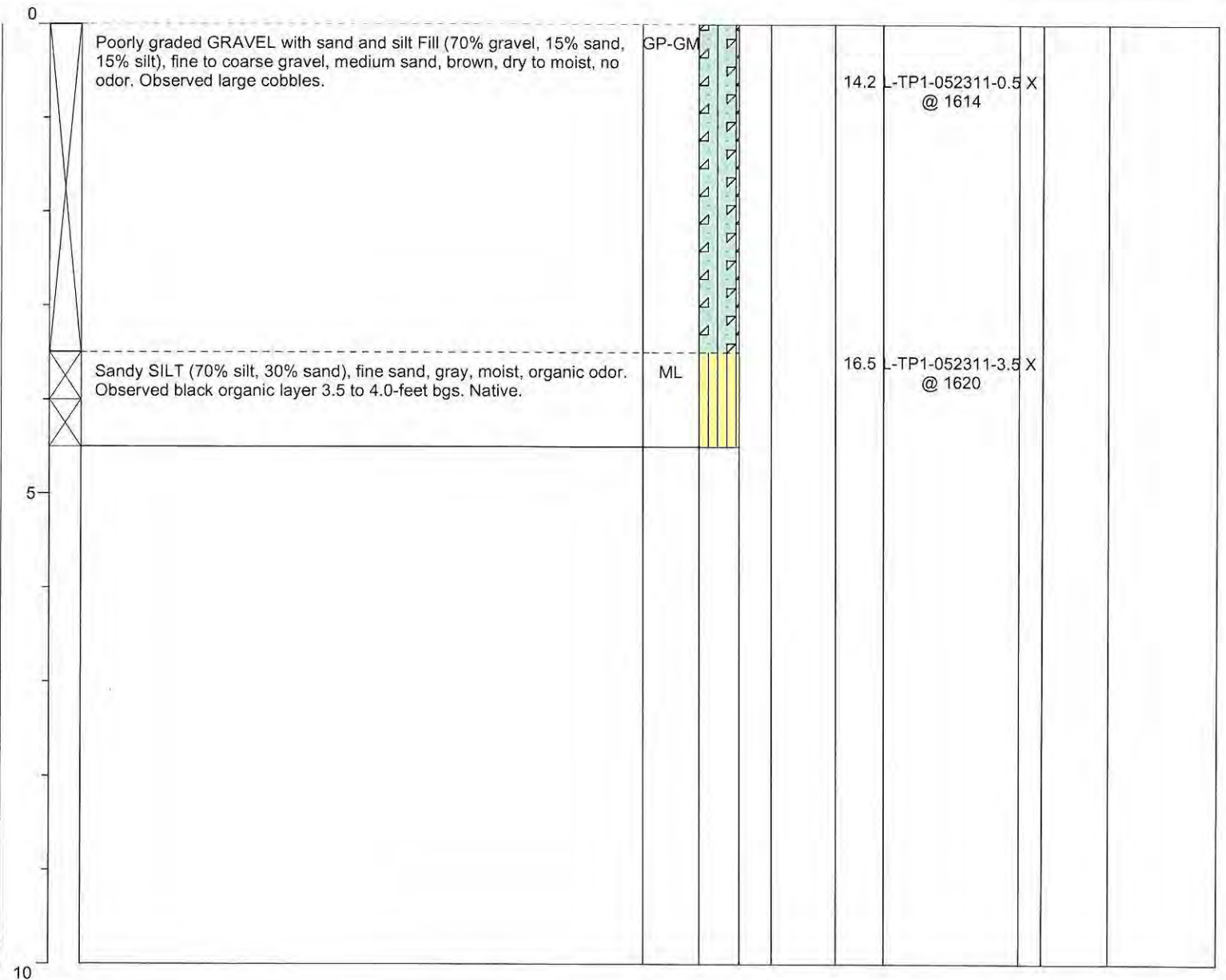
Date/Time Started: 5/23/11 1545
Date/Time Completed: 5/23/11 1630
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): Not Encountered
Total Boring Depth (ft bgs): 4.5
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/23/11 1640 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/23/11 1700 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 4.0
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		Silty GRAVEL with sand Fill (60% gravel, 20% sand, 20% silt), fine to coarse gravel, medium sand, dark brown, moist, no odor. Observed large cobbles. Observed, concrete, brick and metal fill debris.	GM					14.2 L-TP2-052311-0.5 X @ 1650		
								24.9 L-TP2-052311-2.5 X @ 1700		
5										
10										

Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

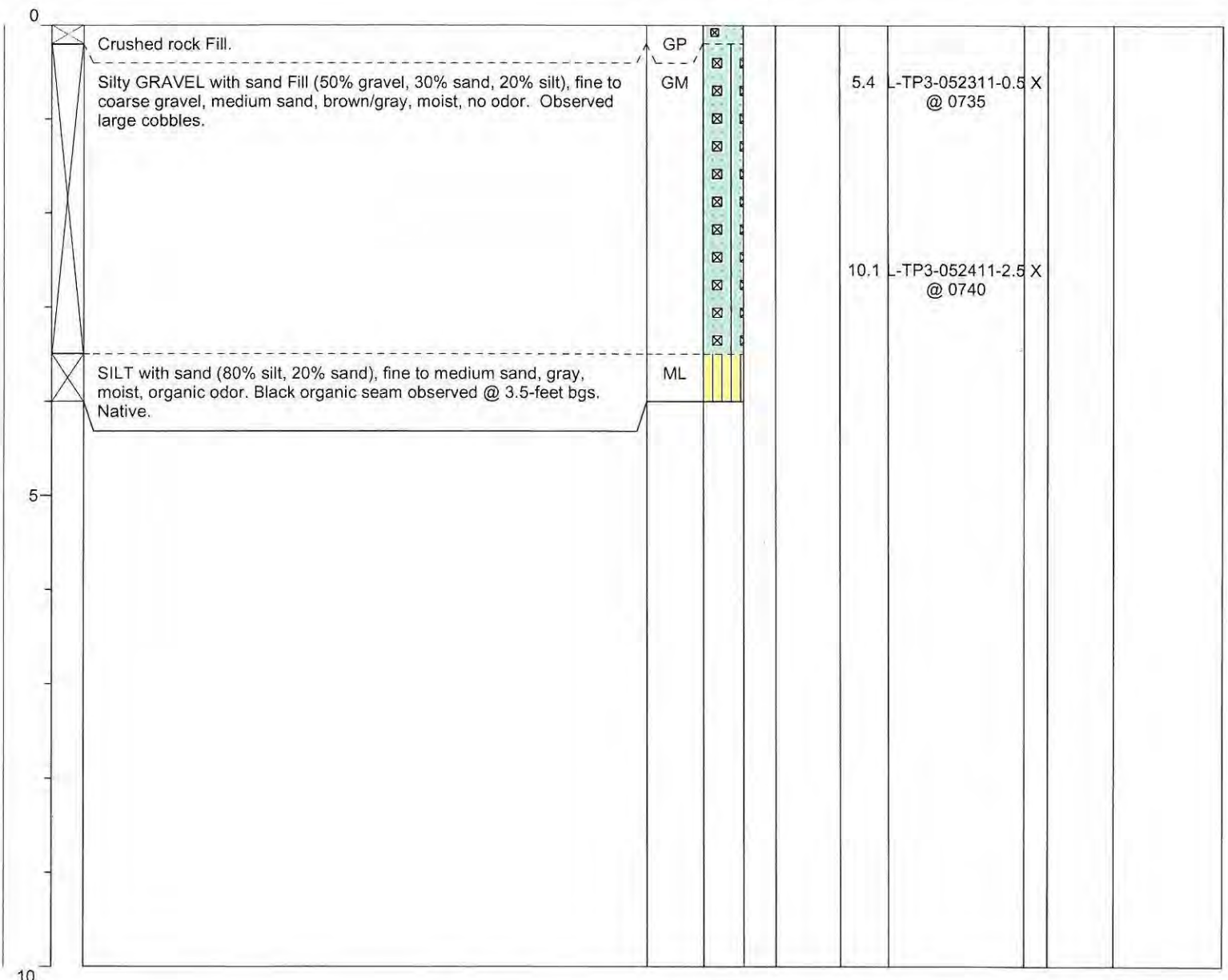
Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/24/11 0710 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/24/11 0800 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 4.0
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

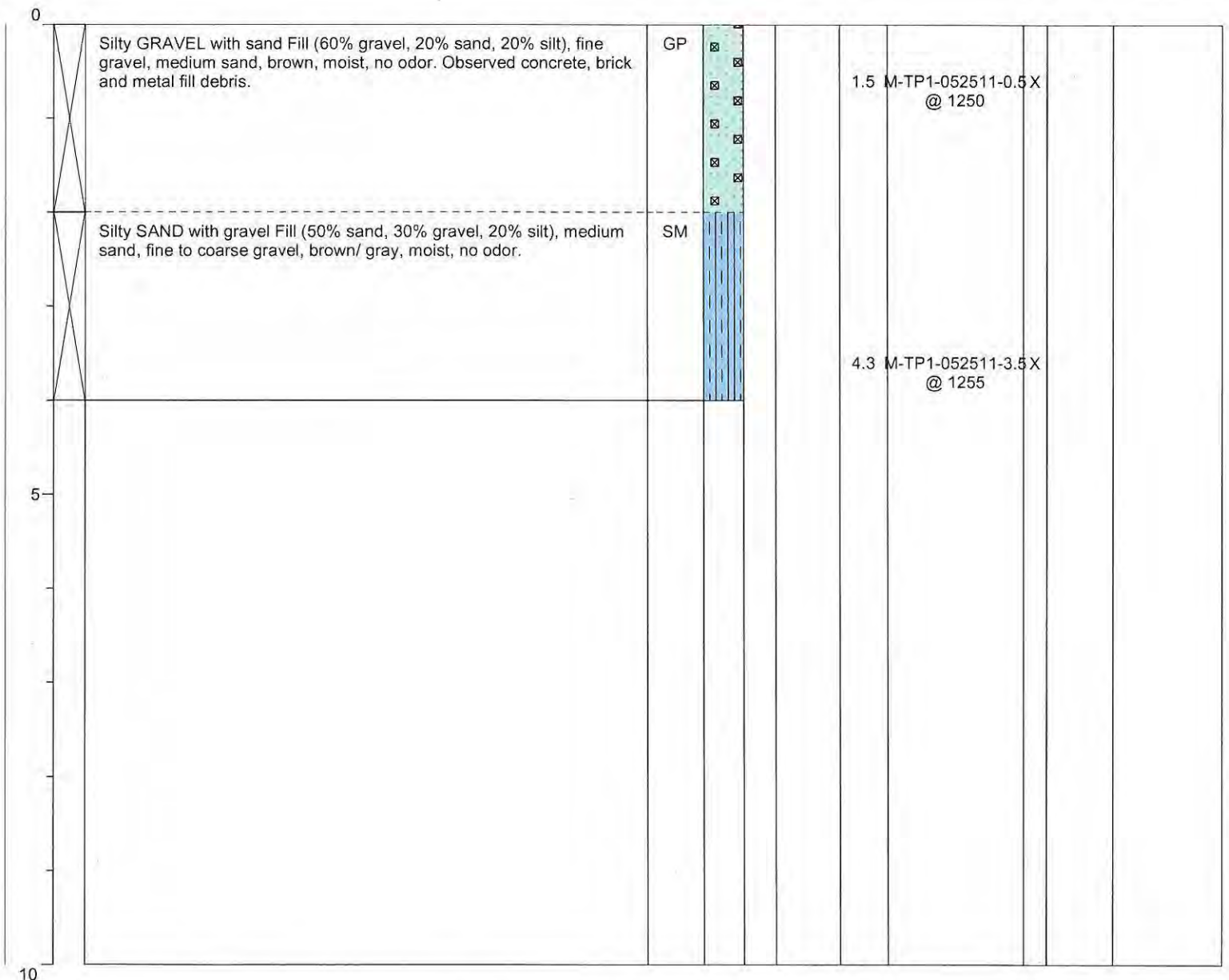
Date/Time Started: 5/25/11 1150
Date/Time Completed: 5/25/11 1300
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): Not Encountered
Total Boring Depth (ft bgs): 4.0
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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Well Construction Information

Monument Type:
Casing Diameter (inches):
Screen Slot Size (inches):
Screened Interval (ft bgs):

Filter Pack:
Surface Seal:
Annular Seal:

Ground Surface Elevation (ft):
Top of Casing Elevation (ft):
Boring Abandonment:
Surveyed Location: X: Y:




Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/25/11 1325 **Sampler Type:** Backhoe Bucket
Date/Time Completed: 5/25/11 1420 **Drive Hammer (lbs.):**
Equipment: John Deere 310G **Depth of Water ATD (ft bgs):** Not Encountered
Drilling Company: Glacier Environmental **Total Boring Depth (ft bgs):** 4.5
Drilling Foreman: Shawn Tolbert **Total Well Depth (ft bgs):** NA
Drilling Method: Backhoe

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Silty GRAVEL with sand Fill (40% gravel, 40% sand, 20% silt), fine to coarse gravel, fine to medium sand, dark brown, moist, no odor.	GP					2.4 M-TP2-052511-0.5X @ 1415		
		Silty SAND with gravel Fill (50% sand, 30% gravel, 20% silt), fine to coarse sand, fine to coarse gravel, brown, moist, no odor. Observed large cobbles 6". Observed seam of light brown medium sand @ 1.0 to 1.5-feet bgs. Observed concrete, brick and metal fill debris.	SM							
		SILT with sand (80% silt, 20% sand), fine to medium sand, gray, moist, organic odor. Native.	ML					6.2 M-TP2-052511-4.0X @ 1420		
5										
10										

Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:



Client: Agri-Tech and Yakima Steel
Project: Yakima Steel Fabricators
Location: Yakima, WA

Date/Time Started: 5/24/11 1450
Date/Time Completed: 5/24/11 1530
Equipment: John Deere 310G
Drilling Company: Glacier Environmental
Drilling Foreman: Shawn Tolbert
Drilling Method: Backhoe

Sampler Type: Backhoe Bucket
Drive Hammer (lbs.):
Depth of Water ATD (ft bgs): Not Encountered
Total Boring Depth (ft bgs): 4.0
Total Well Depth (ft bgs): NA

Farallon PN: 765-001

Logged By: Ryan Hibbs

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
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0		Sandy SILT Fill (60% silt, 40% sand), fine to medium sand, brown, moist, no odor.	ML					11.3 N-TP1-052411-0.5 X @ 1515		
		Sandy SILT with gravel Fill (60% silt, 20% sand, 20% gravel), fine to medium sand, fine gravel, brown, moist, no odor. Observed concrete fill debris.	ML					28.3 N-TP1-052411-2.5 X @ 1530		
		SILT with sand (80% silt, 20% sand), fine to medium sand, gray, moist, organic odor. Native.	ML							
5										
10										

Well Construction Information		
Monument Type:	Filter Pack:	Ground Surface Elevation (ft):
Casing Diameter (inches):	Surface Seal:	Top of Casing Elevation (ft):
Screen Slot Size (inches):	Annular Seal:	Boring Abandonment:
Screened Interval (ft bgs):		Surveyed Location: X: Y:

APPENDIX D
WETLAND EVALUATION TECHNICAL MEMORANDUM

FEASIBILITY STUDY REPORT
Agri-Tech and Yakima Steel Fabricators
6 and 10½ East Washington Avenue
Yakima, Washington

Farallon PN: 765-001

T E C H N I C A L M E M O R A N D U M

TO: Chris Wend – Washington State Department of Ecology (by mail and e-mail)

cc: Merv Wark – Yakima Steel Fabricators (by e-mail)
Clark Davis – Davis Law Office, PLLC (by e-mail)

FROM: Eric Buer, L.G., L.H.G., Associate Hydrogeologist
Jeff Kaspar, L.G., L.H.G., Principal Geologist

DATE: July 17, 2017

RE: **WETLAND EVALUATION TECHNICAL MEMORANDUM**
AGRI-TECH AND YAKIMA STEEL FABRICATORS SITE
YAKIMA, WASHINGTON
AGREED ORDER NO. DE 6091
FARALLON PN: 765-001

Farallon Consulting, L.L.C. (Farallon) has prepared this technical memorandum to provide the Washington State Department of Ecology (Ecology) with a summary of the previous soil and sediment investigations and the results of a sediment cleanup site evaluation performed for the approximately 0.45-acre wetland on the southern portion of 6 and 10½ East Washington Avenue in Yakima, Washington (herein referred to as the Site) (Figure 1). This information is provided to support a determination of whether further evaluation of the wetland is needed as part of the Feasibility Study for the Site. Farallon has prepared this memorandum on behalf of Yakima Steel Fabricators, Inc. (YSF) for the YSF and Agri-Tech, Inc. (Agri-Tech) properties that comprise the Site.

The work described in this technical memorandum was performed to meet the requirements of Agreed Order No. DE 6091 dated October 27, 2008, entered into by Ecology and YSF pursuant to the authority of the Washington State Model Toxics Control Act Cleanup Regulation (MTCA); and the First Amendment to Agreed Order No. DE 6091 dated October 17, 2016. Documents used in the preparation of this technical memorandum are provided in Attachment A.



BACKGROUND

The Site consists of Yakima County Tax Parcel Nos. 19133141009 and 19133141409 (Figure 2). Two structures currently are present at the Site: one single-story building currently used for steel fabrication and business offices on the YSF property (YSF building); and one single-story warehouse building on the Agri-Tech property (Agri-Tech building). Currently, the Agri-Tech building is leased by the operator of YSF for use in its steel fabrication operations. The wetland area is present on the southernmost portion of Yakima County Parcel No. 19133141009.

From 2011 through 2014, Farallon conducted a supplemental remedial investigation (RI) of soil and sediment quality to characterize the source, nature, and extent of the chemicals of potential concern (COPCs), including petroleum hydrocarbons, metals, chlorinated pesticides, carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and volatile organic compounds (VOCs), in soil and groundwater on the southern parcel (Yakima County Parcel No. 19133141009) of the Site. The original work scope for completion of the supplemental RI was approved by Ecology and established in the *Feasibility Study Work Plan, Agri-Tech and Yakima Steel Fabricators, 6 and 10½ East Washington Avenue, Yakima, Washington* dated May 3, 2011, prepared by Farallon (FS Work Plan). This memorandum focuses on the area of the wetland in the southernmost portion of the Site, which can be evaluated as a separate sediment management unit under the Sediment Management Standards (SMS), Chapter 173-204 of the Washington Administrative Code (WAC 173-204).

Pertinent information regarding current and historical uses in this area of the Site and surrounding properties and a summary of previous sampling conducted in the wetlands area is presented below. More detailed descriptions of the Site features, ownership and operation, historical Site use, use of surrounding properties, and previous work conducted at the Site are provided in the FS Work Plan and the *Revised Remedial Investigation Report, Agri-Tech & Yakima Steel Fabricators, 6 and 10½ East Washington Avenue, Yakima, Washington* dated June 10, 2004, prepared by Farallon (RI Report).

SITE USAGE AND AREAS OF INVESTIGATION

Based on the historical Site uses, three areas of investigation have been established (Figure 2):

- Area 1 – Area 1, north of the Site wetland, includes the former Yakima Farmer Supply lime and sulfur processing plant, and the area of the plant's former waste pit.
- Area 2 – Area 2, north of the Site wetland, is present on the central and eastern portions of the YSF property between the YSF building and the east-adjacent automobile recycling facility, and is suspected to have included stockpiles of bulk lime and sulfur.
- Area 3 – Area 3 is southwest of the YSF building where a small release of petroleum hydrocarbons was suspected by Ecology proximate to the YSF building and north of the Site wetland. Ecology also identified Area 3 as a potential area of metals contamination due to historical activities at the west-adjacent Bay Chemical Company property, described



in further detail below. Area 3 also currently includes a former pond and the current wetland area.

The wetland was once part of a larger pond where the northern portions were filled during the early years of YSF's acquisition to accommodate steel storage. Since the 1980s the footprint of the pond has continued to shrink to its current size, resulting in the current estimated 0.45-acre wetland. The shrinking condition appears to be largely due to changes in surrounding land use, which changed from rural farming to commercial/industrial. Because of the change in land use, seasonal irrigation channels are no longer introducing water that formerly sustained the pond. The aerial photographs presented in Figure 3 depicted the evolution of the pond area to its current wetland status between 1979 to 2016. No buildings have been located, and no activities other than bulk steel storage have reportedly been conducted on the southern portion of the Site. No prior anthropomorphic uses have been documented within the extent of the existing wetland or former pond area.

Historical uses of the Site, including operation of a steel fabrication facility (1980 to present), operation of a fruit packing supply and equipment company (1982 through 1989), and construction and operation of a lime and sulfur formulating plant (1960 through approximately 1978), occurred in Areas 1 and 2, north of Area 3, and in the filled portion of the wetland.

The west-adjacent property is owned by BNSF Railroad Company and historically leased to Bay Chemical Company (Bay Chemical property). A former sludge settling pond area was present on the Bay Chemical property immediately adjacent to the wetland. The sludge settling pond was used for disposal of waste sludge generated during production of liquid zinc sulfate by reacting steel mill flue dust with sulfuric acid on the northern portion of the Bay Chemical property. The sludge settling pond previously was identified as one of two sources of metals contamination to the Site in the technical memorandum regarding Metals Source Evaluation, Agri-Tech and Yakima Steel Fabricators Site, Yakima Steel Fabricators, Yakima, Washington dated October 4, 2016, from Eric Buer and Jeff Kaspar of Farallon to Chris Wend of Ecology (Metals Source Evaluation). According to the Metals Source Evaluation, sampling station WetSed-1 is closest to the Bay Chemical property sludge settling pond from which flue dust and associated metals were likely transported onto the Site by wind and surface water flow.

The Site wetland is bordered by drainage ditches to the south and east that join near the southeastern corner of the Site. No records are available to identify over what period the ditches received dredging and maintenance or when maintenance ceased. As of 2008, the ditches sloped generally to the east/southeast. Based on review of aerial photographs taken in 1979, 1992, 1996, 2003, 2004, 2009, and 2016, the drainage ditches and areas south and east of the Site wetland have remained vegetated and undeveloped since 1979. Site soil to the west and south of the wetland was excavated as part of an Ecology-approved cleanup action that was performed by BNSF between July 30 and October 5, 2007. The cleanup action did not include the wetland area. The excavation extended to a maximum depth of approximately 6 feet below ground surface (bgs) proximate to the drainage ditch south of the wetland. Following the cleanup action, the area was backfilled to the approximate grade currently observed on the Site.



Because the wetland is topographically distinct (3 to 5 feet below the surrounding Site topography); has unique environmental conditions, including seasonal standing water and saturated surface soil; and is subject to sediment criteria that do not apply to other portions of the Site (see below), Farallon recommends that the Site wetland be evaluated as its own area of the Site, Area 4, under the SMS. Wetland buffer areas would remain part of Area 3 as described above.

WETLAND ASSESSMENT AND SEDIMENT EVALUATION

This section presents a description of the Site wetland based on the letter regarding Yakima Steel Fabricators Wetland Assessment Report dated September 13, 2016, from Chris Wend of Ecology to Jeff Kaspar of Farallon (Ecology assessment) (Attachment B). Results of wetland sediment sampling and analysis and sediment bioassay results are also presented.

WETLAND DESCRIPTION AND ECOLOGY ASSESSMENT

A pond has been present on the Site since at least 1979. The present wetland area originally was part of the larger pond. Since the late 1990s, the pond portion of the wetland has transitioned from perennial open water to intermittent standing water with increased growth of reeds and grasses in soft, saturated soil. The footprint of the wetland, including the intermittent pond, was surveyed as part of the RI Report in 1997 and estimated to be approximately 0.4 acre. A wetland delineation performed by Ecology on August 25, 2016 revised the wetland extent to the south and east, and increased the total area to approximately 0.45 acre.

The wetland delineation performed by Ecology was documented in the Ecology assessment provided in Attachment B. The Ecology assessment determined the extent of the wetland based on visual inspection and excavation of an observation pit proximate to the wetland's eastern boundary to confirm the presence of hydric soil.

The Ecology assessment identified the wetland as the area that is "much lower" than the surrounding ground surface, generally within approximately 3 to 5 vertical feet of the pond surface. Because the pond portion of the wetland is sustained by groundwater, approximately 0.3 acre of the 0.45-acre wetland footprint was classified as "emergent" (Figure 3). Per the Ecology assessment, trees and shrubs growing in the area surrounding the wetland and proximate to the ditch to the east, above the area identified to be within 3 to 5 vertical feet of the pond surface area, are in the wetland buffer.

Based on the wetland's morphology, hydrology, and vegetation assemblage, Ecology assigned the wetland a Category III rating. Category III wetlands are identified as having moderate ecological function with some disturbance from their natural state. Category III wetlands are also more isolated from other natural resources in the surrounding landscape than Category II wetlands.



SOIL AND SEDIMENT SAMPLING

Following initial identification of the Site wetland and survey of the wetland boundary in 1997, Ecology requested that soil samples collected from locations with intermittent standing water or perennially saturated conditions be evaluated against SMS criteria as detailed in the letter regarding Feasibility Work Plan Additional Requirements for Wetlands/Pond Area of the Yakima Steel Site Under Agreed Order DE 6091 dated February 16, 2011, from Norman D. Peck of Ecology to Jeff Kaspar of Farallon. SMS criteria include both sediment cleanup objectives (SCOs) and cleanup screening levels (CSLs). Farallon sampled Site wetland soil and sediment on May 23 and 26, 2011 at six locations (Figure 3). Sediment samples were analyzed for the following analytes:

- Metals by U.S. Environmental Protection Agency (EPA) Methods 6000/6010/7000;
- Total petroleum hydrocarbons as gasoline-, as diesel-, and as oil-range organics by Northwest Methods NWTPH-HCID and NWTPH-Dx;
- VOCs by EPA Method 8260B; and
- Pesticides by EPA Method 8081.

Sediment samples were collected from locations that were either intermittently submerged by standing water or were saturated throughout the year from a depth interval of 0 to 10 centimeters below ground surface. However, in the period between Farallon soil and sediment sampling and when the Ecology wetland delineation was performed, saturated conditions associated with the intermittent pond/emergent wetland have expanded to encompass stations previously identified for soil sampling. Thus, all six samples are evaluated as sediment samples in this section.

Analytical results for the wetland samples are provided in Tables 1 through 4. Concentrations of cadmium, lead, and zinc in sediment were elevated in the central portion of the emergent wetland (stations WetSed-1 through WetSed-3) compared to the concentrations observed at the outlying sampling stations (WetSoil-1 and WetSoil-2 to the south, and WetSoil-3 to the north). Cadmium was detected at concentrations exceeding the CSL of 5.4 milligrams per kilogram (mg/kg) in samples collected from the three central sampling stations. Cadmium was detected at concentrations exceeding the SCO of 2.1 mg/kg in sediment collected from sampling station WetSoil-1, south of the central WetSed station group, at a depth of 0 to 6 inches bgs. Other cadmium results for samples collected from stations WetSoil-1 through WetSoil-3 were less than the SCO.

Concentrations of lead and zinc in sediment reflected a similar spatial distribution to that for cadmium, with higher concentrations at stations WetSed-1 through WetSed-3 and slightly elevated concentrations at station WetSoil-1. However, none of the lead or zinc results for samples collected from the Site exceeded their respective SCOs. Concentrations of arsenic were somewhat elevated in samples collected from stations WetSed-2 and WetSed-3, but were less than SCOs. Concentrations of antimony, copper, and mercury did not appear to follow a spatial pattern and were less than SCOs.



Petroleum hydrocarbons, VOCs, and pesticides were either detected at low concentrations less than their respective SCOs or SCLs, or were reported non-detect at the laboratory practical quantitation limit (Tables 2 through 4).

In summary, cadmium concentrations exceeded the CSL in samples collected from three sampling stations and exceeded the SCO in samples collected from one sampling station; all other analytes were detected at concentrations less than their respective SCOs or were reported non-detect at the laboratory practical quantitation limit. Under the SMS, biological test results override chemistry results when determining whether sediments exhibit toxicity to biological organisms. Therefore, bioassays were conducted using the sediment samples collected from the wetlands that exceeded CSLs to further evaluate their toxicity and compliance with SMS biological criteria.

2011 SEDIMENT BIOASSAYS

Bioassay testing of samples collected from stations WetSed-1 through WetSed-3 was performed on May 23, 2011 by Nautilus Environmental (Nautilus) to evaluate the toxicity of the wetland sediments. The Nautilus sediment bioassays included:

- 10-day survival using the amphipod *Hyaella azteca* (*H. azteca*) (EPA method 100.1);
- 20-day growth and survival using the midge *Chironomus dilutus* (*C. dilutus*) (EPA method 100.5); and
- Luminescence readings of the marine bacterium *Vibrio fischeri* after 5 minutes and 15 minutes of exposure to sediment porewater (Microtox testing).

This testing suite meets the current sediment biological testing requirements of WAC 173-204-563(3)(d), requiring two different approved species; three endpoints, including one sublethal endpoint; and one chronic test. Because Microtox testing is no longer an approved method of assessment for freshwater species under the SMS, these results are not discussed further in this memorandum. A summary of bioassay results is provided in Table 5. Bioassay results and discussion are provided in Attachment C.¹

Reductions in the rate of growth of *C. dilutus* were less than the SCO in sediment collected from all three sampling stations (Table 5). Mortality exceeded the CSL in sediment collected from sampling station WetSed-3 on the south-central portion of the emergent wetland in the 20-day survival bioassay using *C. dilutus*. Mortality also exceeded the SCO in sediment collected from sampling station WetSed-2, north of WetSed-3.

Results for the 10-day survival bioassay using *H. azteca* were spatially dissimilar to results for the 20-day survival bioassay using *C. dilutus*. 10-day survival of *H. azteca* at station WetSed-1 exceeded the CSL and exceeded the SCO at station WetSed-2. The CSL is considered to be exceeded if any one test (i.e., 10-day survival of *H. azteca*, 20-day survival of *C. dilutus*, or 20-

¹ The 2011 Nautilus study currently is only available in draft form.



day growth of *C. dilutus*) at a station exceeds the CSL or any two tests exceed the SCO. Therefore, all three stations exceeded the CSL in 2011, but only by the minimum number of test results.

Some quality control deviations from standard bioassay methodology that may have affected the bioassay results were noted by Nautilus, including decreased dissolved oxygen levels during the 20-day survival bioassay using *C. dilutus* and adding twice the recommended number of test animals but not increasing the food ration during the 10-day survival bioassay using *H. azteca*.

2013 SEDIMENT BIOASSAYS

Metals concentrations, including cadmium (the only analyte detected at concentrations exceeding the CSL), were relatively similar in all three samples that were evaluated in the Nautilus sediment bioassays (Table 1). To determine whether metals were associated with the observed toxicity in sediment samples collected from stations WetSed-1 through WetSed-3, Farallon contracted with Ramboll-Environ Inc. of Port Gamble, Washington (Environ) to perform a detailed evaluation of wetland sediment. The Environ study had three primary objectives:

- Verify the toxicity results of the Nautilus bioassay testing;
- Conduct a toxicity identification evaluation; and
- Determine, if toxicity was confirmed, whether a Site-specific cleanup level could be developed.

Environ collected sediment samples from stations WetSed-1 through WetSed-3 on December 3, 2013. No standing water was observed at the time sediment sampling was conducted, and water was encountered at approximately 6 inches bgs. The samples were analyzed for the parameters identified below:

- Metals by EPA method 6010C;
- Grain size and total organic carbon by Plumb (1981);
- Percent solids by SM2540G;
- Dissolved sulfides and ammonia by SM4500/NH₃F;
- Acid volatile sulfides and simultaneously extracted metals by EPA (1991);
- 10-day survival using the amphipod *H. azteca* (EPA method 100.1);
- 20-day growth and survival using the midge *C. dilutus* (EPA method 100.5); and
- Luminescence readings of the marine bacterium *Vibrio fischeri* after 5-minutes and 15-minutes of exposure to sediment porewater (Microtox testing).

This testing suite meets the current sediment biological testing requirements of WAC 173-204-563(3)(d), requiring two different approved species; three endpoints, including one sublethal endpoint; and one chronic test. Because Microtox testing is no longer an approved freshwater species under the SMS, these results are not discussed further in this memorandum. A summary



of bioassay results is provided in Table 5. Bioassay results and discussion are provided in Attachment D.²

Analytical results for metals were similar to those obtained by Farallon in 2011. Cadmium concentrations exceeded the CSL of 5.4 mg/kg in sediment collected from all three sampling stations. Zinc concentrations were similar in samples collected from all three sampling stations to concentrations reported in 2011, with the exception of an elevated concentration of 3,810 mg/kg in a sample collected from station WetSed-3, which exceeded the SCO. Concentrations of manganese and lead were similar to concentrations reported in 2011 and did not exceed applicable screening criteria.

Acute mortality exceeded the CSL in the sediment collected from station WetSed-1, proximate to the Bay Chemical property sludge settling pond, during the 10-day survival bioassay using *H. azteca*. Mortality exceeded the SCO in sediment collected from sampling stations WetSed-2 and WetSed-3 on the central and south-central portions of the emergent wetland, respectively, during the 20-day survival bioassay using *C. dilutus*. Other bioassay results for 10-day survival of *H. azteca* and 20-day growth of *C. dilutus* were less than their respective SCOs.

In these results, only one station exceeded the CSL for 10-day survival of *H. azteca* and two stations exceeded the SCO for 20-day survival for *C. dilutus*, using the same bioassays as conducted in 2011. This difference may be due to natural recovery over time, sequestration of metals by wetland vegetation, or quality control issues in the 2011 bioassays that adversely affected the results.

Environ identified freely dissolved metals, particularly zinc and potentially manganese, as the primary source of toxicity in sediment. Both metals were present in sediment and dissolved in porewater (Table 15 in Attachment D). Environ concluded that “zinc is likely to be the primary driver in toxicity” in porewater at sampling station WetSed-1. However, a combination of metals likely contributed to toxicity at these stations. Organic analytes were not identified as a source of toxicity in sediments collected from any sampling station, consistent with the chemistry results.

SEDIMENT SITE EVALUATION

Identification of a sediment site under SMS (WAC 173-204-520) requires a cluster of at least three sampling stations where the following conditions are met:

- Concentrations of COPCs in sediments exceed the CSL for bioaccumulative chemicals based on protection of human health, wildlife, birds, or fish;
- Concentrations of COPCs in sediment exceed the CSL chemical criteria identified in Table VI in WAC 173-204-563(2); or
- Toxicity test results exceed biological standards identified in Table VII in WAC 173-204-563(3).

² The 2014 Environ study currently is only available in Agency Review Draft form.



No bioaccumulative COPCs have been identified in the wetland area. Cadmium is the only metal that has been detected at concentrations exceeding CSL chemical criteria in samples collected from the sampling stations. Bioassay results for sediment collected from the Site wetlands by Environ identified only a single station, WetSed-1, that exceeded biological CSL criteria.

Under the SMS, the results of biological testing override chemistry results. Therefore, based on WAC 173-204-520, the wetland area of the Site does not qualify for listing as a contaminated sediment site. Although this area has already been identified as part of a listed site, it can be evaluated separately as a sediment management unit to determine whether cleanup is required.

Because this area does not meet the site listing threshold under SMS, and because active cleanup of this area would require disturbance of the wetland, Farallon recommends that this area be formally separated into a sediment management unit and designated as requiring no further action.

SUMMARY AND CONCLUSIONS

A pond of variable size has been present on the Site since at least 1979. Over the past 20 years, the pond has transitioned to include progressively less open standing water and increased growth of reeds and grasses in soft, saturated soil. The City of Yakima first identified the combined open water and saturated soil area as a Type III wetland; this designation was carried forward in the RI Report. The extent of the wetland was surveyed in 1997 and had a total area of approximately 0.4 acre. A subsequent delineation and wetland evaluation was performed by Ecology in 2016. The Ecology assessment revised the wetland's total area to 0.45 acre, including 0.3 acre of emergent wetland. Ecology also assigned the wetland a Category III rating, which indicates some disturbance and isolation from the natural environment and a moderate level of ecological function.

Soil and sediment sampling performed by Farallon in 2011 identified cadmium at concentrations exceeding the CSL of 5.4 mg/kg. A bioassay evaluation was performed by Nautilus at six sampling stations within the wetland on the Site. The Nautilus sediment bioassay results identified minor acute and chronic toxicity in wetland sediment samples, but the results were considered inconclusive due to quality control issues.

Farallon contracted with Environ to perform a detailed evaluation of the Site wetland sediment to confirm sediment toxicity and, if confirmed, identify potential causes of toxicity. The Environ evaluation identified toxicity exceeding both chemical and biological CSLs in sediment collected from sampling station WetSed-1. Environ concluded that the toxicity of tested sediments was primarily associated with zinc in sediment porewater, but was unable to calculate a Site-specific cleanup standard.

Although chemical and biological toxicity results for sampling station WetSed-1 exceed sediment CSLs, the Site wetland does not qualify as a sediment site requiring cleanup under WAC 173-204-520 because there were fewer than three sampling stations that exceeded sediment CSLs.



Therefore, Farallon recommends that the 0.45-acre wetland area be separated as a sediment management unit that does not require further evaluation in the Feasibility Study.

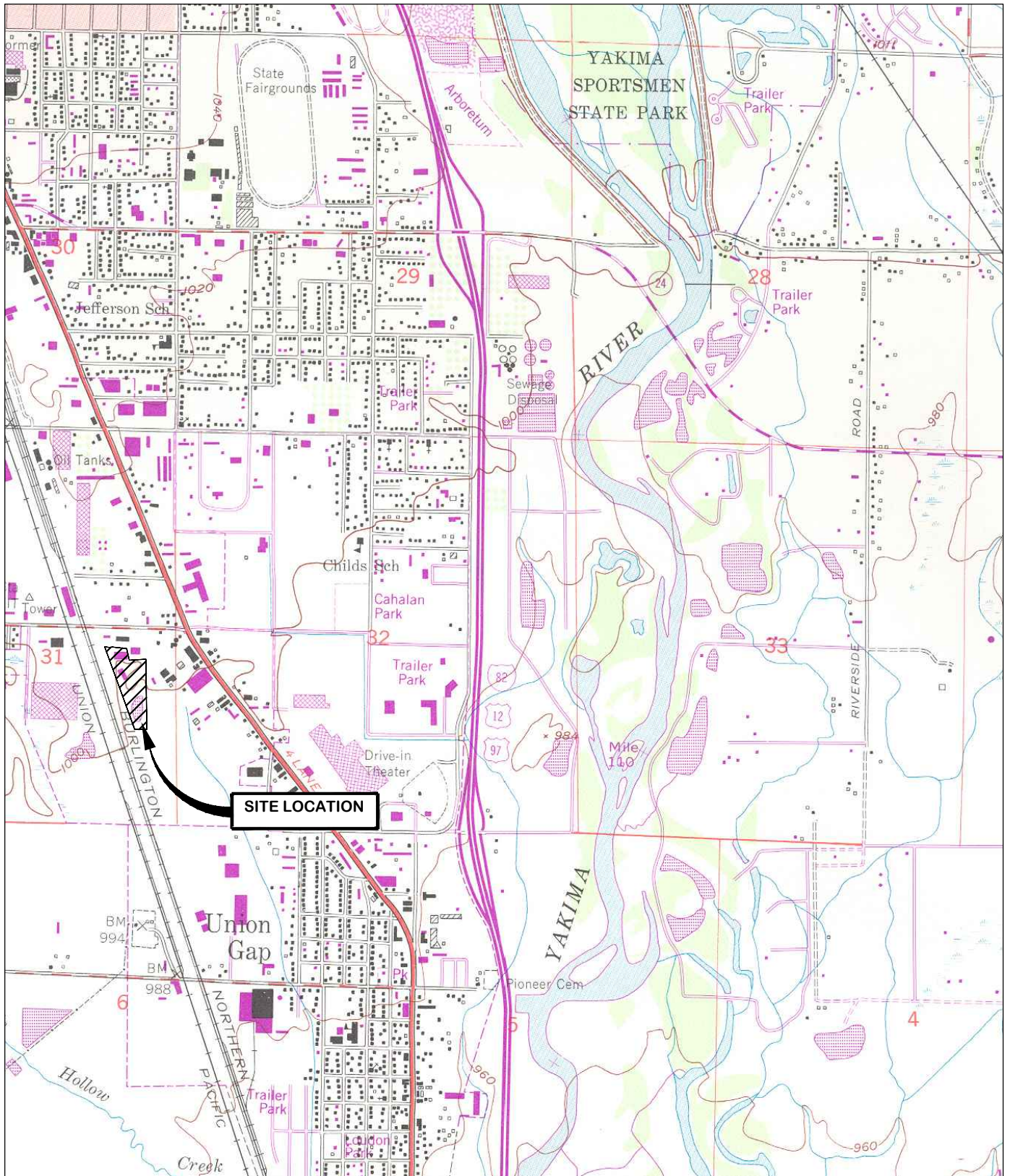
Attachments: Figure 1, *Site Vicinity Map*
Figure 2, *Site Plan and Tax Parcel Locations*
Figure 3, *Historical Wetland Extent*
Figure 4, *Wetland Boundaries*
Table 1, *Sediment Analytical Results for Metals*
Table 2, *Analytical Results for Petroleum Hydrocarbons*
Table 3, *Sediment Analytical Results for Volatile Organic Compounds*
Table 4, *Sediment Analytical Results for Pesticides*
Table 5, *Bioassay Results Summary*
Attachment A, References
Attachment B, Ecology Wetland Delineation Memorandum
Attachment C, Nautilus Bioassay Report
Attachment D, Environ Agri-Tech Yakima Steel Sediment Evaluation

EB:mm

FIGURES

WETLAND EVALUATION TECHNICAL MEMORANDUM
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Agreed Order No. DE 6091

Farallon PN: 765-001



REFERENCE: 7.5 MINUTE USGS QUADRANGLE YAKIMA SOUTH, WASHINGTON. DATED 1953 AND PHOTOREVISED 1981



WASHINGTON




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FIGURE 1

SITE VICINITY MAP
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001





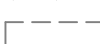
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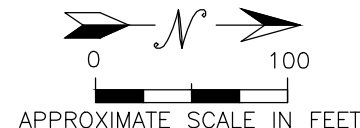
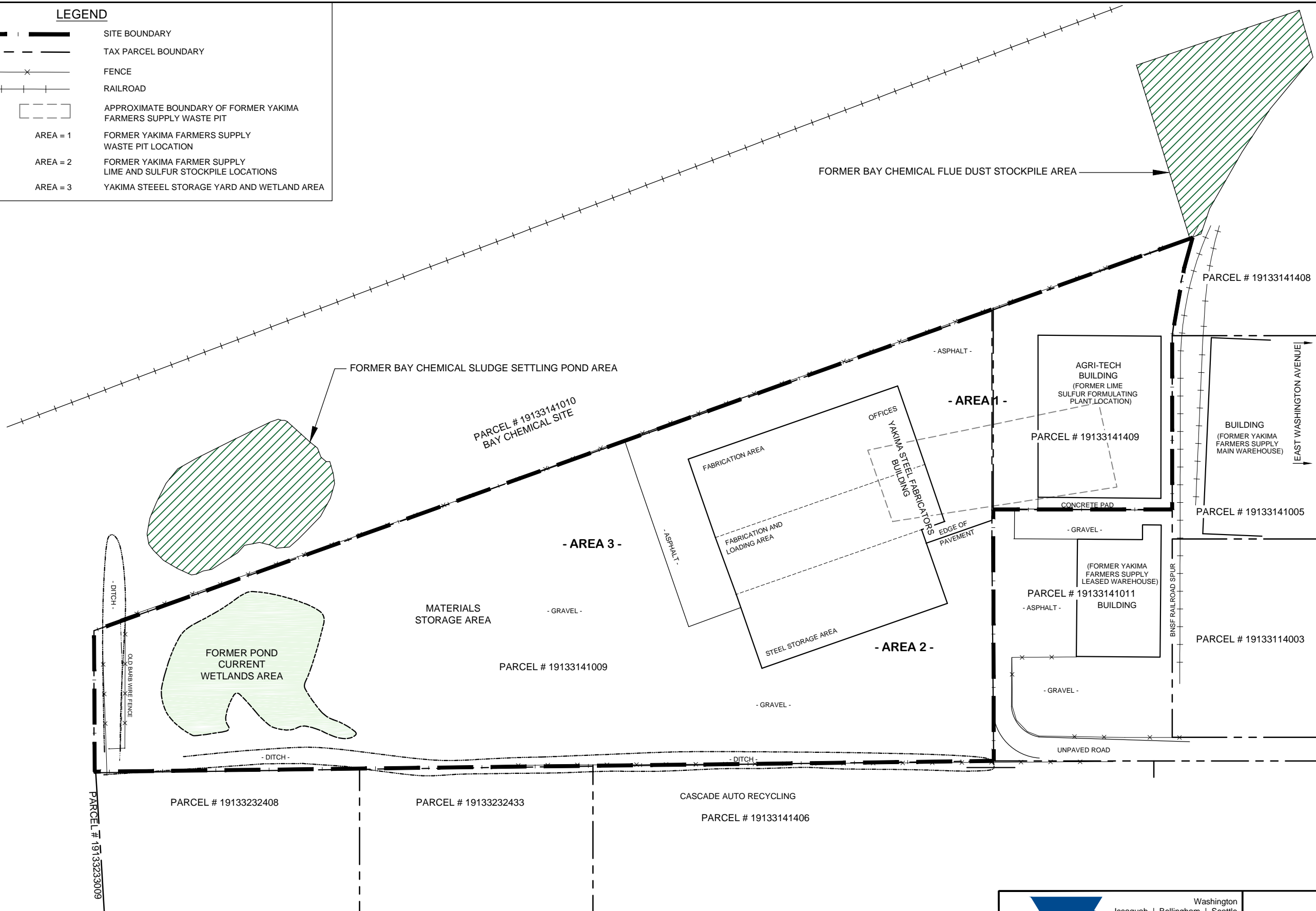
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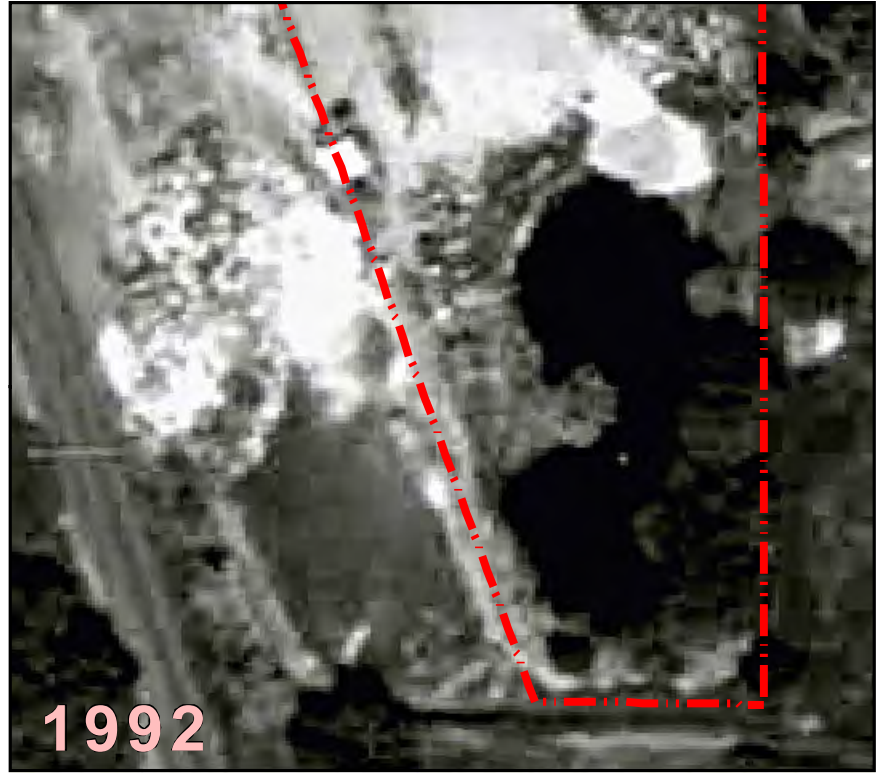
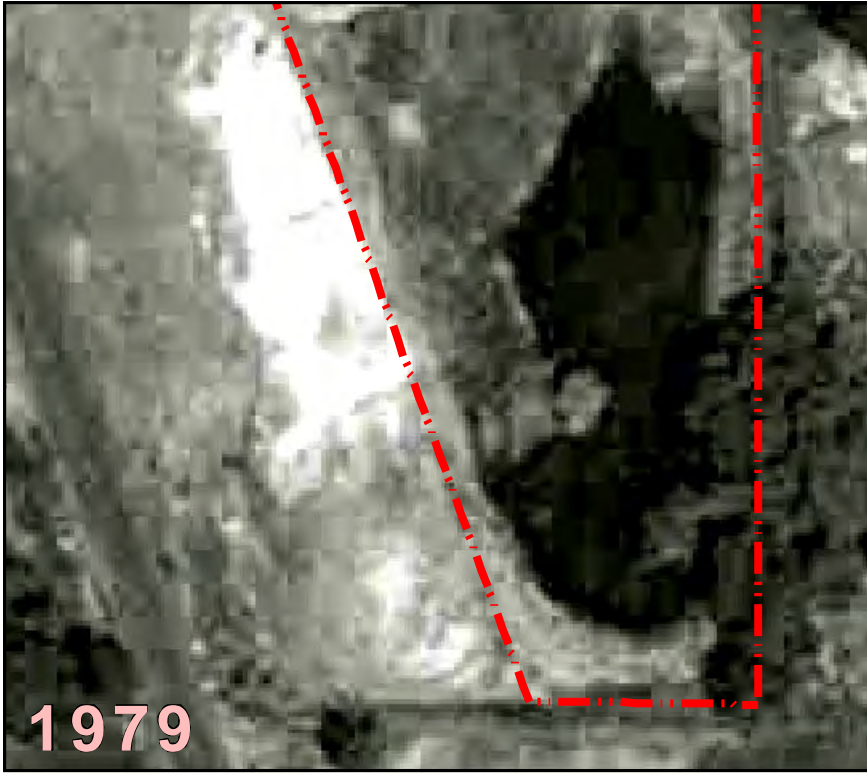
LEGEND

-  SITE BOUNDARY
-  TAX PARCEL BOUNDARY
-  FENCE
-  RAILROAD
-  APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA = 1 FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA = 2 FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA = 3 YAKIMA STEEL STORAGE YARD AND WETLAND AREA



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FIGURE 2
 SITE PLAN AND TAX PARCEL LOCATIONS
 YSF/AGRI-TECH SITE
 6 & 10 1/2 EAST WASHINGTON AVENUE
 YAKIMA, WASHINGTON



LEGEND

 SITE BOUNDARY

0 100
SCALE IN FEET




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Oregon
Portland | Bend | Baker City

California
Oakland | Sacramento | Irvine

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Date: 1/31/2017

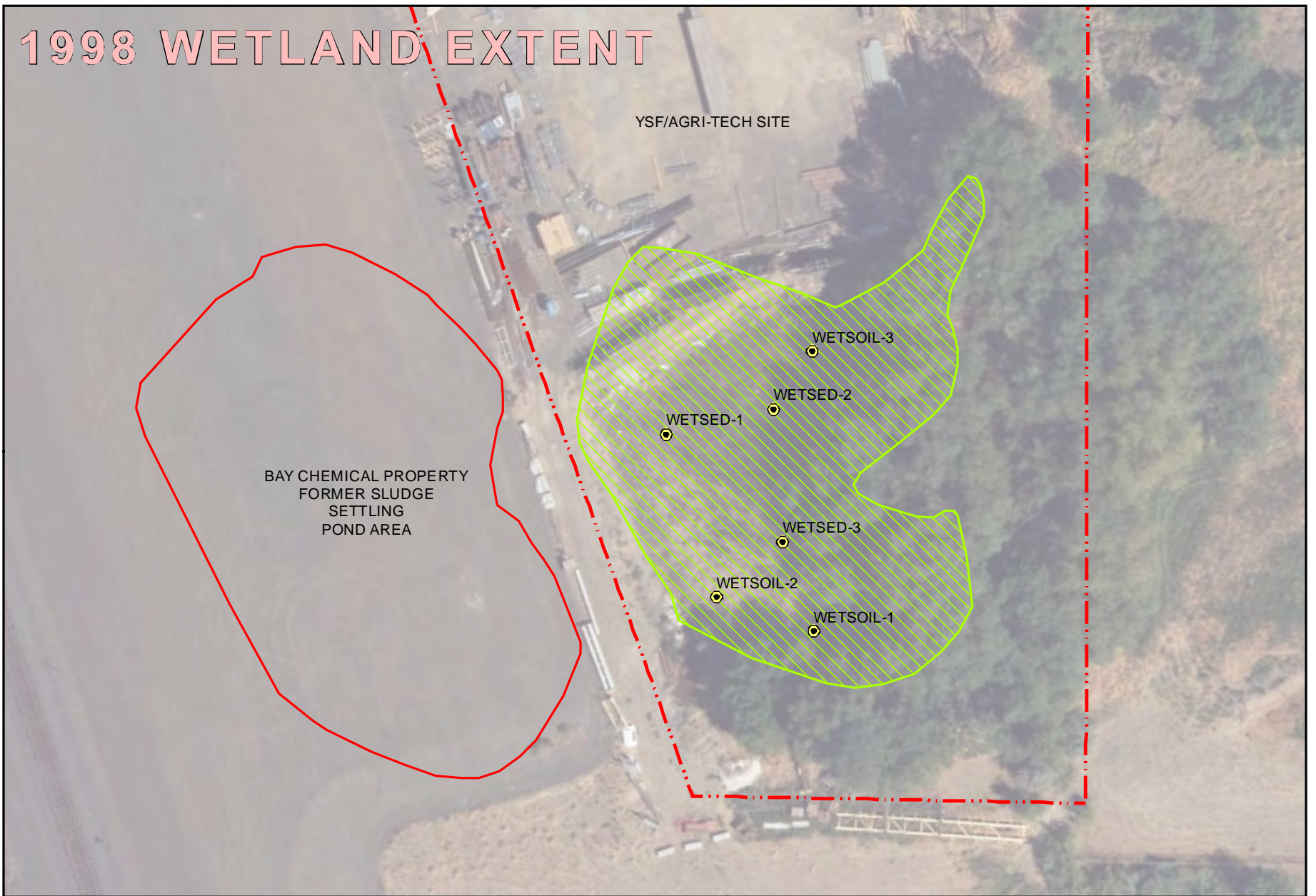
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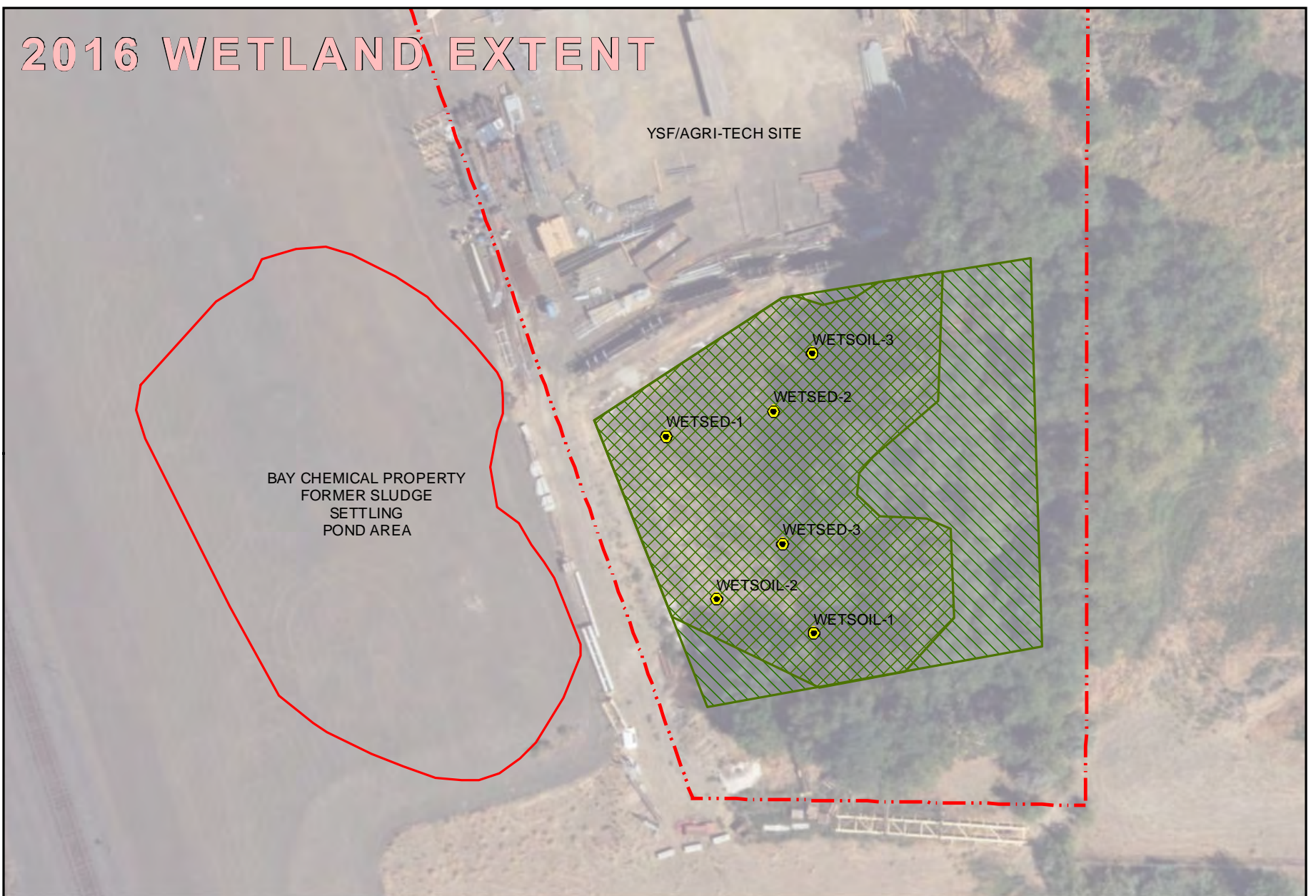
FIGURE 3
HISTORICAL WETLAND EXTENT
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001







1998 WETLAND EXTENT



2016 WETLAND EXTENT



LEGEND

-  SAMPLE LOCATION
-  FORMER SLUDGE SETTLING POND AREA
-  YSF/AGRI-TECH SITE
-  1998 WETLAND EXTENT
-  2016 EMERGENT WETLAND
-  2016 WETLAND EXTENT




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FIGURE 4
WETLAND BOUNDARIES
YSF/AGRI-TECH SITE
6 AND 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 555-001

Drawn By: ebuer

Checked By: JC

Date: 1/31/2017

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TABLES

**WETLAND EVALUATION TECHNICAL MEMORANDUM
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Agreed Order No. DE 6091**

Farallon PN: 765-001

Table 1
Analytical Results for Metals
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Farallon PN: 765-001

Grid	Test Pit	Sample Identification	Laboratory Report	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²							
						Antimony ³	Arsenic ³	Cadmium ⁴	Copper ³	Lead ³	Manganese ³	Mercury ⁴	Zinc ³
Wetland Samples													
E	WetSoil-1	E-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<5.1	<5.1	3.7	39	110	190	0.14	1,700
		E-wetsoil-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<2.4	<2.4	<0.40	17	4.2	160	0.043	310
	WetSoil-2	E-wetsoil-2-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<3.4	<3.4	1.6	19	19	250	0.071	670
		E-wetsoil-2-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<3.0	<3.0	1.8	20	4.4	270	0.059	870
	WetSed-1	E-wetsed-1-053111	580-26360-1	5/23/2011	0.5	<5.8	<5.8	9.2	36	190	210	–	2,700
	WetSed-2	E-wetsed-2-053111	580-26360-1	5/23/2011	0.5	<6.9	7.6	6.8	41	150	220	–	2,800
WetSed-3	E-wetsed-3-053111	580-26360-1	5/23/2011	0.5	<6.1	8.5	7.8	52	180	270	–	2,700	
G	WetSoil-3	G-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<2.4	<2.4	<0.40	16	3.5	210	0.044	41
		G-wetsoil-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<4.2	<4.2	1.5	40	80	470	0.14	510
Sediment Cleanup Objective⁵						--	14	2.1	400	360	--	0.7	3,200
Sediment Cleanup Screening Level⁵						--	120	5.4	1,200	1,300	--	0.8	4,200

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.

Result exceeds the sediment cleanup objective.

Result exceeds the sediment cleanup screening level.

– = denotes sample not analyzed

< denotes analyte not detected at or exceeding the laboratory reporting limit listed.

¹ Depth in feet below ground surface.

² Analyzed by U.S. Environmental Protection Agency Methods 6000/6010/7000 Series.

³ Constituent was not retained as a COPC following completion of the *Revised Remedial Investigation Report, Agri-Tech & Yakima Steel Fabricators*, 6 and 10 1/2 East Washington Avenue, Yakima, Washington dated June 10, 2004, prepared by Farallon Consulting, L.L.C. (Revised RI Report).

⁴ Identified and retained as COPC in the Revised RI Report.

⁵ Table VI, *Freshwater Sediment Cleanup Objectives and Cleanup Screening Levels Chemical Criteria*, of Section 563 of Chapter 173-204 of the Washington Administrative Code (WAC 173-204-563).

COPC = constituent of potential concern

L = a negative instrument reading had an absolute value greater than the reporting limit

Table 2
Analytical Results for Petroleum Hydrocarbons
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Farallon PN: 765-001

Grid	Test Pit	Sample Identification	Lab Report	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram)						
						GRO ²	DRO ³	ORO ³	Benzene ³	Toluene ³	Ethyl-benzene ³	Xylenes ³
Wetland Samples												
E	Wetsoil-1	E-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<36	<90	<180	<0.0019	<0.0038	<0.0019*	<0.0047*
		E-wetsoil-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<22	<54	<110	<0.0012 ^H	<0.0024 ^H	<0.0012 ^H	<0.0036 ^H
	Wetsoil-2	E-wetsoil-2-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<22	<55	<110	<0.00091 ^H	<0.0018 ^H	<0.00091 ^H	<0.00271 ^H
		E-wetsoil-2-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<23	<58	<120	<0.0013 ^H	<0.0026 ^H	<0.0013 ^H	<0.0039 ^H
	WetSed-1	E-wetsed-1-052311	580-26502-1	5/23/2011	0.5	--	-	-	<0.0027	<0.0054	<0.0027	<0.0081
	WetSed-2	E-wetsed-2-052311	580-26502-1	5/23/2011	0.5	--	-	-	<0.0026	<0.0052	<0.0026	<0.0078
WetSed-3	E-wetsed-3-052311	580-26502-1	5/23/2011	0.5	--	-	-	<0.0033	<0.0066	<0.0033	<0.0099	
G	Wetsoil-3	G-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<24	<60	<120	<0.0013 ^H	<0.0025 ^H	<0.0013 ^H	<0.0038 ^H
		G-wetsoil-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<30	<74	<150	<0.00094	<0.0019	<0.00094	<0.00284
Sediment Cleanup Objective⁴						--	340	3,600	--	--	--	--
Sediment Cleanup Screening Level⁴						--	510	4,400	--	--	--	--

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.

< denotes analyte not detected at or exceeding the laboratory reporting limit listed.

¹ Depth in feet below ground surface.

² Analyzed by Northwest Method NWTPH-HCID.

³ Analyzed by Northwest Method NWTPH-Dx.

⁴Table VI, *Freshwater Sediment Cleanup Objectives and Cleanup Screening Levels Chemical Criteria*, of Section 563 of Chapter 173-204 of the Washington Administrative Code (WAC 173-204-563).

COPC = constituent of potential concern

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics

ORO = TPH as oil-range organics

H = sample was prepared or analyzed beyond the specified holding time

Table 3
Analytical Results for Volatile Organic Compounds
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Farallon PN: 765-001

Grid	Test Pit	Sample Identification	Lab Report	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²													
						Benzene ³	Ethyl-benzene ³	m,p-Xylene ³	o-Xylene ³	Toluene ³	Naphthalene ³	n-Butylbenzene ³	Sec-Butylbenzene ³	Isopropylbenzene ³	Methylene Chloride ³	4-Methyl-2-Pentanone ³	4-Isopropyltoluene ³	n-Propylbenzene ³	
Wetland Samples																			
E	Wetsoil-1	E-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<0.0019	<0.0019*	<0.0038 *	<0.0019 *	<0.0038	<0.0094 *	<0.0038 *	<0.0038 *	<0.0038 *	<0.028	<0.0094	<0.0038 *	<0.0019 *	
		E-wetsoil-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<0.0012 H	<0.0012 H	<0.0024 H	<0.0012 H	<0.0024 H	<0.0060 H	<0.0024 H	<0.0024 H	<0.0024 H	<0.018 H	<0.0060 H	<0.0024 H	<0.0012 H	
	Wetsoil-2	E-wetsoil-2-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<0.00091 H	<0.00091 H	<0.0018 H	<0.00091 H	<0.0018 H	<0.0045 H	<0.0018 H	<0.0018 H	<0.0018 H	<0.014 H	<0.0045 H	<0.0018 H	<0.00091 H	
		E-wetsoil-2-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<0.0013 H	<0.0013 H	<0.0026 H	<0.0013 H	<0.0026 H	<0.0065 H	<0.0026 H	<0.0026 H	<0.0026 H	<0.019 H	<0.0065 H	<0.0026 H	<0.0013 H	
	WetSed-1	E-wetsed-1-053111	580-26502-1	5/23/2011	0.5	<0.0027	<0.0027	<0.0054	<0.0027	<0.0054	<0.014	<0.0054	<0.0054	<0.054	<0.041	<0.014	<0.0054	<0.0027	
	WetSed-2	E-wetsed-2-053111	580-26502-1	5/23/2011	0.5	<0.0026	<0.0026	<0.0052	<0.0026	<0.0052	<0.013	<0.0052	<0.0052	<0.0052	<0.039	<0.013	<0.0052	<0.0026	
WetSed-3	E-wetsed-3-053111	580-26502-1	5/23/2011	0.5	<0.0033	<0.0033	<0.0066	<0.0033	<0.0066	<0.017	<0.0066	<0.0066	<0.0066	<0.050	<0.017	<0.0066	<0.0033		
G	Wetsoil-3	G-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<0.0013 H	<0.0013 H	<0.0025 H	<0.0013 H	<0.0025 H	<0.0064 H	<0.0025 H	<0.0025 H	<0.0025 H	<0.019 H	<0.0064 H	<0.0025 H	<0.0013 H	
		G-wetsoil-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<0.00094	<0.00094	<0.0019	<0.00094	<0.0019	<0.0047	<0.0019	<0.0019	<0.0019	<0.014	<0.0047	<0.0019	<0.00094	
Sediment Cleanup Objective⁵						--	--	--	--	--	--	--	--	--	--	--	--	--	
Sediment Cleanup Screening Level⁵						--	--	--	--	--	--	--	--	--	--	--	--	--	--

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

-- Denotes the initial calibration curve was outside acceptance criteria for Carbon Disulfide. As Carbon Disulfide was not a requested analyte at the time of sample analysis, it cannot be reported.

* Denotes Internal Standard response or retention time outside acceptable limits.

¹ Depth in feet below ground surface.

² Analyzed by U.S. Environmental Protection Agency Method 8260B.

³ Compound was not retained as a COPC following completion of the *Revised Remedial Investigation Report, Agri-Tech & Yakima Steel Fabricators, 6 and 10 1/2 East Washington Avenue, Yakima, Washington* dated June 10, 2004, prepared by Farallon Consulting, L.L.C. (Revised RI Report).

⁴ Identified and retained as a COPC in the Revised RI Report.

⁵ Table VI, *Freshwater Sediment Cleanup Objectives and Cleanup Screening Levels Chemical Criteria*, of Section 563 of Chapter 173-204 of the Washington Administrative Code (WAC 173-204-563).

COPC = constituent of potential concern

H = sample was prepared or analyzed beyond specified holding time

MEK = 2-butanone

NE = not established

PCE = tetrachloroethene

TCE = trichloroethene

VOCs = volatile organic compounds

Table 3
Analytical Results for Volatile Organic Compounds
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Farallon PN: 765-001

Grid	Test Pit	Sample Identification	Lab Report	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²											
						Acetone ³	1,2,4-Trimethylbenzene ³	1,3,5-Trimethylbenzene ³	Carbon Disulfide ³	1,2-Dichloropropane ⁴	MEK ³	Chloroform ³	Tetrachloroethene ⁴	Trichloroethene ⁴	1,1-Dichloroethene ³	(cis) 1,2-Dichloroethene ⁴	tert-Butylbenzene ³
						Wetland Samples											
E	Wetsoil-1	E-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	0.094	<0.0038 *	<0.0094 *	0.0064	<0.0019	0.010	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0038 *
		E-wetsoil-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<0.018 H	<0.0024 H	<0.0060 H	<0.0012 H	<0.0012 H	<0.0060 H	<0.0012 H	<0.0012 H	<0.0012 H	<0.0012 H	<0.0012 H	<0.0024 H
	Wetsoil-2	E-wetsoil-2-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	0.029 H	<0.0018 H	<0.0045 H	0.0010 H	<0.00091 H	<0.0045 H	<0.00091 H	<0.00091 H	<0.00091 H	<0.00091 H	<0.00091 H	<0.0018 H
		E-wetsoil-2-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	0.038 H	<0.0026 H	<0.0065 H	<0.0013 H	<0.0013 H	<0.0065 H	<0.0013 H	<0.0013 H	<0.0013 H	<0.0013 H	<0.0013 H	<0.0026 H
	WetSed-1	E-wetsed-1-053111	580-26502-1	5/23/2011	0.5	0.082	<0.0054	<0.014	<0.0027	<0.0027	<0.014	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0054
	WetSed-2	E-wetsed-2-053111	580-26502-1	5/23/2011	0.5	<0.039	<0.0052	<0.013	0.0032	<0.0026	<0.013	<0.0026	<0.0026	<0.0026	<0.0026	<0.0026	<0.0052
WetSed-3	E-wetsed-3-053111	580-26502-1	5/23/2011	0.5	0.110	<0.0066	<0.017	<0.0033	<0.0033	0.025	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0066	
G	Wetsoil-3	G-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<0.019 H	<0.0025 H	<0.0013 H	<0.0013 H	<0.0013 H	<0.0064 H	<0.0013 H	<0.0013 H	<0.0013 H	<0.0013 H	<0.0025 H	
		G-wetsoil-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<0.014	<0.0019	<0.0047	<0.00094	<0.00094	<0.0047	<0.00094	<0.00094	<0.00094	<0.00094	<0.00094	<0.0019
Sediment Cleanup Objective⁵						--	--	--	--	--	--	--	--	--	--	--	
Sediment Cleanup Screening Level⁵						--	--	--	--	--	--	--	--	--	--	--	--

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

-- Denotes the initial calibration curve was outside acceptance criteria for Carbon Disulfide. As Carbon Disulfide was not a requested analyte at the time of sample analysis, it cannot be reported.

* Denotes Internal Standard response or retention time outside acceptable limits.

¹ Depth in feet below ground surface.

² Analyzed by U.S. Environmental Protection Agency Method 8260B.

³ Compound was not retained as a COPC following completion of the *Revised Remedial Investigation Report, Agri-Tech & Yakima Steel Fabricators, 6 and 10 1/2 East Washington Avenue, Yakima, Washington* dated June 10, 2004, prepared by Farallon Consulting, L.L.C. (Revised RI Report).

⁴ Identified and retained as a COPC in the Revised RI Report.

⁵ Table VI, *Freshwater Sediment Cleanup Objectives and Cleanup Screening Levels Chemical Criteria*, of Section 563 of Chapter 173-204 of the Washington Administrative Code (WAC 173-204-563).

COPC = constituent of potential concern

H = sample was prepared or analyzed beyond specified holding time

MEK = 2-butanone

NE = not established

PCE = tetrachloroethene

TCE = trichloroethene

VOCs = volatile organic compounds

Table 4
Analytical Results for Pesticides
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Farallon PN: 765-001

Grid	Test Pit	Lab Report	Sample Identification	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²													
						Aldrin ³	Alpha Chlordane ⁴	4,4'-DDD ⁴	4,4'-DDE ⁴	4,4'-DDT ³	Dieldrin ⁴	Endosulfan Sulfate ³	Endrin ⁴	Heptachlor Epoxide ⁴	Endrin Aldehyde ³	Gamma Chlordane ³	Heptachlor ³	Endosulfan II	
Wetland Samples																			
E	WetSoil-1	580-26451-1	E-wetsoil-052611-0.0-0.5	5/26/2011	0.5	<0.0019	<0.0019	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0019	<0.0038	<0.0019	<0.0019	<0.0038	
			E-wetsoil-052611-0.5-1.0	5/26/2011	1.0	<0.0011	<0.0011	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0011	<0.0022	<0.0011	<0.0011	<0.0022
	WetSoil-2	580-26451-1	E-wetsoil-2-052611-0.5-1.0	5/26/2011	1.0	<0.0011	<0.0011	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0011	<0.0023	<0.0011	<0.0011	<0.0023
			E-wetsoil-2-052611-1.0-2.0	5/26/2011	2.0	<0.0011	<0.0011	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0011	<0.0023	<0.0011	<0.0011	<0.0023
	WetSed-1	580-26360-1	E-wetsed-1-053111	5/23/2011	0.5	<0.0021 H	<0.0021 H	<0.0042 H	<0.0042 H	<0.0042 H	<0.0042 H	<0.0042 H	<0.0042 H	<0.0021 H*	<0.0042 H	<0.0021 H	<0.0021 H	<0.0042 H	
WetSed-2	580-26360-1	E-wetsed-2-053111	5/23/2011	0.5	<0.0022 H	<0.0022 H	<0.0044 H	<0.0044 H	<0.0044 H	<0.0044 H	<0.0044 H	<0.0044 H	<0.0022 H*	<0.0044 H	<0.0022 H	<0.0022 H	<0.0044 H		
WetSed-3	580-26360-1	E-wetsed-3-053111	5/23/2011	0.5	<0.0023 H	<0.0023 H	<0.0047 H	<0.0047 H	<0.0047 H	<0.0047 H	<0.0047 H	<0.0047 H	<0.0023 H*	<0.0047 H	<0.0023 H	<0.0023 H	<0.0047 H		
G	WetSoil-3	580-26451-1	G-wetsoil-052611-0.0-0.5	5/26/2011	0.5	<0.0012	<0.0012	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0012	<0.0024	<0.0012	<0.0012	<0.0024	
			G-wetsoil-052611-1.0-2.0	5/26/2011	2.0	<0.0016	<0.0016	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0016	<0.0031	<0.0016	<0.0016	<0.0031	
Sediment Cleanup Objective⁵						--	--	0.31	0.31	0.10	4.9	--	--	--	--	--	--	--	
Sediment Cleanup Screening Level⁵						--	--	0.86	0.9	8.1	9.3	--	--	--	--	--	--	--	

NOTES:

Results in **bold** denote concentrations at or exceeding the Preliminary Screening Level indicated.

< denotes analyte not detected at or above the reporting limit listed.

¹ Depth in feet below ground surface.

² Analyzed by U.S. Environmental Protection Agency Method 8081.

³ Constituent was not retained as a COPC following completion of the *Revised Remedial Investigation Report, Agri-Tech & Yakima Steel*

Fabricators, 6 and 10 1/2 East Washington Avenue, Yakima, Washington dated June 10, 2004, prepared by Farallon Consulting, L.L.C. (Revised RI Report).

⁴ Identified and retained as a COPC in the Revised RI Report.

⁵ Table VI, *Freshwater Sediment Cleanup Objectives and Cleanup Screening Levels Chemical Criteria*, of Section 563 of Chapter 173-204 of the Washington Administrative Code (WAC 173-204-563).

* = Response or retention time outside acceptable limits.

COPC = constituent of potential concern

H = sample was prepared or analyzed beyond the specified holding time

NE = not established

Table 5
Bioassay Results Summary
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Farallon PN: 765-001

Bioassay Evaluation	Screening Criteria		WETSED-1		WETSED-2		WETSED-3	
	SCO	CSL	Nautilus	Environ	Nautilus	Environ	Nautilus	Environ
10-day <i>H. azteca</i> Mortality ($M_T - M_C$)	>15%	>25%	100%	91%	14%	-4%	4%	-4%
20-day <i>C. dilutus</i> Mortality ($M_T - M_C$)	>15%	>25%	15%	14%	18%	17%	58%	20%
20-day <i>C. dilutus</i> Growth ($MIG_C - MIG_T$)/ MIG_C	>0.25	>0.40	-0.22	0.12	0.04	-0.31	0.34	-0.01

Table based on Attachment C, Table 24, Summary of Sediment Chemistry and Test Results, Agri-Tech/YSF, 2011 and 2013.

NOTES:

Result exceeds sediment cleanup objective.

Result exceeds sediment cleanup screening level.

CSL = Cleanup Screening Level

Environ = Ramboll-Environ Corporation

M_C = Control group mortality

MIG_C = Control group mean individual growth

MIG_T = Test group mean individual growth

M_T = Test group mortality

Nautilus = Nautilus Environmental

SCO = Sediment Cleanup Objective

**ATTACHMENT A
REFERENCES**

WETLAND EVALUATION TECHNICAL MEMORANDUM
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Agreed Order No. DE 6091

Farallon PN: 765-001

REFERENCES

- Farallon Consulting, L.L.C. (Farallon). 2004. *Revised Remedial Investigation Report, Agri-Tech & Yakima Steel Fabricators, 6 and 10 ½ East Washington Avenue, Yakima, Washington*. Prepared for Yakima Steel Fabricators. June 10.
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- . 2016. Technical Memorandum Regarding Metals Source Evaluation, Agri-Tech and Yakima Steel Fabricators Site, Yakima Steel Fabricators, Yakima, Washington. From Eric Buer and Jeff Kaspar. To Chris Wend, Washington State Department of Ecology. October 4.
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- . 2000. *Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates Second Edition*. March.
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- Washington State Department of Ecology (Ecology). 2016. Letter Regarding Feasibility Work Plan Additional Requirements for Wetlands/Pond Area of the Yakima Steel Site Under Agreed Order DE 6091. From Norman D. Peck. To Jeff Kaspar, Farallon. February 16.
- . 2016. Letter Regarding Yakima Steel Fabricators Wetland Assessment Report. From Chris Wend. To Jeff Kaspar, Farallon. September 13.
- . 2016. Standard Method A and B Values for Soil and Groundwater. Cleanup Levels and Risk Calculations (CLARC) Database. <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>. (October 2016.)

ATTACHMENT B
ECOLOGY WETLAND DELINEATION MEMORANDUM

WETLAND EVALUATION TECHNICAL MEMORANDUM

Agri-Tech and Yakima Steel Fabricators Site

Yakima, Washington

Agreed Order No. DE 6091

Farallon PN: 765-001



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

September 13, 2016

Mr. Jeff Kaspar
Farallon Consulting
975 5th Avenue Northwest
Issaquah, WA 98027

RE: Yakima Steel Fabricators Wetland assessment report

Site Name: Agri Tech Yakima Steel Fabricators
Site Address: 6 & 10 ½ E Washington, Yakima
Facility/Site ID No.: 479
Cleanup Site ID No.: 3639

Dear Mr. Kasper,

Please find enclosed with this letter a full copy of the wetland evaluation report performed by Ecology at the Yakima Steel Fabricators site on August 25, 2016. We now have a designation of the area as a Category III wetland.

Please feel free to include this report as part of the Wetland Appendix in the feasibility study.

Respectfully,

A handwritten signature in black ink, appearing to read "Chris Wend".

Chris Wend, PhD, PE
Cleanup Project Manager
Toxics Cleanup Program, CRO



DEPARTMENT OF ECOLOGY
Shorelands and Environmental Assistance Program

DATE: September 6, 2016

TO: Chris Wend

FROM: Catherine Reed, PWS, SEA Program

SUBJECT: Yakima Steel Fabricators site (parcel # 19133141009) wetland reconnaissance project SIC code JJ222

On August 25, 2016, we walked around a low-lying “pond” area on the above-referenced parcel in order to answer several questions. Was a wetland present on the site? If so, what is the extent of the wetland area, and what buffers would be required to protect the functional values of the wetland?

The general extent of the wetland was determined by visual observation of wetland conditions in the pond area and by digging one observation hole in a low-lying ditch remnant to the east of the wetland to confirm hydric soil conditions in that moist area. The water source of the pond and ditch appears to be primarily groundwater, and the wetland type is “emergent” based on the kind of vegetation (rushes and cattails) present.

The pond area/wetland is located at the extreme south of the parcel and is primarily confined to an area that is much lower (3 to 5 vertical feet to the pond surface) than the surrounding land elevation. Trees and shrubs that grow adjacent to the pond and the ditch are growing in the buffer, just outside of the wetland. There are berms around the pond wetland, probably composed of fill material from excavation of the wetland sometime in the past. There was also a narrow wetland ditch remnant on the northeast corner of the pond on the east side of the berm as well.

Based on old aerial photos of the site and its vegetation, there is evidence that the wetland area of today is a portion of a much larger historic wetland area, which was either filled or drained over time to accommodate development. The current pond area was likely excavated into an existing wetland area. Therefore, even though this wetland has been altered over time, it is still a “jurisdictional” wetland. This is an important fact when determining how much wetland mitigation may be required for future activities that could impact the wetland.

Since the amount of any mitigation required is based on the wetland’s functional values, I completed a wetland rating form for the wetland using Ecology’s “Washington State Wetland Rating System for Eastern Washington (2014) methodology. The wetland was rated as a Category III wetland. Ecology would generally recommend 75 to 80 foot buffers to protect wetland functional values based on the wetland being located in a

high-intensity development area, but because the habitat scores of the wetland are so low, if stormwater inputs into the wetland were controlled, then smaller buffers can be considered to protect the functional values. If this wetland were to be filled and wetland mitigation was done, replacement ratios for re-establishment or creation of the wetland would be 2:1 (for every one acre of wetland lost, 2 acres of replacement wetlands would need to be provided).

I hope this information will assist you in working with your client to resolve some of the issues on the site.



Wetland name or number: _____

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Agri-Tech / Bay Chemical Date of site visit: 8/25/16

Rated by Catherine Reed (ECY) Trained by Ecology? Yes No Date of training _____

HGM Class Used for Rating Depressional Unit has multiple HGM classes? ___Y N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map Google Maps

OVERALL WETLAND CATEGORY III

1. Category of wetland based on FUNCTIONS

_____ Category I - Total score = 22 - 27

_____ Category II - Total score = 19 - 21

Category III - Total score = 16 - 18

_____ Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat
	<i>Circle the appropriate ratings</i>		
Site Potential	H (M) L	(H) M L	H M (L)
Landscape Potential	(H) M L	(H) M L	H M (L)
Value	H (M) L	H M (L)	H M (L)
Score Based on Ratings	7	7	3

Score for each function based on three ratings (order of ratings is not important)

- 9 = H,H,H
- 8 = H,H,M
- 7 = H,H,L
- 7 = H,M,M
- 6 = H,M,L
- 6 = M,M,M
- 5 = H,L,L
- 5 = M,M,L
- 4 = M,L,L
- 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II III
Alkali	I
Wetland with high conservation value	I
Bog	I
Old Growth or Mature Forest – slow growing	I
Aspen Forest	I
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	

Wetland name or number _____

Maps and figures required to answer questions correctly (Eastern Washington)

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2, H1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D1.4	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Polygon of area 1km from wetland edge - Including polygons for accessible habitat and undisturbed habitat	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	D 3.1, D 3.2	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	D 3.3	
Area of open water (<i>can be added to map of hydroperiods</i>)	H1.3.1	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.4	
Hydroperiods	H 1.2, H1.3	
Ponded depressions	R 1.1	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
Polygon of area 1km from wetland edge -Including polygons for accessible habitat and undisturbed habitat	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	R 3.1	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake-fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	L 2.2	
Polygon of area 1km from wetland edge (Including polygons for accessible habitat and undisturbed habitat)	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	L 3.1	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	S 2.1, S 5.1	
Polygon of area 1km from wetland edge (Including polygons for accessible habitat and undisturbed habitat)	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	S 3.1, S 3.2	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number _____

DEPRESSIONAL WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion.		
D 4.0 Does the wetland unit have the <u>potential</u> to reduce flooding and erosion?		
D 4.1 Characteristics of surface water flows out of the wetland unit:		
Wetland has no surface water outlet	points = 8	8
Wetland has an intermittently flowing outlet	points = 4	
Wetland has a highly constricted permanently flowing outlet	points = 4	
Wetland has a permanently flowing surface outlet <i>(If outlet is a ditch and not permanently flowing treat unit as "intermittently flowing")</i>	points = 0	
D 4.2 Depth of storage during wet periods <i>Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).</i>		
Seasonal ponding: => 3 ft above the lowest point in unit or the surface of permanent ponding	points = 8	4 19
Seasonal ponding: 2 ft - < 3 ft above the lowest point in unit or the surface of permanent ponding	points = 6	
The wetland is a "headwater" wetland"	points = 4	
Seasonal ponding: 1 ft - < 2 ft	points = 4	
Seasonal ponding: 6 in - < 1 ft	points = 2	
Seasonal ponding: <6 in or unit has only saturated soils	points = 0	
Total for D 4	Add the points in the boxes above	19

Rating of Site Potential If score is: 12 - 16 = H 6 - 11 = M 0 - 5 = L
Record the rating on the first page

D 5.0 Does the landscape have the potential to support hydrologic functions at the site?		
D5.1 Does the unit receive any stormwater discharges?	Yes = 1 No = 0	1
D5. Is >10% of the land use within 150 ft of the wetland in a land uses that generates runoff?	Yes = 1 No = 0	1
D 5.3 Is more than 25% of the contributing basin of the wetland unit covered with intensive human land uses?	Yes = 1 No = 0	1
Total for D 5	Add the points in the boxes above	3

Rating of Landscape Potential If score is: 3 = H 1,2 = M 0 = L
Record the rating on the first page

D 6.0 Are the hydrologic functions provided by the site valuable to society?		
D 6.1 Is the unit is in a landscape that has flooding problems? Choose the description that best matches conditions around the wetland unit being rated. <i>Do not add points. Choose the highest score if more than one condition is met.</i>		
<input type="checkbox"/> The wetland captures surface water that would otherwise flow downgradient into areas where flooding has damaged human or natural resources (e.g. salmon redds), AND		
o Damage occurs in sub-basin that is immediately downgradient of unit	points=2	
o Damage occurs in a sub-basin further down-gradient	points = 1	
<input checked="" type="checkbox"/> The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. <i>Explain why really small wetland stormwater system within city</i>	points = 0	
<input type="checkbox"/> There are no problems with flooding downstream of the unit.	points = 0	0
D 6.2 Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?	Yes = 2 No = 0	0
Total for D 6	Add the points in the boxes above	

Rating of Value If score is: 2 - 4 = H 1 = M 0 = L
Record the rating on the first page

Wetland name or number _____

H 1.6. Special Habitat Features: <i>Check the habitat features that are present in the wetland unit. The number of checks is the score.</i> <input type="checkbox"/> Loose rocks larger than 4" or large, downed, woody debris (>4in. diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the unit. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 inches) in the wetland unit or within 30 m (100ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (>45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>) <p style="text-align: right;">Maximum score possible = 6</p>		2
H 1. TOTAL Score - Add the check marks in the box above		5

Rating of Site Potential If score is: 12 - 16 = H 6 - 11 = M 0 - 5 = L
 Record the rating on the first page

H 2.0 . Does the landscape have the potential to support habitat at the site?		
H 2.1 Accessible habitat (only area of habitat abutting wetland unit). Calculate: % undisturbed habitat <u>7</u> + [(% moderate and low intensity land uses)/2] $\frac{12}{2} = 20.5\%$ If total accessible habitat is: > 1/3 (33.3%) of 1km circle (~100 hectares) points = 3 20 - 33% of 1km circle points = 2 10- 19% of 1km circle points = 1 <10% of 1km circle points = 0		2
H2.2 Undisturbed habitat in 1km circle around unit. If: Undisturbed habitat > 50% of circle points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of circle points = 0		0
H2.3 Land use intensity in 1 km circle. If: > 50% of circle is high intensity land use points = (-2) Does not meet criterion above points = 0		-2
H 2.4 The wetland unit is in an area where annual rainfall is less than 12 inches, and its water regime is not influenced by irrigation practices, dams, or water control structures. (Generally, this means outside boundaries of reclamation areas, irrigation district, or reservoirs) points = 3		0
Total for H 2 Add the points in the boxes above		0

Rating of Landscape Potential If score is: 4 - 6 = H 1-3 = M < 1 = L
 Record the rating on the first page

H 3.0 Is the Habitat provided by the site valuable to society?		
H3.1 Does the site provides habitat for species valued in laws, regulations or policies? (choose the highest score) Site meets ANY of the following criteria: points = 2 <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is a "priority area" for an individual WDFW species <input type="checkbox"/> It is a Wetland With a High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has 3 or more priority habitats within 100m (see Appendix B) <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		0

Rating of Value If score is: 2 = H 1 = M 0 = L
 Record the rating on the first page

Wetland name or number _____

<p>SC 5.0 Forested Wetlands Does the wetland unit have an area of forest rooted within its boundary that meets at least one of the following three criteria? (Continue only if you have identified a forested class is present in question H 1.1)</p> <ul style="list-style-type: none"> • The wetland is within the "100 year" floodplain of a river or stream • aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ acre of trees (even in wetlands smaller than 2.5 acres) that are "mature" or "old-growth" according to the definitions for these priority habitats developed by WDFW (see definitions in question H3.1) <p>YES = go to SC 5.1 NO –not a forested wetland with special characteristics</p>	
<p>SC 5.1 Does the wetland unit have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (see Table 7) YES = Category I NO = go to SC 5.2</p>	Cat. I
<p>SC 5.2 Does the unit have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species. YES = Category I NO = go to SC 5.3</p>	Cat. I
<p>SC 5.3 Does the wetland unit have areas with a forest canopy where more than 50% of the tree species (by cover) are fast growing species. (see Table 7) YES = Category II NO = go to SC 5.5</p>	Cat. II
<p>SC 5.4 Is the forested component of the wetland within the "100 year floodplain" of a river or stream? YES = Category II</p>	Cat. II
<p>Category of wetland based on Special Characteristics Choose the "highest" rating if wetland falls into several categories. If you answered NO for all types enter "Not Applicable" on p.1</p>	

Wetland name or number _____

Appendix B: WDFW Priority Habitats in Eastern Washington

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf>)

Count how many of the following priority habitats are within 330 ft (100m) of the wetland unit? *NOTE: This question is independent of the land use between the wetland unit and the priority habitat.*

___ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre).

___ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report p. 152).

___ **Old-growth/Mature forests:** Old-growth east of Cascade crest: Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 25 trees/ha (10 trees/acre) that are > 53 cm (21 in) dbh, and 2.5-7.5 snags/ha (1 - 3 snags/acre) that are > 30-35 cm (12-14 in) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests: Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west and 80 - 160 years old east of the Cascade crest.

___ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 - see web link above).

___ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

___ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

___ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

___ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft.

___ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

___ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

___ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).

___ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch Wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho Fescue (*Festuca idahoensis*), Sandberg Bluegrass (*Poa secunda*), Rough Fescue (*F. campestris*), or needlegrass (*Achnatherum* spp.).

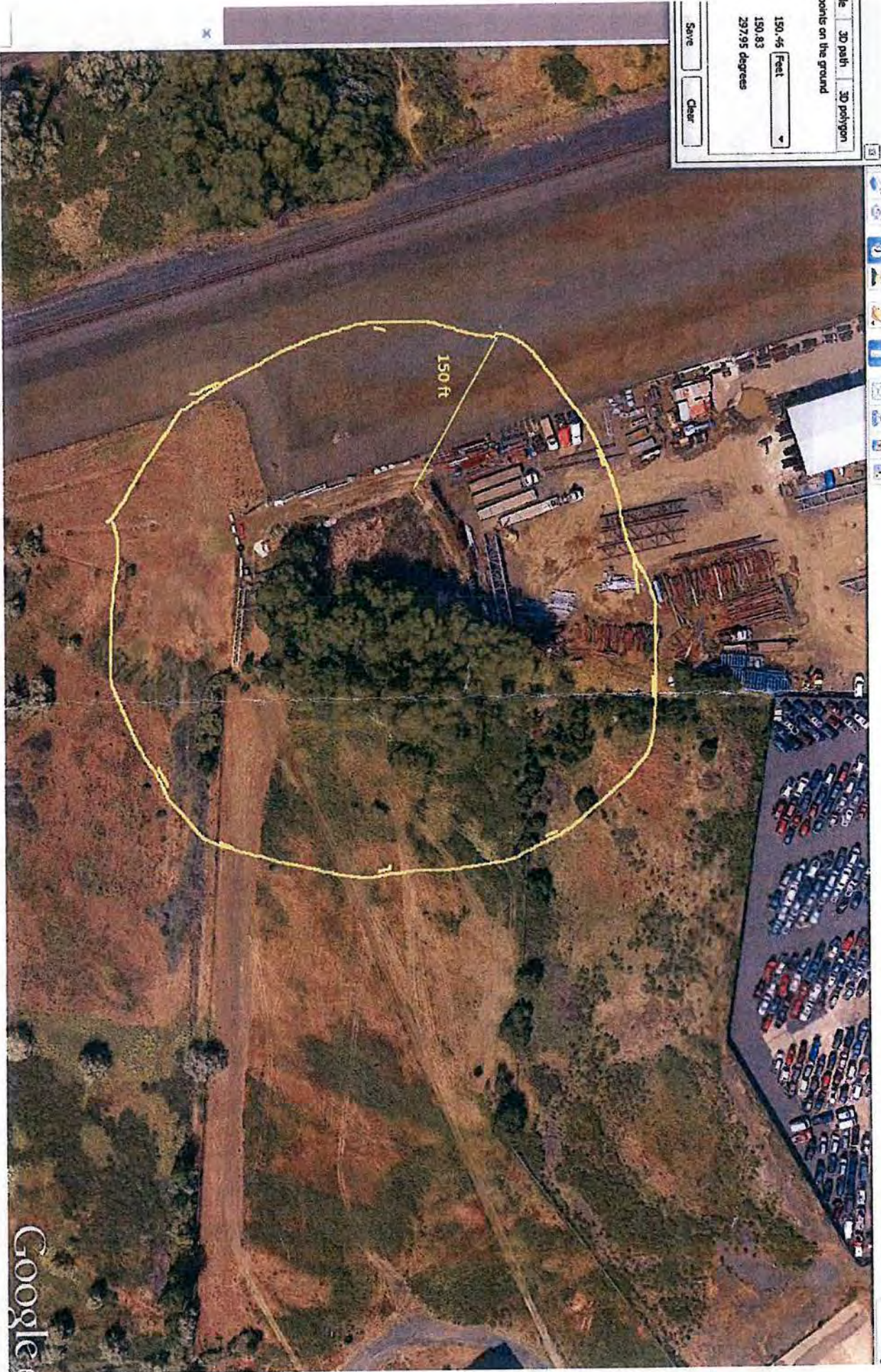
___ **Juniper Savannah:** All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.



150.46 Feet
150.83
297.95 degrees

Save Clear



WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Agritech / Bay Chemical City/County: Yakima (City) Sampling Date: 8/25/16
 Applicant/Owner: _____ State: WA Sampling Point: Hole 1
 Investigator(s): Catherine Reed Section, Township, Range: _____ ditch area
 Landform (hillslope, terrace, etc.): ancient floodplain Local relief (concave, convex, none): concave Slope (%): _____
 Subregion (LRR): _____^{terrace} Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Whole area subject to unknown underground drains. ^{Surface} Ditches located on this site and to the south of east end of the property. Installation of railroad grade and clean-up berm to west.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: _____ (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>reed canary grass</u>	<u>70</u>	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		
Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes _____ No _____				

Remarks:
 Willows and Russian olive in adjacent buffer areas. Tree and shrub canopies influence micro-climate of area to cool it down. Also sumac and roses in buffer. No holes dug in pond area, dominated by rushes, cattails. Water surface visible. Duckweed in pond, too.

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (molst)	%	Color (molst)	%	Type ¹	Loc ²		
0-8	2.5Y 3/1		10YR 4/6	12	Distinct		Loam	sample taken at this location because pond itself known soil to contain heavy metal contamination

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 1 cm Muck (A9) (LRR C) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> 2 cm Muck (A10) (LRR B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (Inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks: Soil in this location could have been fill, but if so, probably more than 40 plus years

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10) man-made ditches
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input checked="" type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (Inches): _____	visible in adjacent pond P2
Water Table Present?	Yes <input checked="" type="checkbox"/> No _____	Depth (Inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No _____	Depth (Inches): to surface	

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Saturated to surface. Obvious redox in spite of altered situation

Wetland visit Yakima Steel Fabricators
Chris Wend Cally Reed.

25 AUG 2016
1200 -
1300

Location

South

- 1) duckweed on water surface
- 2) (weed canary) grass unknown?

estimated high water mark
 $\approx 2'$ above current level

ruscan olive above wetland

- 3) cat tails
- 4) rushes

willows on buffer so far

East side 5) unknown plantain
rose on highland

sumac on highland

Northwest corner - ditch some surface water saturated to surface

Munsell - soil color chart 2.5Y 3/1

index is 10yr 4/6 12%

willow & ruscan olive

Matrix @ 8"

east side of ditch

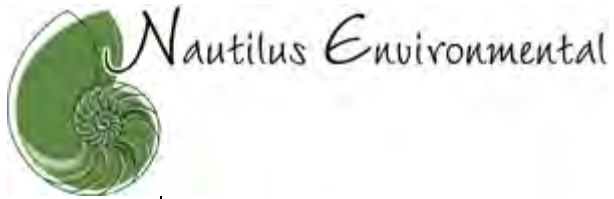
Northwest side 6) nightshade

point of shovel ≈ 1 ft above water estimated
extent of saturation picture taken

**ATTACHMENT C
NAUTILIS BIOASSAY RESULTS**

WETLAND EVALUATION TECHNICAL MEMORANDUM
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Agreed Order No. DE 6091

Farallon PN: 765-001



**Test America
Sediment Characterization – Toxicological Results**

Draft Report

Report date: July 12, 2011

Submitted to:

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

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424

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SIGNATURE PAGE

A handwritten signature in black ink that reads "Cat Curran". The signature is written in a cursive style with a large initial "C".

Cat Curran, M.S.

Washington Laboratory Manager

This report has been prepared based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party.

1.0 INTRODUCTION

On May 23rd, 2011 Test America collected freshwater sediments for biological testing. Test America contracted with Nautilus Environmental to provide toxicity-testing services for the project. The three sediment samples selected for testing included samples E-WetSed-1-052311 (WETSED-1), E-WetSed-2-052311 (WETSED-2), and E-WetSed-3-052311 (WETSED-3). No reference sample was collected in conjunction with this project. The freshwater sediment samples were tested for toxicity using the *Chironomus dilutus* (aka *tentans*) 20-day survival and growth bioassay (USEPA 2000 and ASTM 2000), the *Hyalella azteca* 10-day survival bioassay (USEPA 2000 and ASTM 2000), and the 15-minute 100 percent porewater Microtox[®] bacteria bioluminescence test. All tests met negative and positive control criteria.

Results were evaluated by comparing test data to the criteria in the Sediment Evaluation Framework for the Pacific Northwest (RSET 2009) guidance document. *C. dilutus*, *H. azteca*, and Microtox results were compared to control results, and examined for statistically significant effects ($\alpha = 0.05$). Acceptability criteria from the literature are summarized in Table 1.

Table 1 Acceptability criteria for bioassays

Test Type	<i>C. dilutus</i> 20-Day	<i>H. azteca</i> 10-Day	Microtox
Endpoint	Survival and Growth	Survival	Luminescence
Source	RSET 2009	RSET 2009	RSET 2009
Test Criteria	One-hit failure is mortality > control mortality + 25% <u>and/or</u> biomass <60% of control biomass <u>and</u> significant difference Two-hit failure is mortality > control mortality + 15% <u>and/or</u> biomass <75% of control biomass <u>and</u> significant difference	One-hit failure is mortality > control mortality + 25% <u>and</u> significant difference Two-hit failure is mortality > control mortality + 10% <u>and</u> significant difference	One-hit failure is Luminescence <75% of control luminescence <u>and</u> significant difference Two-hit failure is Luminescence <85% of control luminescence <u>and</u> significant difference
Control Criteria	Negative control $\leq 32\%$ mortality and growth ≥ 0.48 mg/ind. ash-free dry weight	Negative control $\leq 20\%$ mortality	Negative control final light output > 72% of initial output

2.0 SAMPLES

Upon receipt of samples from Test America, samples were matched with the chain-of-custody form and inspected. Samples were stored at $4 \pm 2^\circ\text{C}$ in the dark prior to test initiation. Toxicity tests were initiated within 2 weeks of collection (Table 2). Total ammonia levels in the porewater ranged from <1.0 to 2.7 milligrams per liter (mg/L). Both overlying ammonia and sulfides were also measured during testing, and the results are reported in the QA/QC sections for each test.

Table 2 Summary of sample collection and test initiation dates

Sample ID	Collection Date	Microtox Test Initiation Date	<i>H. azteca</i> Test Initiation Date	<i>C. dilutus</i> Test Initiation Date
E-WetSed-1-052311	May 23, 2011	June 6, 2011	June 7, 2011	June 9, 2011
E-WetSed-2-052311				
E-WetSed-3-052311				

3.0 CHIRONOMUS DILUTUS TEST

3.1 Methods

C. dilutus were exposed to test sediments for 20 days to determine the effects of site sediment on survival and growth. These tests were conducted according to methods presented in USEPA (2000) and ASTM (2000), and are summarized in Table 3.

C. dilutus egg cases were obtained from Aquatic BioSystems (Fort Collins, Colorado) and arrived at the laboratory on June 8, 2011. The egg cases were transported in insulated containers in oxygen-saturated water contained in 500-mL plastic bottles. Upon arrival at the laboratory, water quality parameters were measured and observations of organism condition were made. The egg cases were 20°C at receipt, and were cultured at 23°C . The organisms emerged from the egg cases on June 9th and tests were initiated the same day.

One day prior to test initiation (Day -1), the sediment samples were homogenized, 100-ml of sediment was distributed to each of eight labeled test chambers for each of the samples, and

175-ml diluted mineral water (prepared by diluting two parts Perrier® into eight parts deionized water) was added to each container. Control sediment consisted of clean, rinsed silica sand (50/50 mix of #30 and #70) mixed with peat moss (1/2 Tbsp) that was rinsed overnight in diluted mineral water. Eight test chambers were also prepared for the control sediment. An additional replicate was included for each sediment sample and the control sediment as a sacrificial test chamber for routine water quality measurements.

The test chambers were randomized and the sediments were left to settle overnight. On Day 0, overlying ammonia, sulfide, hardness, alkalinity, dissolved oxygen (DO), pH, conductivity, and temperature were measured. Twelve organisms were directly added to each test chamber, in random order.

Each test chamber was provided 1.5 mL of food daily (after the second renewal) starting on Day -1. The food consisted of a mixture of 4 g ground Tetrafin® flakes mixed with 1 L diluted mineral water. The feeding regime was reduced if the presence of excess food was observed on the sediment surface in several test chambers, which occurred on Day 8 only. Abnormal conditions or unusual animal behavior, if observed, were noted daily.

Temperature, DO, pH, and conductivity were monitored daily in the water quality replicate for each sample, while alkalinity, hardness, ammonia and sulfides were measured on Days 5, 10, and 15. Water was renewed twice daily.

At test termination, subsamples of overlying water were collected from each water quality replicate for ammonia, hardness, alkalinity, and sulfide analyses. The contents of each test chamber were gently mixed to suspend the sediment and poured through a 0.5-mm Nitex screen. The sediment was rinsed through the screen using dechlorinated tap water. Animals were removed from the screen and the number of survivors counted and recorded. Presence of pupae, flies, or exuviae (molts) were noted. The larvae were rinsed with deionized water and placed into pre-ashed, pre-weighed weigh boats. The weigh boats were placed in an oven at 60°C for at least 24-hours, then placed in a dessicator until dry weight could be measured. The weigh boats were then placed in a muffle furnace at 550°C for two hours, placed in a dessicator to cool, then weighed again to determine the ash weight. The ash weight was subtracted from the dry weight to determine the ash-free dry weight (AFDW). The number and AFDW of surviving chironomids were evaluated statistically by one-tailed t-test, or one-tailed Mann-Whitney U-test, as appropriate, to determine whether the samples exhibited a significant

decrease in survival or growth relative to the control ($p < 0.05$). Survival data were arcsine transformed, while growth data was either square root or log transformed as needed to stabilize the variances and improve normality of the data prior to performing the t-test. Data that failed to meet parametric assumptions even after transformations were analyzed with the non-parametric Mann-Whitney U-test. Site performance was evaluated against the sediment acceptability criteria outlined in RSET 2009 (Table 1). The criteria for acceptable test performance were an average of ≤ 32 percent mortality of control organisms, and an average of at least 0.48 mg/individual AFDW per surviving control organism.

A 96-hour reference toxicant test using copper chloride (CuCl_2) was conducted concurrently with the tests on the sediments to determine whether the sensitivity of the test organisms was appropriate. This test was run with four replicates, ten animals per replicate, in diluted mineral water at 23°C, with a small amount of clean control sand as a substrate. Tetrafin® slurry (1.25 mL of 4 g/L Tetrafin) was added to each chamber on days 0 and 2.

Table 3 Summary of methods for the 20-day test with *Chironomus dilutus*

Test initiation date	June 9, 2011
Test termination date	June 29, 2011
Test organism source	Aquatic BioSystems; Fort Collins, Colorado
Organism age at test initiation	< 4 hours post-emergence from egg case
Feeding	1.5 mL of 4.0 g/L Tetrafin mixture every day; frequency reduced if excess food observed
Test chamber	475-mL glass beaker
Test sediment volume	100 mL
Dilution water type & volume	175 mL diluted mineral water
Water renewal	Twice daily
Control sediment	Sand mixed with peat (1/2 Tbsp)
Number of organisms/replicate	12
Number of replicates/sample	8 plus water quality surrogates
Test temperature	23± 1°C
Illumination	16 hours light : 8 hours dark
Aeration	Started on Day 13
Reference toxicant	Copper chloride
Acceptability Criteria	$\leq 32\%$ mortality, 0.48 mg/individual AFDW

3.2 Results

The results of toxicity tests conducted using *C. dilutus* are provided in Table 4. Statistics were conducted using Biostat software, which follows the flowchart recommended by RSET. Comparisons are shown to the control. A detailed summary of results is provided in Appendix A. Summary and detailed statistical analyses for endpoint measurements are provided in Appendix B. Summaries of water quality data are provided in Appendix C. Benchsheets are provided in Appendix D.

Table 4 Results of *Chironomus dilutus* tests. Samples with statistically reduced survival or growth are underlined, and values failing two-hit RSET criteria are shaded gray, while samples failing one-hit RSET criteria are bold.^{1, 2}

Sample	Percent Mortality (Mean ± SD)	Mortality Percent Difference From	Ash-Free Dry Weight per Org (mg)	Ash-Free Dry Weight Percent of Control
Control	6.3 ± 7.4	--	0.91 ± 0.11	--
WETSED-1	20.8 ± 21.4	14.6	1.11 ± 0.46	123
WETSED-2	<u>24.0 ± 12.9</u>	17.7	0.87 ± 0.22	96
WETSED-3	63.5 ± 31.2	57.3	0.60 ± 0.57	66

¹Criteria for one-hit failure is significant decrease in mortality (p<0.05), **and** mortality greater than 25% of control (RSET 2009), ²Criteria for two-hit failure is significant decrease in mortality (p<0.05), **and** mortality greater than 15% of control (RSET 2009)

3.3 QA/QC

The *C. dilutus* were received in good condition for the June 9, 2011 test. All water quality parameters remained within acceptable ranges throughout the tests. A summary of the water quality parameters is presented in Table 5. Dissolved oxygen levels were decreased to a level on concern on day 13, and all replicates were aerated from that point forward. There were no deviations from the protocols. The toxicity test for mortality with this species met the control acceptability criterion (<32 percent mortality; >0.48 mg/ind AFDW).

Table 5 Summary of water quality parameters for *C. dilutus* tests (means and ranges). Required values are shown in brackets.

Analyte	Control	WETSED-1	WETSED-2	WETSED-3
	Mean (Min-Max)			
Temp. (°C) [23 ± 1°C]	22.0 (21.7-22.2)	22.0 (21.8-22.2)	21.9 (21.7-22.1)	21.9 (21.7-22.1)
DO (mg/L) [>2.5 mg/L]	6.7 (3.3-9.0)	6.7 (3.5-9.0)	7.1 (5.2-9.1)	7.0 (5.2-9.0)
pH [6-9]	7.34 (6.58-7.99)	7.18 (6.43-7.89)	7.13 (6.46-7.80)	7.35 (6.80-7.99)
Cond. (µS/cm) [NA]	208 (127-296)	180 (149-227)	249 (158-413)	251 (192-382)
Alkalinity (mg/L CaCO ₃) [<50% variable]	58 (48-72)	65 (60-68)	69 (64-72)	85 (80-88)
Hardness (mg/L CaCO ₃) [<50% variable]	83 (80-88)	98 (80-108)	195 (84-228)	122 (100-140)
Total Overlying NH ₃ (mg/L) [<50% variable]	1.6 (1.1-1.7)	1.2 ^a (<1.0-1.3)	1.3 ^a (<1.0-1.3)	<1.0 (<1.0-<1.0)
Total Overlying Sulfides (mg/L) [NA]	0.035 ^a (<0.010-0.058)	0.028 ^a (<0.010-0.054)	0.044 ^a (<0.010-0.044)	0.020 ^a (<0.010-0.021)

^a estimated value

The result of the reference toxicant test conducted in conjunction with this testing program is provided in Table 6. Bench sheets and control charts are provided in Appendix E. This test was run with the same batch of organisms used in the testing program. The result of this test fell within the range of mean ± two standard deviations of historical results, indicating that the sensitivity of the test organisms was appropriate.

Table 6 *C. dilutus* reference toxicant test results.

Species	Test date	Toxicant	LC50	Acceptable Range	CV (%)
<i>Chironomus dilutus</i>	June 23, 2011	Cu	571 µg/L	401 - 1070 µg/L	22.7

3.4 Discussion

Mortality in the samples ranged from 20.8 to 63.5 percent, compared with 6.3 percent in the control. Sediment samples WETSED-2 and WETSED-3 were significantly different from control and were more than 15 percent higher than the control, failing the two-hit criterion for survival. WETSED-3 was also more than 25 percent higher than the control, failing the one-hit criterion for survival. Survival in WETSED-1 was not significantly different from the control, due to high

variability in the sample. Growth in the samples ranged from 0.60 to 1.11 mg/individual AFDW, compared with 0.91 mg/individual AFDW in the control. Growth in sample WETSED-1 was greater than the control. Growth in WETSED-2 and WETSED-3 was not significantly different from the control. Therefore none of the sites fail either the one- or two-hit failure requirements.

The total ammonia level reached 1.3 mg/L in the test sediments, which was well below the reported 4-day lethal concentration for 50% of test organisms (LC₅₀) range for *C. dilutus* of 82 to 370 mg/L (USEPA 2000). While sulfide toxicity thresholds are not available for this species, they were measured as part of the Ecology reference site study (Nautilus 2008), and samples with porewater sulfide values similar (0.226 to >0.600 mg/L) to the values found in the current study (0.010 to 0.054 mg/L) did not result in measurable effects. Therefore, it is unlikely that ammonia or sulfide levels caused the observed increases in mortality in the test sediments.

4.0 HYALELLA AZTECA TEST

4.1 Methods

H. azteca were exposed to test sediments for 10 days to determine the effects of site sediments on survival. These tests were conducted according to methods presented in USEPA (2000) and ASTM (2000), and are summarized in Table 7.

H. azteca were obtained from Aquatic Indicators (St. Augustine, Florida) and arrived at the laboratory on June 2, 2011. The organisms were transported in insulated boxes in oxygen-saturated water contained in plastic bags with fine screens as a substrate. Upon arrival at the laboratory, water quality parameters were measured and observations of animal condition were made. The organisms were acclimated to test conditions prior to test initiation over a 96-hour time period. During the acclimation period, the animals were observed for any indication of stress or significant mortality and any observations were recorded.

One day prior to test initiation (Day -1), the sediment samples were homogenized, 100-ml sediment was distributed to each of eight labeled test chambers for each of the samples, and 175-ml diluted mineral water (prepared by diluting two parts Perrier® into eight parts deionized water) was added to each container. Control sediment consisted of clean, rinsed silica sand (50/50 mix of #30 and #70) mixed with peat moss (1/2 Tbsp) that was rinsed

overnight in diluted mineral water. Eight test chambers were also prepared for the control sediment. An additional replicate was included for each sediment sample and the control sediment as a sacrificial test chamber for routine water quality measurements.

The test chambers were randomized and the sediments were left to settle overnight. On Day 0, overlying ammonia, sulfide, hardness, alkalinity, dissolved oxygen (DO), pH, conductivity, and temperature were measured. Organisms were carefully separated into groups of 10 amphipods in 30 mL cups containing diluted mineral water. The number of organisms was then recounted and any animals exhibiting signs of stress were replaced. The organisms were then gently added to the test chambers, two cups for each test chamber for a total of 20 organisms per chamber.

Temperature, DO, pH, and conductivity were monitored daily in the water quality replicate for each sample, while overlying ammonia, sulfide, hardness, and alkalinity were monitored on Day 5. Water was renewed twice daily in all chambers. Abnormal conditions or unusual animal behavior, if observed, were also noted daily. Each test chamber was fed 1 ml of Yeast Trout Chow (YTC) daily after the second renewal.

At test termination, subsamples of overlying water were collected for ammonia, hardness, alkalinity, and sulfides analyses, from each water quality replicate. The contents of each test chamber were gently mixed to suspend the sediment and poured through a 0.5-mm Nitex screen. The sediment was rinsed through the screen using dechlorinated tap water. The screen was then placed in diluted mineral water and the number of survivors counted and recorded. The number of surviving amphipods was evaluated statistically by one-tailed t-test, or one-tailed Mann-Whitey U-test, as appropriate, to determine whether the samples exhibited a significant decrease in survival relative to the control ($p < 0.05$). Survival data was arcsin transformed as needed to stabilize the variances and improve normality of the data. Site performance was evaluated against sediment acceptability criteria outlined by the Northwest Regional Sediment Evaluation Framework (RSET 2009), as presented in Table 1.

A 96-hour reference toxicant test using copper chloride (CuCl_2) was conducted concurrently with the sediment tests to determine whether the sensitivity of the test organisms was within the range typically observed. The test was run with four replicates, ten animals per replicate, in diluted mineral water with a square of nitex screen as a substrate.

Table 7 Summary of methods for the 10-day test with *Hyalella azteca*.

Test initiation date	June 7, 2011
Test termination date	June 17, 2011
Test organism source	Aquatic Indicators, St. Augustine, Florida
Organism age at test initiation	8 days
Feeding	1 ml of YTC daily
Test chamber	475-ml glass beaker
Test sediment volume	100 ml
Dilution water type & volume	175 ml diluted mineral water
Water renewal	Twice daily
Control sediment	Sand mixed with peat (1/2 Tbsp)
Number of organisms/replicate	10
Number of replicates/sample	8 plus water quality surrogate
Test temperature	23 ± 1°C
Illumination	16 hours light: 8 hours dark
Aeration	None
Reference toxicant	Copper chloride
Acceptability criterion for control	≥80% survival

4.2 Results

The results of toxicity tests conducted using *H. azteca* are provided in Table 8. Statistics were conducted using Biostat software, which follows the flowchart recommended by RSET. Comparisons are shown to the control. A detailed summary of results is provided in Appendix A. Summary and detailed statistical analyses for endpoint measurements are provided in Appendix B. Summaries of water quality data are provided in Appendix C. Benchsheets are provided in Appendix D.

Table 8 Results of *Hyaella azteca* tests. Samples with statistically reduced survival or are underlined, and values failing two-hit RSET criteria are shaded gray, while samples failing one-hit RSET criteria are bold.^{1,2}

Sample	Percent Mortality (Mean ± SD)	Mortality Percent Difference from Control
Control	1.3 ± 2.3	--
WETSED-1	<u>100 ± 0.0</u>	98.7
WETSED-2	<u>13.8 ± 11.6</u>	12.5
WETSED-3	3.8 ± 4.4	2.5

¹Criteria for one-hit failure is significant decrease in mortality (p<0.05), **and** mortality greater than 25% of control (RSET 2009), ²Criteria for two-hit failure is significant decrease in mortality (p<0.05), **and** mortality greater than 10% of control (RSET 2009)

4.3 QA/QC

The *H. azteca* were received in good condition and the toxicity tests with this species met the control acceptability criterion (<20 percent mortality). A summary of the water quality parameters is provided in Table 10. All water quality parameters remained within acceptable ranges throughout the tests. Instead of the 10 animals per replicate required by the protocol, 20 animals were added to each replicate. As the controls still met acceptability criteria and water quality stayed within ranges for the test, this deviation is not expected to have affected the results. There were no other deviations from the protocol.

Table 9 Summary of water quality parameters for *H. azteca* analyses (means and ranges). Required values are shown in brackets.

Analyte	Control	WETSED-1	WETSED-2	WETSED-3
		Mean (Min-Max)		
Temp. (°C)	22.3	22.2	22.2	22.2
[23 ± 1°C]	(21.9-23.4)	(21.9-23.3)	(21.9-23.3)	(21.8-23.2)
DO (mg/L)	7.0	6.3	6.4	6.5
[>2.5 mg/L]	(5.8-8.4)	(5.4-7.3)	(5.4-7.2)	(5.6-7.3)
pH	7.26	6.83	6.83	7.01
[6-9]	(6.50-7.79)	(6.22-7.20)	(6.35-7.18)	(6.63-7.37)
Cond. (µS/cm)	172	188	283	223
[NA]	(145-189)	(164-262)	(190-418)	(159-343)
Alkalinity (mg/L CaCO ₃)	52	67	75	72
[<50% variable]	(44-60)	(60-72)	(64-80)	(68-76)
Hardness (mg/L CaCO ₃)	69	129	199	180
[<50% variable]	(60-76)	(124-132)	(192-204)	(172-188)
Total Overlying NH ₃	1.0 ^a	1.0 ^a	1.0 ^a	1.0 ^a
(mg/L) [<50% variable]	(<1.0-<1.0)	(<1.0-<1.0)	(<1.0-<1.0)	(<1.0-<1.0)
Total Overlying Sulfides	0.091 ^a	0.114	0.058	0.091 ^a
(mg/L) [<50% variable]	(<0.010-0.125)	(0.014-0.293)	(0.012-0.126)	(<0.010-0.107)

^aestimated value

The result of the reference toxicant test conducted in conjunction with this testing program is provided in Table 10. Bench sheets and control charts are provided in Appendix E. This test was run with the same batch of organisms used in the testing program. The result of this test fell within the range of mean \pm two standard deviations of historical results, indicating that the sensitivity of the test organisms was appropriate.

Table 10 H. Azteca reference toxicant test results.

Species	Test date	Toxicant	LC50	Acceptable Range	CV (%)
<i>Hyalella azteca</i>	June 2, 2011	Cu	188 $\mu\text{g/L}$	0 - 1360 $\mu\text{g/L}$	74.6

4.4 Discussion

Mortality in the samples ranged from 3.8 to 100 percent, compared with 1.3 percent in the control. Sediment samples WETSED-1 and WETSED-2 were significantly different from control and were more than 10 percent higher than the control, failing the two-hit criterion for survival. WETSED-1 was more than 25 percent higher than the control, failing the one-hit criterion for survival.

5.0 MICROTOX® TEST

5.1 Methods

The luminescent marine bacterium *Vibrio fischeri* was used as the test organism for the Microtox test. The bacteria were exposed to porewater extracted from sediment samples and light readings were measured after 5 and 15 minutes of exposure. Test equipment included the Microtox Model 500 Analyzer, which measures light output and is equipped with a 15°C chamber to maintain test temperature in the samples and a 4°C chamber to keep the rehydrated bacteria chilled.

Vials of freeze-dried bacteria (Microtox® Acute Reagent Lot #s 10K1032, expiration date 10/2012) were obtained from Strategic Diagnostics, Inc. and stored at -20°C until use. On the day of the test, a vial was rehydrated with 1.0 ml of Microtox Reconstitution Solution, mixed thoroughly, and allowed to equilibrate for 30 minutes at 4°C. The bacteria were used within 2 hours of rehydration.

The tests were conducted in accordance with Ecology (2008) test protocol; these methods are summarized in Table 11. Approximately 50 ml of porewater was extracted from each sample by centrifuging for 30 minutes at 4500 G. Each porewater extract was adjusted to a salinity of 20 parts per thousand (ppt) with Crystal Sea Marine Mix artificial seasalt. The DO ranged from 7.2 to 8.2 mg/L in the adjusted samples. Since the DO in each sample was between 50 and 100 percent saturation (5.0 to 10.2 mg/L), the samples did not require aeration. The pH was adjusted to 7.8 to 8.2 using NaOH or HCl. None of the porewater samples were diluted below 90 percent. The control was deionized water adjusted to 20 ppt with artificial seasalt. Each porewater was tested within 3 hours of extraction.

Tests were conducted using five replicates. Disposable glass cuvettes were placed in the Microtox test wells and 1 ml of salinity-adjusted porewater was added. The rehydrated bacteria (reagent) were thoroughly mixed and 10 μ l was added to each test cuvette, with mixing after each addition. After an initial incubation period of 5 minutes, the control cuvette was placed in the read chamber of the Microtox Analyzer to set the instrument. Initial light readings (I_0) were then taken by placing each cuvette in the read chamber of the Microtox Analyzer and measurements were recorded on a data sheet. Light output was measured at 5 minutes (I_5) and 15 minutes (I_{15}) of exposure after the initial light reading (I_0).

Test acceptability criteria were final mean control light output greater than or equal to 72 percent of initial control mean output, and test mean output not greater than 110 percent of control mean output. The data were evaluated statistically by conducting one-tailed t-tests or Mann-Whitney U-tests on the change in output over time for test sediment porewaters compared to the control porewater (where light output was lower than the control). Sediment performance was evaluated against sediment acceptability criteria outlined by the Northwest Regional Sediment Evaluation Framework (RSET 2009), as presented in Table 1.

A reference toxicant test using phenol was conducted in conjunction with the sediment tests to ensure that the sensitivity of the test was within the acceptable range of historical values determined in this laboratory.

Table 11 Summary of methods for the Microtox test.

Test dates	June 6, 2011
Test organism source	Strategic Diagnostics
Batch number and expiration date	Lot#10K1032, Expiration 10/2012
Control	Saltwater (20 ppt) prepared with Crystal Sea artificial seasalt
Sample preparation	Centrifugation at 4500 G for 30 minutes; salinity adjustment to 20 ppt using Crystal Sea salt; pH adjustment to 7.8-8.2 ppt; DO 5.0 to 10.2 mg/L
Test chamber	Glass cuvette
Test volume	1 mL
Volume of inoculum/replicate	10 µL
Number of replicates/sample	5
Test temperature	15 ± 1°C
Aeration	None
Reference toxicant	Phenol
Acceptability criteria	Final control light output ≥72% initial; test output ≤110% control

5.2 Results

The results of toxicity tests conducted using Microtox are provided in Table 12. Statistics were conducted using Biostat software, which follows the flowchart recommended by RSET. Comparisons are shown to the control. A detailed summary of results is provided in Appendix A. Summary and detailed statistical analyses for endpoint measurements are provided in Appendix B. Summaries of water quality data are provided in Appendix C. Benchsheets are provided in Appendix D.

Table 12 Results of Microtox tests. Samples with statistically reduced luminescence are underlined, and values failing two-hit RSET criteria are shaded gray, while samples failing one-hit RSET criteria are bold.^{1,2}

Sample	5 minute reading		15 minute reading	
	Mean % of initial light output	Significantly different relative to the control	Mean % of initial light output	Significantly different relative to the control
Control	96 ± 3	--	84 ± 3	--
WETSED-1	<u>68 ± 4</u>	Yes	<u>17 ± 1</u>	Yes
WETSED-2	<u>72 ± 1</u>	Yes	<u>25 ± 1</u>	Yes
WETSED-3	<u>81 ± 1</u>	Yes	<u>35 ± 2</u>	Yes

¹Criteria for one-hit failure is luminescence less than 75% of control luminescence **and** significant difference (RSET 2009); ²Criteria for two-hit failure is luminescence less than 85% of control luminescence **and** significant difference (RSET 2009)

5.3 QA/QC

A summary of the water quality parameters for the Microtox tests is provided in Table 13. The Microtox tests met control acceptance criteria and there were no deviations from protocol.

Table 13 Summary of sites water quality parameters for Microtox analyses

Analyte	Mean (st.dev)	Minimum	Maximum	Number of Readings	Met Requirements
Initial Salinity (ppt)	1.1 (0.3)	0.8	1.3	3	N/A
Final Salinity (ppt)	19.9 (0.4)	19.5	20.2	3	Y
Initial DO (mg/L)	7.3 (0.2)	7.2	7.5	3	N/A
Final DO (mg/L)	7.3 (0.2)	7.2	7.5	3	Y
Initial pH	7.5 (0.4)	7.2	7.9	3	N/A
Final pH	7.9 (0.02)	7.9	7.9	3	Y
Final Concentration (%)	99.9 (0.0)	99.0	100	3	Y
Total NH3 (mg/L)	2.0 (1.0) ¹	<1.0	2.7	3	N/A

¹estimated value

Results of the reference toxicant test conducted in conjunction with this testing program are provided in Table 14. Bench sheets and control charts are provided in Appendix E. The test was run with the same batch of organisms used in the testing program. The results of this test fell within the range of mean ± two standard deviations of historical results, indicating that the sensitivity of the test organisms was appropriate.

Table 14 Microtox reference toxicant test results.

Species	Test date	Toxicant	EC50	Acceptable Range (mean \pm 2 S.D.)	CV (%)
Microtox	June 6, 2011	Phenol	5 min: 19.6 mg/L 15 min: 40.9 mg/L	5 min: 24.2 – 55.1 15 min: 31.0 – 92.2	19.5 24.8

5.4 Discussion

Change in light output in the samples at 15 minutes ranged from 17 to 35 percent, compared with 84 percent in the controls. Samples WETSED1, WETSED2, and WETSED3 were all significantly different from the controls and had luminescence less than 75% of controls, failing the one-hit criteria for luminescence.

6.0 CONCLUSIONS

WETSED-1 failed the one-hit criterion for *H. azteca* survival and the one-hit criterion for Microtox luminescence, but did not have a hit in the *C. dilutus* survival or growth criterion (RSET 2009). WETSED-2 failed the two-hit criterion for *C. dilutus* and *H. azteca* survival, and failed the one-hit criterion for Microtox luminescence (RSET 2009). WETSED-3 failed the one-hit criterion for *C. dilutus* survival and Microtox luminescence (RSET 2009).

Table 15 One-hit/Two-hit criteria summary results table

Site	<i>C. dilutus</i> Survival	<i>C. dilutus</i> Growth	<i>H. azteca</i> Survival	Microtox Luminescence
WETSED-1	None	None	One-hit	One-hit
WETSED-2	Two-hit	None	Two-hit	One-hit
WETSED-3	One-hit	None	None	One-hit

7.0 REFERENCES

- American Society of Testing and Materials (ASTM). 2000. Test Method for Measuring the Toxicity of Sediment-Associated Contaminants with Freshwater Invertebrates. ASTM Designation E 1706-00.
- Nautilus Environmental. 2008. Evaluation of Candidate Freshwater Sediment Reference Sites-Toxicological Results. Final Report.
- Regional Sediment Evaluation Team (RSET). 2009. Sediment Evaluation Framework for the Pacific Northwest. May 2009.
- U.S. Environmental Protection Agency (USEPA). 2000. Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates. EPA/600/R-99/064.
- Washington Department of Ecology. 2008. Sediment Sampling and Analysis Plan Appendix: Guidance on the Development of Sediment Sampling and Analysis Plans Meeting the Requirements of the Sediment Management Standards Publication No. 03-09-043. Revised February 2008.
- Washington Department of Ecology. 2009. Baseline Characterization of Nine Proposed Freshwater Sediment Reference Sites, 2008. Publication Number 09-03-032.

APPENDIX A - Results Summaries

**Appendix A-1. 20-Day Solid Phase *Chironomus dilutus* Survival & Growth
Test America Sediment Characterization**

Test Initiation: June 9, 2011

^aNumber of pupae and flies

^bAFDW = Ash-Free Dry Weight. Weights are for larvae only, not pupated animals

^c One-tailed t-test. Survival data arcsine square-root transformed prior to analysis. Growth data either square root or log transformed prior to analysis Alpha = 0.05

Shaded values fail RSET one-hit criteria (Test sediment mortality - Control sediment mortality >25% and significantly different; Test sediment Growth/Control sediment Growth <0.7 and significantly different)

Site	Replicate	Rnd. No.	# Alive	# Pupated ^a	% Mortality	Mean % Mortality	St Dev	AFDW per Org (mg)	Mean AFDW per Org (mg)	St Dev	Significant Decrease Compared to Control ^c	
											Survival	Growth
Control	1	9	10	0	16.7			0.83				
	2	6	12	0	0.0			0.87				
	3	15	11	0	8.3			0.86				
	4	11	12	0	0.0	6.3	7.4	0.93	0.91	0.11	--	--
	5	5	10	0	16.7			1.02				
	6	16	12	0	0.0			1.00				
	7	14	12	0	0.0			1.04				
	8	3	11	0	8.3			0.72				
WETSED-1	1	1	12	0	0.0			1.00				
	2	2	12	0	0.0			0.76				
	3	10	10	0	16.7			0.43				
	4	8	7	0	41.7	20.8	21.4	1.06	1.11	0.46	No	No
	5	12	12	0	0.0			1.58				
	6	4	9	0	25.0			1.77				
	7	7	5	0	58.3			0.83				
	8	13	9	0	25.0			1.48				
WETSED-2	1	1	9	0	25.0			0.95				
	2	2	10	0	16.7			0.66				
	3	10	9	0	25.0			1.10				
	4	8	10	0	16.7	24.0	12.9	0.66	0.87	0.22	Yes	No
	5	12	8	0	33.3			1.26				
	6	4	12	0	0.0			0.78				
	7	7	7	0	41.7			0.74				
	8	13	8	0	33.3			0.81				
WETSED-3	1	1	4	0	66.7			1.63				
	2	2	9	0	25.0			0.61				
	3	10	1	0	91.7			0.14				
	4	8	0	0	100.0	63.5	31.2	0.00	0.60	0.57	Yes	No
	5	12	0	0	100.0			0.00				
	6	4	5	0	58.3			0.49				
	7	7	8	0	33.3			0.94				
	8	13	8	0	33.3			1.01				

**Appendix Table A-2. *Hyalella azteca* 10-day Survival
Test America Sediment Characterization**

Test Initiation: June 7, 2011

Site	Rep	# Alive	% Mortality	Mean % Mortality	St. Dev.	Significant Decrease Compared to Control ^a
Control	1	20	0	1.3	2.3	--
	2	20	0			
	3	20	0			
	4	19	5			
	5	20	0			
	6	20	0			
	7	19	5			
	8	20	0			
WETSED-1	1	0	100	100.0	0.0	Yes
	2	0	100			
	3	0	100			
	4	0	100			
	5	0	100			
	6	0	100			
	7	0	100			
	8	0	100			
WETSED-2	1	18	10	13.8	11.6	Yes
	2	19	5			
	3	19	5			
	4	16	20			
	5	14	30			
	6	14	30			
	7	20	0			
	8	18	10			
WETSED-3	1	20	0	3.8	4.4	No
	2	19	5			
	3	18	10			
	4	18	10			
	5	19	5			
	6	20	0			
	7	20	0			
	8	20	0			

^a One-tailed t-test. Survival data arcsine square-root transformed prior to analysis. Alpha = 0.05
 Shaded values fail RSET one-hit criteria (Test sediment mortality - Control sediment mortality >25% and significantly different)
 Bold values fail RSET two-hit criteria (Test sediment mortality - Control sediment mortality >10% and significantly different)

**Appendix Table A-3. Microtox 100 Percent Sediment Porewater Test
 Test America Sediment Characterization
 Client: Test America
 Test Date: 6/6/2011**

Site	Light Reading								T _(mean) / C _(mean)	Quality Control Steps	
	Reading	Replicate					Mean	St.Dev.		F _{c(mean)} /I _{c(mean)}	Evaluation of initial light output in site sediments (0)T _(mean) /I _{(0)C_(mean)}
		1	2	3	4	5					
CON	I ₍₀₎	96	100	104	102	98	100	3.16		0.96	
	I ₍₅₎	90	100	98	96	94	96	3.85			
	I ₍₁₅₎	82	80	85	85	87	84	2.77			
	C ₍₅₎	0.94	1.00	0.94	0.94	0.96	0.96	0.03			
	C ₍₁₅₎	0.85	0.80	0.82	0.83	0.89	0.84	0.03			
WETSED-1	I ₍₀₎	80	75	75	80	77	77	2.51			0.77
	I ₍₅₎	58	49	54	51	53	53	3.39			
	I ₍₁₅₎	13	13	12	13	14	13	0.71			
	T ₍₅₎	0.73	0.65	0.72	0.64	0.69	0.68	0.04	0.72		
	T ₍₁₅₎	0.16	0.17	0.16	0.16	0.18	0.17	0.01			0.20
WETSED-2	I ₍₀₎	81	84	74	78	79	79	3.70			0.79
	I ₍₅₎	57	59	54	56	57	57	1.82			
	I ₍₁₅₎	19	21	19	19	21	20	1.10			
	T ₍₅₎	0.70	0.70	0.73	0.72	0.72	0.72	0.01	0.75		
	T ₍₁₅₎	0.23	0.25	0.26	0.24	0.27	0.25	0.01			0.30
WETSED-3	I ₍₀₎	74	78	77	77	75	76	1.64			0.76
	I ₍₅₎	59	64	63	63	60	62	2.17			
	I ₍₁₅₎	25	26	29	29	26	27	1.87			
	T ₍₅₎	0.80	0.82	0.82	0.82	0.80	0.81	0.01	0.85		
	T ₍₁₅₎	0.34	0.33	0.38	0.38	0.35	0.35	0.02			0.42

I₍₀₎ is the light reading after the initial five minute incubation period

I₍₅₎ is the light reading five minutes after I₍₀₎

I₍₁₅₎ is the light reading fifteen minutes after I₍₀₎

C₍₀₎, R₍₀₎, and T₍₀₎ are the changes in light readings from the initial reading in each sample container for the control, reference sediment

APPENDIX B - Statistical Analyses

Project Name: Test America

Sample: x1
 Samp ID: WETSED-2
 Alias: Luminescence 5
 Replicates: 5
 Mean: 0.714
 SD: 0.013
 Tr Mean: N/A
 Trans SD: N/A

Ref Samp: x2
 Ref ID: Control
 Alias: Luminescence 5
 Replicates: 5
 Mean: 0.956
 SD: 0.026
 Tr Mean: N/A
 Trans SD: N/A

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: 0 Residual SD: 0.041 SS: 0.032 K: 5 b: 0.16 Alpha Level: 0.05 Calculated Value: 0.8075 Critical Value: ≤ 0.842 Normally Distributed: No Override Option: Not Invoked	Test Residual Mean: 0.038 Test Residual SD: 0.016 Ref. Residual Mean: 0.056 Ref. Residual SD: 0.043 Deg. of Freedom: 8 Alpha Level: 0.1 Calculated Value: 0.8791 Critical Value: ≥ 1.860 Variances Homogeneous: Yes	Statistic: Mann-Whitney Balanced Design: Yes Transformation: rank-order Experimental Hypothesis Null: $x1 \geq x2$ Alternate: $x1 < x2$ Mann-Whitney N1: 5 Mann-Whitney N2: 5 Degrees of Freedom: Experimental Alpha Level: 0.05 Calculated Value: 25 Critical Value: ≥ 21.000 Accept Null Hypothesis: No Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shapiro-Wilk Residuals
1	0.7	1.5	0.94	7	0.048	0.047	1.5		-0.048
2	0.7	1.5	1	10	0.048	0.129	1.5		-0.048
3	0.73	5	0.94	7	0.054	0.047	3.5		-0.047
4	0.72	3.5	0.94	7	0.021	0.047	3.5		-0.047
5	0.72	3.5	0.96	9	0.021	0.012	5		-0.047
6							7		0.012
7							7		0.021
8							7		0.021
9							9		0.054
10							10		0.129

Project Name: Test America

Sample: x1
 Samp ID: WETSED-3
 Alias: Luminescence 5
 Replicates: 5
 Mean: 0.812
 SD: 0.011
 Tr Mean: N/A
 Trans SD: N/A

Ref Samp: x2
 Ref ID: Control
 Alias: Luminescence 5
 Replicates: 5
 Mean: 0.956
 SD: 0.026
 Tr Mean: N/A
 Trans SD: N/A

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: 0 Residual SD: 0.038 SS: 0.028 K: 5 b: 0.15 Alpha Level: 0.05 Calculated Value: 0.7975 Critical Value: ≤ 0.842 Normally Distributed: No Override Option: Not Invoked	Test Residual Mean: 0.031 Test Residual SD: 0.007 Ref. Residual Mean: 0.056 Ref. Residual SD: 0.043 Deg. of Freedom: 8 Alpha Level: 0.1 Calculated Value: 1.3107 Critical Value: ≥ 1.860 Variances Homogeneous: Yes	Statistic: Mann-Whitney Balanced Design: Yes Transformation: rank-order Experimental Hypothesis Null: $x1 \geq x2$ Alternate: $x1 < x2$ Mann-Whitney N1: 5 Mann-Whitney N2: 5 Degrees of Freedom: Experimental Alpha Level: 0.05 Calculated Value: 25 Critical Value: ≥ 21.000 Accept Null Hypothesis: No Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shapiro-Wilk Residuals
1	0.8	1.5	0.94	7	0.038	0.047	1.5		-0.047
2	0.82	4	1	10	0.026	0.129	1.5		-0.047
3	0.82	4	0.94	7	0.026	0.047	4		-0.047
4	0.82	4	0.94	7	0.026	0.047	4		-0.038
5	0.8	1.5	0.96	9	0.038	0.012	4		-0.038
6							7		0.012
7							7		0.026
8							7		0.026
9							9		0.026
10							10		0.129

APPENDIX C - Water Quality Summaries

**Appendix Table B-1. Twenty-Day Solid-Phase Results (*Chironomus tentans*)
 Test America Sediment Characterization
 Water Quality Data**

Initiated June 9, 2011

Control								
Day	Temp (°C)	D.O. (mg/l)	pH (units)	Conductivity (umhos/cm)	Alkalinity (mg/L CaCO3)	Hardness (mg/L CaCO3)	Total Overlying NH ₃ (mg/l)	Total Sulfides (mg/l)
0	21.7	8.4	6.58	150	48	80	1.1	0.058
1	22.2	6.3	6.62	127	---	---	---	---
2	22.0	6.4	7.12	165	---	---	---	---
3	21.9	6.0	7.31	173	---	---	---	---
4	22.1	5.8	6.94	216	---	---	---	---
5	22.2	5.8	7.19	188	52	80	1.7	<0.010
6	21.9	5.6	7.27	178	---	---	---	---
7	22.0	5.0	7.11	217	---	---	---	---
8	22.0	5.2	7.17	212	---	---	---	---
9	22.2	6.0	7.14	195	---	---	---	---
10	22.0	6.0	7.20	199	56	88	1.6	<0.010
11	22.2	6.0	7.28	264	---	---	---	---
12	22.1	5.6	7.20	195	---	---	---	---
13	22.2	3.3	7.11	202	---	---	---	---
14	22.1	8.3	7.86	296	---	---	---	---
15	22.1	7.9	7.67	220	60	88	1.7	<0.010
16	22.0	7.8	7.72	232	---	---	---	---
17	21.9	9.0	7.92	276	---	---	---	---
18	22.2	9.0	7.97	219	---	---	---	---
19	21.9	8.9	7.83	248	---	---	---	---
20	21.9	8.3	7.99	190	72	80	1.7	0.011
Mean	22.0	6.7	7.34	208	58	83	1.6	nc
Min	21.7	3.3	6.58	127	48	80	1.1	<0.010
Max	22.2	9.0	7.99	296	72	88	1.7	0.058

**Appendix Table B-1. Twenty-Day Solid-Phase Results (*Chironomus tentans*)
 Test America Sediment Characterization
 Water Quality Data**

Initiated June 9, 2011

WETSED-1								
Day	Temp (°C)	D.O. (mg/l)	pH (units)	Conductivity (umhos/cm)	Alkalinity (mg/L CaCO3)	Hardness (mg/L CaCO3)	Total Overlying NH₃ (mg/l)	Total Sulfides (mg/l)
0	21.8	7.0	6.43	227	64	100	<1.0	0.016
1	22.2	6.1	6.68	215	---	---	---	---
2	21.9	6.0	6.98	200	---	---	---	---
3	21.9	5.8	7.06	186	---	---	---	---
4	22.1	6.6	6.65	185	---	---	---	---
5	22.1	6.5	6.97	180	64	100	1.0	0.014
6	22.0	5.6	7.09	175	---	---	---	---
7	22.1	5.0	6.89	179	---	---	---	---
8	22.0	5.3	7.02	180	---	---	---	---
9	22.2	6.2	6.97	181	---	---	---	---
10	22.2	6.0	7.00	180	68	104	1.2	<0.010
11	22.2	5.5	7.08	190	---	---	---	---
12	22.1	5.8	7.09	184	---	---	---	---
13	22.2	3.5	7.04	186	---	---	---	---
14	21.9	8.1	7.68	162	---	---	---	---
15	22.0	7.7	7.67	171	68	108	1.3	<0.010
16	22.0	7.8	7.69	178	---	---	---	---
17	22.0	8.9	7.35	155	---	---	---	---
18	22.1	8.9	7.89	159	---	---	---	---
19	22.0	9.0	7.76	149	---	---	---	---
20	21.8	8.4	7.70	153	60	80	<1.0	0.054
Mean	22.0	6.7	7.18	180	65	98	nc	nc
Min	21.8	3.5	6.43	149	60	80	<1.0	<0.010
Max	22.2	9.0	7.89	227	68	108	1.3	0.054

**Appendix Table B-1. Twenty-Day Solid-Phase Results (*Chironomus tentans*)
 Test America Sediment Characterization
 Water Quality Data**

Initiated June 9, 2011

WETSED-2								
Day	Temp (°C)	D.O. (mg/l)	pH (units)	Conductivity (umhos/cm)	Alkalinity (mg/L CaCO3)	Hardness (mg/L CaCO3)	Total Overlying NH ₃ (mg/l)	Total Sulfides (mg/l)
0	21.9	7.2	6.46	389	68	220	<1.0	<0.010
1	22.1	6.9	6.75	413	---	---	---	---
2	21.9	6.7	6.95	343	---	---	---	---
3	21.8	5.9	6.98	308	---	---	---	---
4	21.9	7.1	6.56	329	---	---	---	---
5	22.0	6.6	6.81	283	72	220	<1.0	<0.010
6	21.8	6.1	6.94	266	---	---	---	---
7	21.9	5.2	6.87	254	---	---	---	---
8	21.9	5.3	6.92	257	---	---	---	---
9	22.0	6.7	6.86	238	---	---	---	---
10	22.0	6.0	6.90	240	68	228	1.3	<0.010
11	22.0	6.6	7.11	225	---	---	---	---
12	22.0	6.5	7.05	214	---	---	---	---
13	22.0	6.0	7.00	206	---	---	---	---
14	22.0	8.4	7.74	191	---	---	---	---
15	22.0	7.8	7.59	194	72	224	1.2	<0.010
16	22.0	7.7	7.63	195	---	---	---	---
17	22.0	8.9	7.28	176	---	---	---	---
18	21.9	8.9	7.80	179	---	---	---	---
19	21.7	9.1	7.76	158	---	---	---	---
20	21.7	8.5	7.71	161	64	84	<1.0	0.044
Mean	21.9	7.1	7.13	249	69	195	nc	nc
Min	21.7	5.2	6.46	158	64	84	<1.0	<0.010
Max	22.1	9.1	7.80	413	72	228	1.3	0.044

**Appendix Table B-1. Twenty-Day Solid-Phase Results (*Chironomus tentans*)
 Test America Sediment Characterization
 Water Quality Data**

Initiated June 9, 2011

WETSED-3								
Day	Temp (°C)	D.O. (mg/l)	pH (units)	Conductivity (umhos/cm)	Alkalinity (mg/L CaCO3)	Hardness (mg/L CaCO3)	Total Overlying NH₃ (mg/l)	Total Sulfides (mg/l)
0	21.9	6.3	6.80	382	84	116	<1.0	0.021
1	22.1	6.5	7.19	373	---	---	---	---
2	21.7	6.2	7.32	340	---	---	---	---
3	21.9	6.0	7.30	301	---	---	---	---
4	21.9	7.0	6.95	311	---	---	---	---
5	22.0	6.3	7.10	274	84	120	<1.0	0.019
6	21.8	5.9	7.19	252	---	---	---	---
7	21.8	5.2	7.13	244	---	---	---	---
8	21.9	5.3	7.15	247	---	---	---	---
9	22.0	6.8	7.13	220	---	---	---	---
10	22.0	6.2	7.15	244	88	136	<1.0	<0.010
11	22.0	6.8	7.32	222	---	---	---	---
12	22.0	6.7	7.24	212	---	---	---	---
13	22.1	5.3	7.16	210	---	---	---	---
14	21.9	8.7	7.92	193	---	---	---	---
15	21.9	7.9	7.70	221	88	140	<1.0	<0.010
16	22.0	7.8	7.67	219	---	---	---	---
17	22.0	9.0	7.52	205	---	---	---	---
18	21.9	8.9	7.99	217	---	---	---	---
19	21.8	8.8	7.78	192	---	---	---	---
20	21.7	8.4	7.73	196	80	100	<1.0	<0.010
Mean	21.9	7.0	7.35	251	85	122	nc	nc
Min	21.7	5.2	6.80	192	80	100	<1.0	<0.010
Max	22.1	9.0	7.99	382	88	140	<1.0	0.021

**Appendix Table B-2. Ten-Day Solid-Phase Results (*Hyalella Azteca*)
 Test America Sediment Characterization
 Water Quality Data
 Initiated June 7, 2011**

Control								
Day	Temp (°C)	D.O. (mg/l)	pH (units)	Conductivity (umhos/cm)	Alkalinity (mg/L CaCO3)	Hardness (mg/L CaCO3)	Overlying NH ₃ (mg/l)	Overlying Sulfides (mg/l)
0	23.4	8.0	6.50	145	44	60	<1.0	<0.010
1	22.8	7.1	6.79	149	---	---	---	---
2	22.4	6.8	6.81	162	---	---	---	---
3	22.3	7.0	7.77	189	---	---	---	---
4	21.9	6.2	7.43	180	---	---	---	---
5	21.9	6.8	7.51	172	52	72	<1.0	0.056
6	21.9	8.4	7.14	170	---	---	---	---
7	22.1	7.0	7.54	176	---	---	---	---
8	22.0	6.3	7.79	182	---	---	---	---
9	22.1	5.8	7.21	180	---	---	---	---
10	22.0	7.4	7.37	182	60	76	<1.0	0.125
Mean	22.3	7.0	7.26	172	52	69	nc	nc
Min	21.9	5.8	6.50	145	44	60	<1.0	<0.010
Max	23.4	8.4	7.79	189	60	76	<1.0	0.125

NC = Not Calculable

WETSED-1								
Day	Temp (°C)	D.O. (mg/l)	pH (units)	Conductivity (umhos/cm)	Alkalinity (mg/L CaCO3)	Hardness (mg/L CaCO3)	Total Overlying NH ₃	Overlying Sulfides (mg/l)
0	23.3	6.6	6.27	262	60	124	<1.0	0.014
1	22.8	6.0	6.22	232	---	---	---	---
2	22.1	6.4	6.39	202	---	---	---	---
3	22.3	6.1	7.20	189	---	---	---	---
4	22.0	6.1	7.02	184	---	---	---	---
5	21.9	6.2	7.00	174	68	132	<1.0	0.036
6	21.9	7.0	7.00	166	---	---	---	---
7	22.1	6.3	7.05	165	---	---	---	---
8	21.9	6.0	7.19	164	---	---	---	---
9	21.9	5.4	6.87	165	---	---	---	---
10	21.9	7.3	6.93	164	72	132	1.0	0.293
Mean	22.2	6.3	6.83	188	67	129	nc	0.114
Min	21.9	5.4	6.22	164	60	124	<1.0	0.014
Max	23.3	7.3	7.20	262	72	132	1.0	0.293

NC = Not Calculable

**Appendix Table B-2. Ten-Day Solid-Phase Results (*Hyalella Azteca*)
 Test America Sediment Characterization
 Water Quality Data
 Initiated June 7, 2011**

WETSED-2								
Day	Temp (°C)	D.O. (mg/l)	pH (units)	Conductivity (umhos/cm)	Alkalinity (mg/L CaCO3)	Hardness (mg/L CaCO3)	Total Overlying NH ₃	Overlying Sulfides (mg/l)
0	23.3	6.9	6.45	418	64	192	<1.0	0.012
1	22.8	6.2	6.35	402	---	---	---	---
2	22.2	6.4	6.41	334	---	---	---	---
3	22.3	6.4	7.18	314	---	---	---	---
4	21.9	6.1	6.99	273	---	---	---	---
5	21.9	6.3	6.97	277	80	200	<1.0	0.037
6	22.0	7.2	6.65	253	---	---	---	---
7	22.1	6.8	7.02	241	---	---	---	---
8	21.9	6.1	7.17	210	---	---	---	---
9	22.0	5.4	6.89	201	---	---	---	---
10	21.9	7.1	7.05	190	80	204	<1.0	0.126
Mean	22.2	6.4	6.83	283	75	199	nc	0.058
Min	21.9	5.4	6.35	190	64	192	<1.0	0.012
Max	23.3	7.2	7.18	418	80	204	<1.0	0.126

NC = Not Calculable

WETSED-3								
Day	Temp (°C)	D.O. (mg/l)	pH (units)	Conductivity (umhos/cm)	Alkalinity (mg/L CaCO3)	Hardness (mg/L CaCO3)	Total Overlying NH ₃	Overlying Sulfides (mg/l)
0	23.2	6.6	6.64	343	68	172	<1.0	<0.010
1	22.8	6.1	6.96	288	---	---	---	---
2	22.2	6.3	6.63	235	---	---	---	---
3	22.3	6.4	7.37	222	---	---	---	---
4	22.0	6.5	7.12	216	---	---	---	---
5	21.9	6.4	7.11	214	76	180	<1.0	0.074
6	21.8	7.3	6.80	203	---	---	---	---
7	22.1	6.9	7.14	204	---	---	---	---
8	21.9	6.1	7.23	159	---	---	---	---
9	22.0	5.6	6.97	187	---	---	---	---
10	21.9	7.2	7.11	184	72	188	<1.0	0.107
Mean	22.2	6.5	7.01	223	72	180	nc	nc
Min	21.8	5.6	6.63	159	68	172	<1.0	<0.010
Max	23.2	7.3	7.37	343	76	188	<1.0	0.107

NC = Not Calculable

APPENDIX D - Laboratory Bench Sheets

20 Day Toxicity Test Data Sheet -- Nautilus Environmental

Freshwater Sediment 20 Day Water Chemistries

Client: Test America Test #:

Start Date & Time: 6/9/11 1100

Site: LDN Test Organism: Chironomus tentans

End Date & Time: 6/29/11 1300

Day	NH ₃ (mg/L)	Sulfide (mg/L)	Alk (mg/L as CaCO ₃)	Hard	pH (units)	Conductivity (umhos/cm)	Dissolved O ₂ (mg/L)	Temp. (°C)	Renewed		Fed	Tech. Initials
									am	pm		
0	1.1	0.058 ^①	48	80	6.58	150	8.4	21.7	✓	✓	✓	JJ
1					6.62 6.62	127	6.3	22.2	✓	✓	✓	MF
2					7.12	165	6.4	22.0	✓	✓	✓	MF
3					7.31	173 173	6.0	21.9	✓	✓	✓	MF
4					6.94	216	5.8	22.1	✓	✓	✓	BP
5	1.7	<0.01	52	80	7.19	188	5.8	22.2	✓	✓	✓	BP
6					7.27	178	5.6	21.9	✓	✓	✓	BP
7					7.11	217	5.0	22.0	✓	✓	✓	BP
8					7.17	212	5.2	22.0	✓	✓	②	EA
9					7.14	195	6.0	22.2	✓	✓	✓	CC
10	1.6	<0.01	56	88	7.20	199	6.0	22.0	✓	✓	✓	(M)
11					7.28	264	6.0	22.2	✓	✓	✓	BP
12					7.20	195	5.6	22.1	✓	✓	✓	EA
13					7.11	202	3.3	22.2	✓	✓	✓	JJ
14					7.86	296	8.3	22.1	✓	✓	✓	BP
15	1.7	<0.01	60	88	7.67	220	7.9	22.1	✓	✓	✓	MF
16					7.72	232	7.8	22.0	✓	✓	✓	EA
17					7.92	276	9.0	21.9	✓	✓	✓	(M)
18					7.97	219	9.0	22.2	✓	✓	✓	MF
19					7.83	248	8.9	21.9	✓	✓	✓	(M)
20	1.7	0.011	72	80	7.99	190	8.3	21.9				BP

① water subsample was dark - MF
QA Check: CC

② skipped due to extra food

(*) Test duration initiated April 13
Test Chamber: Rm A

20 Day Toxicity Test Data Sheet -- Nautilus Environmental

Freshwater Sediment 20 Day Water Chemistries

Client: Test America Test #: 11076-T026

Start Date & Time: 6/9/11 1100

Site: WETSED 1 Test Organism: Chironomus tentans

End Date & Time: 6/29/11 1300

Day	NH ₃ (mg/L)	Sulfide (mg/L)	Alk	Hard	pH (units)	Conductivity (umhos/cm)	Dissolved O ₂ (mg/L)	Temp. (°C)	Renewed		Fed	Tech.
			(mg/L as CaCO ₃)						am	pm		Initials
0	<1.0	0.016	64	100	6.43	227	7.0	21.8	✓	✓	✓	JS
1					6.68	219	6.1	22.2	✓	✓	✓	MF
2					6.98	200	6.0	21.9	✓	✓	✓	MF
3					7.06	186	5.8	21.9	✓	✓	✓	MF
4					6.65	185	6.6	22.1	✓	✓	✓	BP
5	1.0	0.014	64	100	6.97	180	6.5	22.1	✓	✓	✓	BP
6					7.09	175	5.6	22.0	✓	✓	✓	BP
7					6.89	179	5.0	22.1	✓	✓	✓	BP
8					7.02	180	5.3	22.0	✓	✓	⊙	BT
9					6.97	181	6.2	22.2	✓	✓	✓	CC
10	1.2	<0.01	68	104	7.00	180	6.0	22.2	✓	✓	✓	Ⓜ
11					7.08	190	5.5	22.2	✓	✓	✓	BP
12					7.09	184	5.8	22.1	✓	✓	✓	BT
13					7.04	186	3.5	22.2	✓	✓	✓	JS
14					7.68	162	8.1	21.9	✓	✓	✓	BP
15	1.3	<0.01	68	108	7.67	171	7.7	22.0	✓	✓	✓	MF
16					7.69	178	7.8	22.0	✓	✓	✓	BT
17					7.35	155	8.9	22.0	✓	✓	✓	Ⓜ
18					7.89	159	8.9	22.1	✓	✓	✓	MF
19					7.70	149	9.0	22.0	✓	✓	✓	Ⓜ
20	<1.0	0.054	60	80	7.70	153	8.4	21.8				BP

QA Check: CC

⊙ Skipped due to stress food

Test Chamber: Rm A

* Test duration initiated

20 Day Toxicity Test Data Sheet -- Nautilus Environmental

Freshwater Sediment 20 Day Water Chemistries

Client: Test America Test #: 1106-T027

Start Date & Time: 6/14/11 ^{9:00} 1100

Site: WETSEDZ Test Organism: Chironomus tentans

End Date & Time: 6/29/11 1300

Day	NH ₃ (mg/L)	Sulfide (mg/L)	Alk (mg/L as CaCO ₃)	Hard	pH (units)	Conductivity (umhos/cm)	Dissolved O ₂ (mg/L)	Temp. (°C)	Renewed		Fed	Tech. Initials
									am	pm		
0	<1.0	2 <0.010	108	220	6.46	389	7.2	21.9	✓	✓	✓	JS
1					6.75	413	6.9	22.1	✓	✓	✓	MF
2					6.95	343	6.7	21.9	✓	✓	✓	MF
3					6.98	308	5.9	21.8	✓	✓	✓	MF
4					6.56	329	7.1	21.9	✓	✓	✓	BP
5	<1.0	2 <0.01	72	220	6.81	283	6.6	22.0	✓	✓	✓	BP
6					6.94	266	6.1	21.8	✓	✓	✓	BP
7					6.87	254	5.2	21.9	✓	✓	✓	BP
8					6.92	257	5.3	21.9	✓	✓	⓪	BT
9					6.86	238	6.7	22.0	✓	✓	✓	CC
10	1.3	<0.01	68	228	6.90	240	6.0	22.0	✓	✓	✓	(m)
11					7.11	225	6.6	22.0	✓	✓	✓	BP
12					7.05	214	5.5	22.0	✓	✓	✓	BT
13					7.00	206	6.0	22.0	✓	✓	✓	JS
14					7.74	191	8.4	22.0	✓	✓	✓	BP
15	1.2	<0.01	72	224	7.59	194	7.8	22.0	✓	✓	✓	MF
16					7.63	195	7.7	22.0	✓	✓	✓	BT
17					7.28	176	8.9	22.0	✓	✓	✓	(m)
18					7.80	179	8.9	21.9	✓	✓	✓	MF
19					7.76	158	9.1	21.7	✓	✓	✓	(m)
20	<1.0	0.044	64	84	7.71	161	8.5	21.7				BP

QA Check: CC

Test Chamber: Rm A

⓪ Skipped due to
excess food

* Test aeration initiated

20 Day Toxicity Test Data Sheet -- Nautilus Environmental

Freshwater Sediment 20 Day Water Chemistries

Client: Test America Test #: 1100-1028

Start Date & Time: 6/9/11 1100

Site: WETSSED3 Test Organism: Chironomus tentans

End Date & Time: 6/29/11 1300

Day	NH ₃ (mg/L)	Sulfide (mg/L)	Alk	Hard	pH (units)	Conductivity (umhos/cm)	Dissolved O ₂ (mg/L)	Temp. (°C)	Renewed		Fed	Tech.
			(mg/L as CaCO ₃)						am	pm		Initials
0	<1.0	0.021	84	116	6.80	382	6.3	21.9	✓	✓	✓	JS
1					7.19	373	6.9	22.1	✓	✓	✓	MF
2					7.32	340	6.2	21.7	✓	✓	✓	MF
3					7.30	301	6.0	21.9	✓	✓	✓	MF
4					6.95	311	7.0	21.9	✓	✓	✓	BP
5	<1.0	0.019	84	120	7.10	274	6.3	22.0	✓	✓	✓	BP
6					7.19	252	5.9	21.8	✓	✓	✓	BP
7					7.13	244	5.2	21.8	✓	✓	✓	BP
8					7.15	247	5.3	21.9	✓	✓	Ⓞ	BT
9					7.13	220	6.8	22.0	✓	✓	✓	CC
10	<1.0	<0.01	88	136	7.15	244	6.2	22.0	✓	✓	✓	Ⓜ
11					7.32	222	6.8	22.0	✓	✓	✓	BP
12					7.24	212	6.7	22.0	✓	✓	✓	BT
13					7.16	210	5.3	22.1	✓	✓	✓	JS
14					7.92	193	8.7	21.9	✓	✓	✓	BP
15	<1.0	<0.01	88	140	7.70	221	7.9	21.9	✓	✓	✓	MF
16					7.67	219	7.8	22.0	✓	✓	✓	BT
17					7.52	205	9.0	22.0	✓	✓	✓	Ⓜ
18					7.99	217	8.9	21.9	✓	✓	✓	MF
19					7.78	192	8.8	21.8	✓	✓	✓	Ⓜ
20	<1.0	<0.01	80	100	7.73	196	8.4	21.7				BP

QA Check: CC

Test Chamber: RM A

Ⓞ Skipped due to excess food

* Test aeration initiated

20 Day Toxicity Test Data Sheet - Nautilus Environmental

Freshwater Sediment 20 day Survival

Client: Test America
 Test #: 1101e-1021e, -1027, -1028

Start Date & Time: 6/9/11 1100
 End Date & Time: 6/29/11 1300
 Test Organism: Chironomus dilutus

Site	Rep #	Cont #	Day 0	Survival Day 20				Initials/Comments
				total	#larvae	#pupae	#flies	
CON	1	29	12	10	10	0	0	JJ
	2	8	12	12	12	1	1	BP
	3	18	12	4	11	1	1	JJ
	4	21	12	12	12	1	1	BP
	5	24	12	10	10	1	1	JJ
	6	10	12	12	12	1	1	BP
	7	4	12	12	12	1	1	JJ
	8	31	12	12	11	1	1	BP
WETSEDI	1	13	12	12	12	1	1	JJ
	2	17	12	12	12	1	1	BP
	3	22	12	10	10	1	1	JJ *
	4	1	12	7	7	1	1	BP
	5	26	12	12	12	1	1	BP
	6	3	12	9	9	1	1	BP
	7	16	12	5	5	1	1	JJ
	8	6	12	9	9	1	1	BP
WETSEDA	1	14	12	9	9	1	1	JJ
	2	12	12	10	10	1	1	BP
	3	9	12	9	9	1	1	JJ
	4	15	12	10	10	1	1	BP
	5	19	12	8	8	1	1	JJ *
	6	30	12	12	12	1	1	JJ
	7	27	12	7	7	1	1	BP
	8	17	12	8	8	1	1	JJ
WETSED3	1	20	12	4	4	1	1	BP
	2	2	12	9	9	1	1	JJ
	3	25	12	1	1	1	1	BP
	4	7	12	0	0	1	1	JJ *
	5	5	12	0	0	1	1	BP
	6	28	12	5	5	1	1	JJ
	7	32	12	8	8	1	1	BP
	8	23	12	8	8	1	1	JJ
	1		12					
	2		12					
	3		12					
	4		12					
	5		12					
	6		12					
	7		12					
	8		12					
	1		12					
	2		12					
	3		12					
	4		12					
	5		12					
	6		12					
	7		12					
	8		12					

QA Check: CP

*nematodes present

Nautilus Environmental
 Washington Laboratory
 5009 Pacific Hwy., E. Suite 2
 Tacoma, WA 98424

Client: Test America
 Organism: Chironomus tentans
 Test no.: 1106-T026-T028

Site	Rep #	Cont #	Pan wt. (gm)	Dry wt. (gm)	Ash wt. (gm)	Ash free dry wt. (gm)	No. organisms	Avg. per site (mg)
CON	1	29	0.07546	0.09222	0.08391		10	
	2	8	0.06494	0.07685	0.06647		12	
	3	18	0.069700	0.08554	0.07609		11	
	4	21	0.07103	0.08411	0.07296		12	
	5	24	0.07895	0.09140	0.08119		10	
	6	10	0.07216	0.08637	0.07433		12	
	7	4	0.06317	0.08488	0.07236		12	
	8	31	0.07244	0.08211	0.07417		11	
WEISED1	1	13	0.05852	0.07271	0.06070		12	
	2	11	0.06237	0.07411	0.06493		12	
	3	22	0.07449	0.07955	0.07526		10	
	4	1	0.06514	0.07418	0.06674		7	
	5	26	0.06976	0.09202	0.07306		12	
	6	3	0.06418	0.08309	0.06717		9	
	7	16	0.07372	0.07854	0.07440		5	
	8	6	0.06733	0.08448	0.07116		9	
WEISED2	1	14	0.06840	0.08015	0.07159		9	
	2	12	0.06564	0.07537	0.06878		10	
	3	9	0.07099	0.08530	0.07540		9	
	4	15	0.06877	0.07905	0.07249		10	
	5	19	0.07891	0.09458	0.08453		8	
	6	30	0.06799	0.08315	0.07383		12	
	7	27	0.06780	0.07498	0.06983		7	
	8	17	0.06625	0.07560	0.06909		8	
WEISED3	1	20	0.06489	0.07396	0.06746		4	
	2	2	0.06548	0.07344	0.06792		9	
	3	25	0.07850	0.07868	0.07854		1	
	4	7	0.06719	0.085-	-		0	
	5	5	0.06683	-	-		0	
	6	28	0.07732	0.08079	0.07833		5	
	7	32	0.07895	0.09078	0.08325		8	
	8	23	0.06552	0.07706	0.06901		8	
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
Tech Initials			JS	JS	MF		MF	

1) Dry wt. Date/time in: 6/29/11 1430 T° 62.0
 Dry wt. Date/time out: 7/5/11 1400 T° 61.0
 Dry wt. Tech: JS

2) Furnace date/time in: 7/7/11 5 T° 550 1200 & 1100
 Furnace date/time out: 7/7/11 1300 T° 550
 Furnace tech: JS
 QA Check: OC

10 Day Toxicity Test Data Sheet - Nautilus Environmental

Freshwater Sediment 10 day Water Chemistries

Client: Test America
 Conc. or Site: CON
 Test #: —

Start Date & Time: 6/7/11 1445
 End Date & Time: 6/17/11 1545
 Test Organism: H. azteca

Day	Alk	Hard	Ammonia (mg/L)	Sulfide (mg/L)	pH (units)	Conductivity (umhos/cm)	Dissolved O ₂ (mg/L)	Temp (°C)	Fed	Comments	Technician
	mg/L as CaCO ₃	CaCO ₃									Initials
0	44	60	<1.0	<0.010	6.50	145	8.0	23.4	✓		JS
1					6.79	149	7.1	22.8	✓		JS
2					6.81	162	6.8	22.4	✓		JS
3					7.77	189	7.0	22.3	✓		MF
4					7.43	180	6.2	21.9	✓		MF
5	52	72	<1.0	0.054	7.91	172	6.8	21.9	✓		MF
6					7.14	170	8.4	21.9	—		BP
7					7.54	176	7.0	22.1	✓		BP
8					7.79	182	6.3	22.0	✓		BP
9					7.21	180	5.8	22.1	✓		BP
10	60	76	<1.0	0.125	7.37	182	7.4	22.0	✓		Et

Test Chamber: Rm. A

QA Check: CC

10 Day Toxicity Test Data Sheet - Nautilus Environmental

Freshwater Sediment 10 day Water Chemistries

Client: Test America
 Conc. or Site: WETSED1
 Test #: 1100-TO13

Start Date & Time: 6/7/11 1445
 End Date & Time: 6-17-11 1545
 Test Organism: H. azteca

Day	Alk	Hard	Ammonia (mg/L)	Sulfide (mg/L)	pH (units)	Conductivity (umhos/cm)	Dissolved O ₂ (mg/L)	Temp (°C)	Fed	Comments	Technician Initials
	mg/L as CaCO ₃										
0	60	124	<1.0	0.014	6.27	262	6.6	23.3	✓		JS
1					6.22	232	6.0	22.8	✓		JS
2					6.39	202	6.4	22.1	✓		JS
3					7.20	189	6.1	22.3	✓		MF
4					7.02	184	6.1	22.0	✓		MF
5	68	132	<1.0	0.036	7.00	174	6.2	21.9	✓		MF
6					7.00	166	7.0	21.9	✓		BP
7					7.05	165	6.3	22.1	✓		BP
8					7.19	164	6.0	21.9	✓		BP
9					6.87	165	5.4	21.9	✓		BP
10	72	132	1.0	0.293	6.93	164	7.3	21.9	✓		BT

Test Chamber: Rm. A

QA Check: PC

10 Day Toxicity Test Data Sheet - Nautilus Environmental

Freshwater Sediment 10 day Water Chemistries

Client: Test America
 Conc. or Site: WETSSED2
 Test #: 1106-1014

Start Date & Time: 6/7/11 1445
 End Date & Time: 6-17-11 1545
 Test Organism: H. azteca

Day	Alk	Hard	Ammonia (mg/L)	Sulfide (mg/L)	pH (units)	Conductivity (umhos/cm)	Dissolved O ₂ (mg/L)	Temp (°C)	Fed	Comments	Technician
	mg/L as CaCO ₃										Initials
0	64	192	<1.0	0.012	6.45	418	6.9	23.3	✓		JS
1					6.35	402	6.2	22.8	✓		JS
2					6.41	334	6.4	22.2	✓		JS
3					7.18	314	6.4	22.3	✓		MF
4					6.99	273	6.1	21.9	✓		MF
5	80	200	<1.0	0.037	6.97	277	6.3	21.9	✓		MF
6					6.65	253	7.2	22.0	✓		BP
7					7.02	241	6.8	22.1	✓		BP
8					7.17	210	6.1	21.9	✓		BP
9					6.89	261	5.4	22.0	✓		BP
10	80	204	<1.0	0.126	7.05	190	7.1	21.9	✓		BT

Test Chamber: Rm. A

QA Check: CC

10 Day Toxicity Test Data Sheet - Nautilus Environmental

Freshwater Sediment 10 day Water Chemistries

Client: Test America
 Conc. or Site: WETSED3
 Test #: 1106-TO15

Start Date & Time: 6/7/11 1445
 End Date & Time: 6-17-11 1545
 Test Organism: H. azteca

Day	Alk	Hard	Ammonia (mg/L)	Sulfide (mg/L)	pH (units)	Conductivity (umhos/cm)	Dissolved O ₂ (mg/L)	Temp (°C)	Fed	Comments	Technician
	mg/L as CaCO ₃										Initials
0	606	172	<1.0	<0.010	6.64	343	6.0	23.2	✓		JS
1					6.61	288	6.1	22.8	✓		JS
2					6.63	235	6.3	22.2	✓		JS
3					7.37	222	6.4	22.3	✓		NF
4					7.12	216	6.5	22.0	✓		NF
5	76	180	<1.0	0.074	7.11	214	6.4	21.9	✓		NF
6					6.80	203	^{bp} 6.7.3	21.8	✓		BP
7					7.14	204	6.9	22.1	✓		BP
8					7.23	159	6.1	21.9	✓		BP
9					6.97	187	5.6	22.0	✓		BP
10	72	188	<1.0	0.107	7.11	184	7.2	21.9	✓		BT

Test Chamber: RM-A

QA Check: CC

Nautilus Environmental
 Washington Laboratory
 5009 Pacific Hwy. E., Suite 2
 Tacoma, WA 98424

Physical and Chemical
 Measurements of Porewaters
 Sediment Bioassays

Analyst: et

Client: Test AMERICA

Test Date: 5/6/11

Test Type: Microtox 100% Porewater Toxicity Test

Test No: 1106-T040 → T042

Test Species: Vibrio fischeri

Site	Initial Salinity (ppt)	Final Salinity (ppt)	Initial D.O. (mg/L)	Final D.O. (mg/L)	Initial pH	Adjusted pH	NaOH or HCl Vol. Used	Final Porewater Conc.	Ammonia
511-048 WETSED-1	0.8	20.2	7.3	7.3	7.18	7.92	120µL 0.1N NaOH	99%	1.3
511-049 WETSED-2	1.2	19.5	7.2	7.2	7.33	et 7.92 7.2	200µL 0.1N NaOH	99%	2.7
511-050 WETSED-3	1.3	20.1	7.5	7.5	7.95	—	—	100%	<1.0
CON	20.1	20.1	8.2	8.2	8.64	8.18	80µL 0.1HCl	99%	—

Sample Description: _____

Comments: _____

QA Check: CC

Nautilus Environmental
 Washington Laboratory
 5009 Pacific Hwy. E., Suite 2
 Tacoma, WA 98424

Raw Data Sheet
 Microtox
 100% Sediment Porewater Toxicity

Client Name:

Test America

Test Date:

6/6/11

Sample ID:

WETSED-1,2,3

Test No.:

1106-T040-71106-T042

Site	Light Reading	Time	Replicate				
			1	2	3	4	5
CON	I ₍₀₎	5 min	96	100	104	102	98
	I ₍₅₎	10min	90	100	98	96	94
	I ₍₁₅₎	20 min	82	80	85	85	87
WETSED-1	I ₍₀₎	5 min	80	75	75	80	77
	I ₍₅₎	10min	58	49	54	51	53
	I ₍₁₅₎	20 min	13	13	12	13	14
WETSED-2	I ₍₀₎	5 min	81	84	74	78	79
	I ₍₅₎	10min	57	59	54	56	57
	I ₍₁₅₎	20 min	19	21	19	19	21
WETSED-3	I ₍₀₎	5 min	74	78	77	77	75
	I ₍₅₎	10min	59	64	63	63	60
	I ₍₁₅₎	20 min	25	26	29	29	26
	I ₍₀₎	5 min					
	I ₍₅₎	10min					
	I ₍₁₅₎	20 min					
	I ₍₀₎	5 min					
	I ₍₅₎	10min					
	I ₍₁₅₎	20 min					

Comments:

CC QA

APPENDIX E - Reference Toxicant Tests

Chironomus 96-h Acute Survival Test

Nautilus Environmental WA

Test Type: Survival (96h)

Organism: Chironomus tentans (Midge)

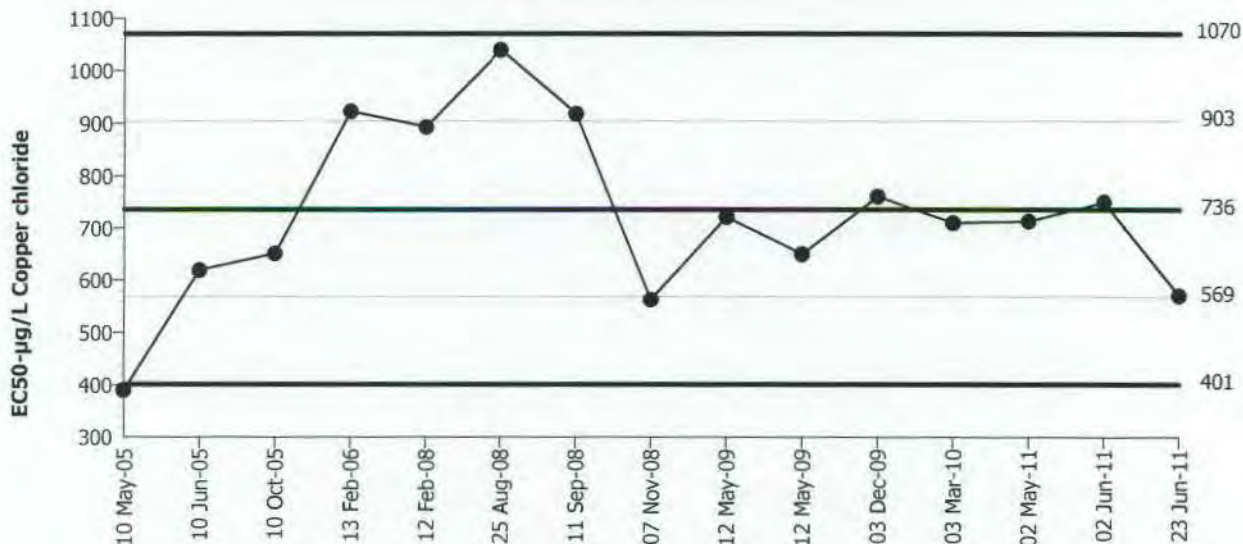
Material: Copper chloride

Protocol: EPA/600/R-99/064 (2000)

Endpoint: 96h Survival Rate

Source: Reference Toxicant-REF

Chironomus 96-h Acute Survival Test



Mean: 735.9 Count: 14 -1s Warning Limit: 568.5 -2s Action Limit: 401.1
 Sigma: 167.4 CV: 22.70% +1s Warning Limit: 903.3 +2s Action Limit: 1071

Quality Control Data

Point	Year	Month	Day	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2005	May	10	389.8	-346.1	-2.068	(-)	(-)	03-9785-3768	06-1599-1620
2		Jun	10	619.3	-116.6	-0.6962			08-3314-6775	08-1540-4607
3		Oct	10	651.6	-84.26	-0.5034			08-1025-4680	04-9254-8883
4	2006	Feb	13	921.9	186	1.111	(+)		08-9851-1226	07-3219-0331
5	2008		12	892.6	156.7	0.9359			15-6976-5200	18-3934-0764
6		Aug	25	1040	304	1.816	(+)		06-6119-9769	09-7546-4295
7		Sep	11	917.7	181.8	1.086	(+)		12-5480-0473	10-6515-6515
8		Nov	7	563	-172.9	-1.033	(-)		11-4948-7713	17-3277-7072
9	2009	May	12	721.9	-14.01	-0.08366			07-7016-2012	11-9025-1031
10			12	650.3	-85.61	-0.5114			10-1811-8659	15-1190-7362
11		Dec	3	760.9	24.96	0.1491			06-1499-1772	06-0264-7224
12	2010	Mar	3	710.4	-25.51	-0.1524			17-7743-6517	09-5758-4695
13	2011	May	2	713.8	-22.13	-0.1322			05-0735-0656	07-1751-6097
14		Jun	2	750	14.1	0.08423			17-9270-0205	04-9353-7895
15			23	570.5	-165.4	-0.9882			15-0478-1400	20-5891-4291

CETIS Summary Report

Report Date: 27 Jun-11 13:02 (p 1 of 1)
 Test Code: RA062311CT | 15-0478-1400

Chironomus 96-h Acute Survival Test			Nautilus Environmental WA		
Batch ID:	06-1890-9822	Test Type:	Survival (96h)	Analyst:	Meghan Feuk
Start Date:	23 Jun-11 11:00	Protocol:	EPA/600/R-99/064 (2000)	Diluent:	Diluted Mineral Water (8:2)
Ending Date:	27 Jun-11 12:00	Species:	Chironomus tentans	Brine:	
Duration:	4d 1h	Source:	Aquatic Biosystems, CO	Age:	
Sample ID:	00-0348-0792	Code:	RA062311CT	Client:	Reference Toxicant Test
Sample Date:	23 Jun-11 11:00	Material:	Copper chloride	Project:	
Receive Date:	23 Jun-11 11:00	Source:	Reference Toxicant		
Sample Age:	N/A	Station:			

Comparison Summary							
Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
13-8997-0043	96h Survival Rate	375	750	530.3	26.9%		Steel Many-One Rank Test

Point Estimate Summary							
Analysis ID	Endpoint	Level	µg/L	95% LCL	95% UCL	TU	Method
20-5891-4291	96h Survival Rate	EC50	570.5	465.9	698.5		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	4	0.95	0.9127	0.9873	0.8	1	0.05	0.1	10.53%	0.0%
187.5		4	0.95	0.9127	0.9873	0.8	1	0.05	0.1	10.53%	0.0%
375		4	0.7	0.6036	0.7964	0.4	1	0.1291	0.2582	36.89%	26.32%
750		4	0.35	0.256	0.444	0	0.6	0.1258	0.2517	71.9%	63.16%
1500		4	0	0	0	0	0	0	0		100.0%
3000		4	0	0	0	0	0	0	0		100.0%

96h Survival Rate Detail						
Conc-µg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	
0	Dilution Water	1	0.8	1	1	
187.5		0.8	1	1	1	
375		1	0.6	0.4	0.8	
750		0.6	0.4	0	0.4	
1500		0	0	0	0	
3000		0	0	0	0	

96 Hour Reference Toxicity Test Data Sheet - Nautilus Environmental
Freshwater Sediment 96-hr Chronic

Client: Reference Toxicant
Sample ID: 3000 ug/L CuCl₂
Test #: RTD1022811C
30

Start Date & Time: 6/22/11 1100
End Date & Time: 6/27/11 1200
Test Organism: Chironomus tentans

Conc. CuCl ₂	Cont. #	Survival		Dissolved O ₂ (mg/L)					pH (units)					Cond. μS/cm					Temperature (°C)				
		0	96	0	24	48	72	96	0	24	48	72	96	0 ^(M)	24	48	72	96	0	24	48	72	96
0 ug/L	13	5	5	8.0	6.3	6.5	6.6	7.0	7.71	7.44	7.52	7.50	7.82	180	193	194	190	245	21.8	21.1	21.2	21.2	21.8
	19	5	4											184									
	17	5	5																				
	18	5	5																				
187.5 ug/L	11	5	4	8.0	7.0	7.2	7.0	7.1	7.70	7.43	7.51	7.51	7.81	181	187	182	188	204	21.9	21.4	21.4	21.2	22.2
	3	5	5																				
	22	5	5																				
	15	5	5																				
375 ug/L	23	5	5	8.0	7.2	7.0	7.0	6.9	7.69	7.41	7.52	7.49	7.76	180	186	185	185	202	21.6	21.3	21.2	21.2	22.1
	1	5	3																				
	12	5	2																				
	2	5	4																				
750 ug/L	21	5	3	7.9	7.7	7.3	7.2	6.9	7.67	7.45	7.51	7.49	7.85	179	186	185	185	200	21.6	21.4	21.2	21.3	22.2
	20	5	2																				
	16	5	0																				
	5	5	2																				
1500 ug/L	4	5	0	7.9	7.9	7.4	7.0	7.0	7.60	7.44	7.47	7.36	7.66	181	184	187	176	200	21.6	21.3	21.2	21.3	22.1
	8	5	0																				
	14	5	0																				
	7	5	0																				
3000 ug/L	24	5	0	8.0	8.0	7.4	7.1	7.3	7.57	7.37	7.42	7.40	7.69	180	186	186	192	196	21.5	21.2	21.4	21.2	22.2
	9	5	0																				
	10	5	0																				
	12	5	0																				

Tech. Initials: (M) (SP) (gt) (M) (NF)

Test Chamber: PM.C
QA Check: (M)
Animal Source: PM.C (M) ABS

Date Received: 6/8/11 Age at test initiation: 2nd Instar

Comments: _____

Acute Amphipod Survival Test

Nautilus Environmental WA

Test Type: Survival

Organism: Hyalella azteca (Freshwater Amphipod)

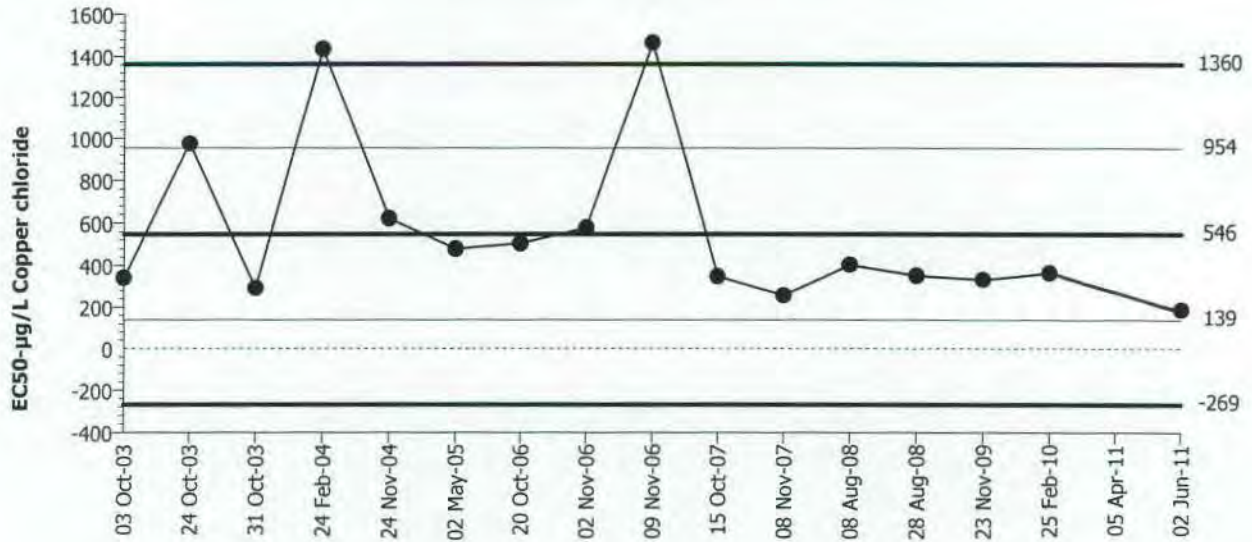
Material: Copper chloride

Protocol: ASTM E1706-00 (2000)

Endpoint: Survival Rate

Source: Reference Toxicant-REF

Acute Amphipod Survival Test



Mean: 546.4 Count: 16 -1s Warning Limit: 138.9 -2s Action Limit: -268.6
 Sigma: 407.5 CV: 74.60% +1s Warning Limit: 953.9 +2s Action Limit: 1361

Quality Control Data

Point	Year	Month	Day	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2003	Oct	3	341.2	-205.2	-0.5035			06-0775-4420	15-2295-2416
2			24	975.3	428.9	1.053	(+)		04-6438-3508	07-9828-8060
3			31	292.7	-253.7	-0.6225			08-3475-1373	04-5200-0455
4	2004	Feb	24	1434	887.3	2.177	(+)	(+)	07-1118-0626	17-7524-5953
5		Nov	24	620.2	73.81	0.1811			10-9772-9874	17-7888-1382
6	2005	May	2	477.4	-69.01	-0.1694			07-5117-5111	11-6732-4104
7	2006	Oct	20	503.5	-42.94	-0.1054			10-2603-2608	05-1924-5921
8		Nov	2	576.5	30.14	0.07397			04-1292-4263	07-3082-5987
9			9	1464	917.7	2.252	(+)	(+)	06-5458-2190	12-2747-1591
10	2007	Oct	15	348.4	-198	-0.486			13-4692-2778	05-0675-3882
11		Nov	8	257.2	-289.2	-0.7097			06-6607-2454	13-7012-4549
12	2008	Aug	8	403.7	-142.7	-0.3503			00-5616-2222	16-0415-1126
13			28	351.6	-194.8	-0.4781			02-4459-4152	20-2603-1886
14	2009	Nov	23	332.8	-213.6	-0.5242			20-2294-2173	19-9301-0079
15	2010	Feb	25	365	-181.4	-0.4452			16-9659-3406	11-7559-2786
16	2011	Apr	5	0	-546.4	-1.341	(-)		12-7538-8678	19-5580-0324
17		Jun	2	187.5	-358.9	-0.8807			04-1031-1615	02-7338-9085

CETIS Summary Report

Report Date: 06 Jun-11 12:58 (p 1 of 1)
 Test Code: RA060211HA | 04-1031-1615

Acute Amphipod Survival Test **Nautilus Environmental WA**

Batch ID: 17-7102-7421	Test Type: Survival	Analyst: Meghan Feuk
Start Date: 02 Jun-11 13:10	Protocol: ASTM E1706-00 (2000)	Diluent: Diluted Mineral Water (8:2)
Ending Date: 06 Jun-11 13:10	Species: Hyalella azteca	Brine:
Duration: 96h	Source: Aquatic Indicators	Age:
Sample ID: 17-8648-9088	Code: RA060211HA	Client: Reference Toxicant Test
Sample Date: 02 Jun-11 13:10	Material: Copper chloride	Project:
Receive Date: 02 Jun-11 13:10	Source: Reference Toxicant	
Sample Age: N/A	Station:	

Comparison Summary							
Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
09-8560-0831	Survival Rate	<187.5	187.5	N/A	4.59%		Steel Many-One Rank Test

Point Estimate Summary							
Analysis ID	Endpoint	Level	µg/L	95% LCL	95% UCL	TU	Method
02-7338-9085	Survival Rate	EC50	187.5	150.6	233.5		Trimmed Spearman-Kärber

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	4	1	1	1	1	1	0	0	0.0%	0.0%
187.5		4	0.5	0.4695	0.5305	0.4	0.6	0.04082	0.08165	16.33%	50.0%
375		4	0	0	0	0	0	0	0		100.0%
750		4	0	0	0	0	0	0	0		100.0%
1500		4	0	0	0	0	0	0	0		100.0%
3000		4	0	0	0	0	0	0	0		100.0%

Survival Rate Detail						
Conc-µg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	
0	Dilution Water	1	1	1	1	
187.5		0.5	0.5	0.4	0.6	
375		0	0	0	0	
750		0	0	0	0	
1500		0	0	0	0	
3000		0	0	0	0	

96 Hour Reference Toxicity Test Data Sheet - Nautilus Environmental
Freshwater Sediment 96-hr Chronic

Client: Reference Toxicant
Sample ID: 3000 ug/L CuCl₂
Test #: RA0100211 Ha

Start Date & Time: 6/6³/11 1310
End Date & Time: 6/6/11 1310
Test Organism: H. azteca

Conc. CuCl ₂	Cont. #	Survival		Dissolved O ₂ (mg/L)					pH (units)					Cond. μS/cm					Temperature (°C)				
		0	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
0 ug/L	21	10	10	8.3	8.1	8.0	8.0	8.0	7.81	7.83	7.87	7.20	7.19	189	205	204	210	209	22.7	23.0	23.2	23.5	23.2
	15	10	10																				
	19	10	10																				
	18	10	10																				
187.5	13	10	5	8.2	8.2	8.1	8.3	8.0	7.80	7.83	7.84	7.20	7.16	184	206	200	206	209	22.7	23.0	23.3	23.5	23.3
	1	10	5																				
	14	10	4																				
	3	10	6																				
375	4	10	0	8.3	7.9	8.1	8.2	7.9	7.77	7.80	7.78	7.17	7.00	184	202	202	207	206	22.6	23.3	23.4	23.5	23.5
	11	10	0																				
	10	10	0																				
	12	10	0																				
750	2	10	0	8.3	8.2	8.2	8.2	8.0	7.71	7.78	7.72	7.14	7.02	184	204	200	206	206	22.5	23.5	23.3	23.4	23.5
	20	10	0																				
	22	10	0																				
	9	10	0																				
1500	5	10	0	8.3	8.2	8.3	8.3	8.1	7.55	7.70	7.61	7.08	7.02	183	204	201	207	210	22.4	23.4	23.3	23.5	23.3
	24	10	0																				
	8	10	0																				
	7	10	0																				
3000	17	10	0	8.3	8.3	8.3	8.3	8.1	7.27	7.61	7.50	7.05	7.00	184	204	200	207	208	22.5	23.3	23.3	23.4	23.4
	6	10	0																				
	23	10	0																				
	16	10	0																				

Tech Initials: (D) (M) SP HF SP SP (M)

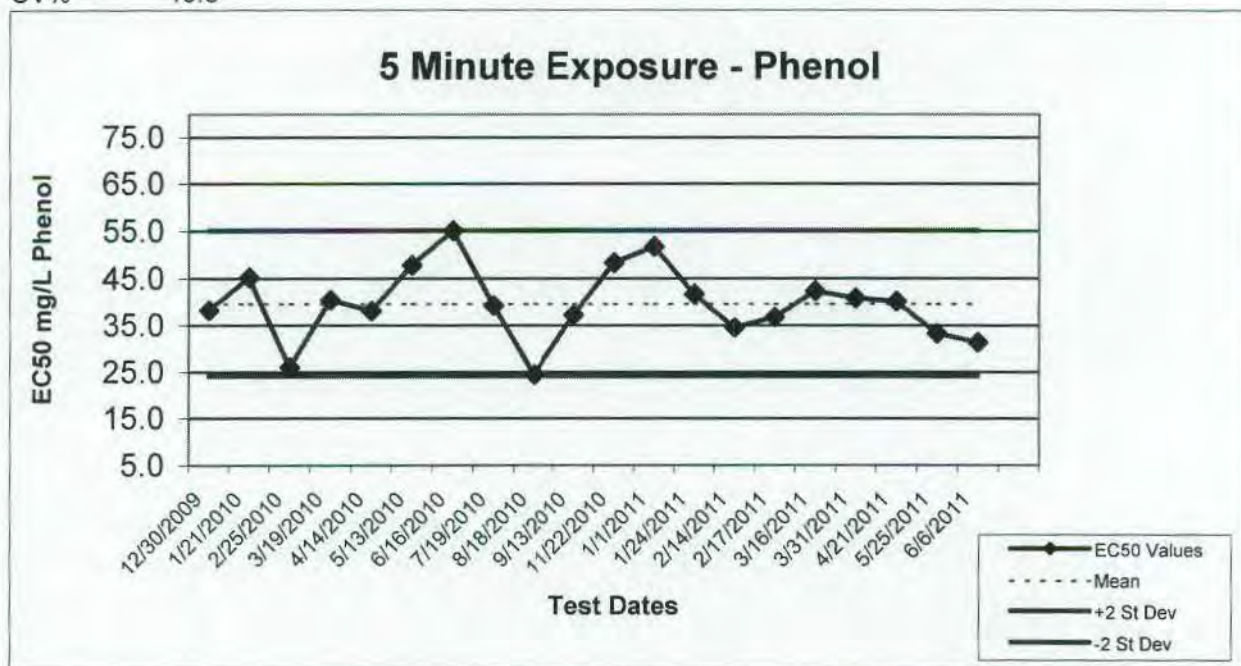
Animal Source: AI
Date Received: 6/2/11
Age at test initiation: _____

Dilution Water: 8:2
Test Chamber: Rm. A

Comments: _____
QA Check: (M)

Reference Toxicant Control Chart Microtox 5-Minute Exposure

CV% = 19.5

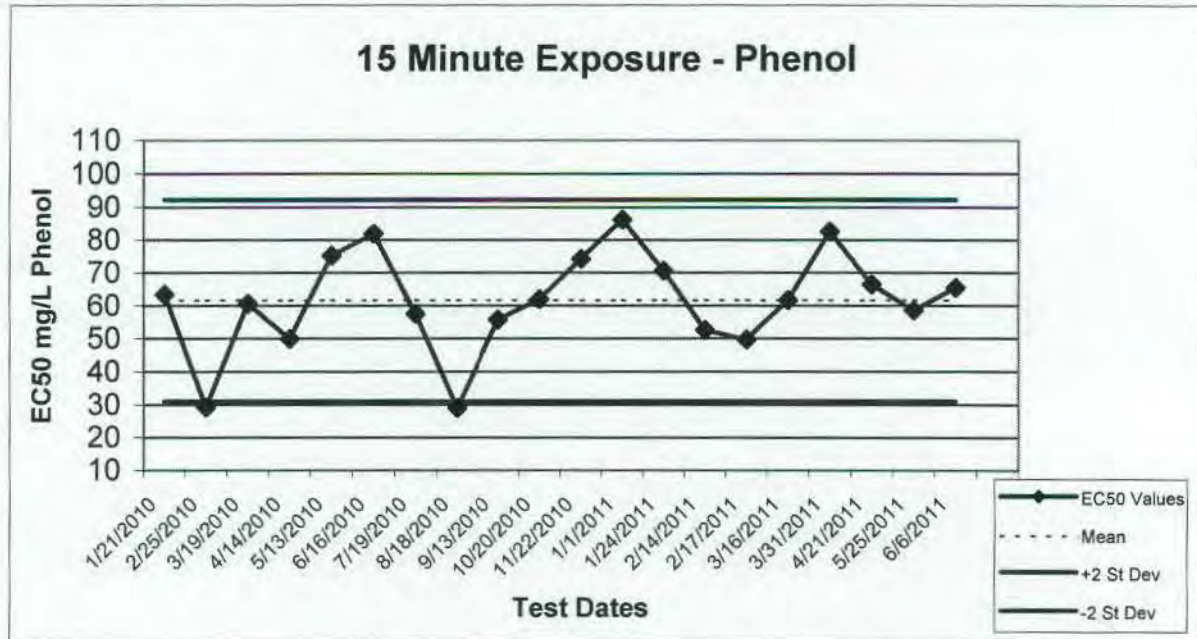


Date	Time	EC50 %	EC50 mg/L Phenol ^a	Mean	StDev	-2 SD	+2 SD
12/30/2009	911	22.5	38.3	39.6	7.7	24.2	55.1
1/21/2010	1015	26.6	45.2	39.6	7.7	24.2	55.1
2/25/2010	1223	15.3	26.0	39.6	7.7	24.2	55.1
3/19/2010	833	23.8	40.5	39.6	7.7	24.2	55.1
4/14/2010	934	23.8	38.1	39.6	7.7	24.2	55.1
5/13/2010	939	29.9	47.8	39.6	7.7	24.2	55.1
6/16/2010	912	34.4	55.0	39.6	7.7	24.2	55.1
7/19/2010	830	24.5	39.2	39.6	7.7	24.2	55.1
8/18/2010	1018	15.3	24.4	39.6	7.7	24.2	55.1
9/13/2010	1214	23.3	37.3	39.6	7.7	24.2	55.1
11/22/2010	1100	30.2	48.3	39.6	7.7	24.2	55.1
1/1/2011	1436	32.3	51.7	39.6	7.7	24.2	55.1
1/24/2011	829	26.0	41.7	39.6	7.7	24.2	55.1
2/14/2011	1339	21.6	34.5	39.6	7.7	24.2	55.1
2/17/2011	1010	23.0	36.8	39.6	7.7	24.2	55.1
3/16/2011	812	26.5	42.3	39.6	7.7	24.2	55.1
3/31/2011	1154	25.5	40.8	39.6	7.7	24.2	55.1
4/21/2011	917	25.1	40.2	39.6	7.7	24.2	55.1
5/25/2011	848	20.8	33.3	39.6	7.7	24.2	55.1
6/6/2011	1220	19.6	31.4	39.6	7.7	24.2	55.1

a - Highest concentration of Phenol is 160 mg/L

Reference Toxicant Control Chart Microtox 15-Minute Exposure

CV% = 24.8



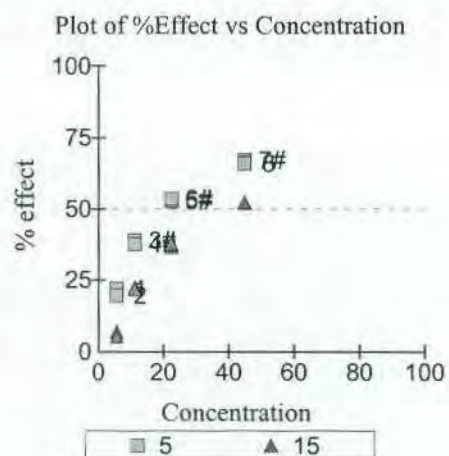
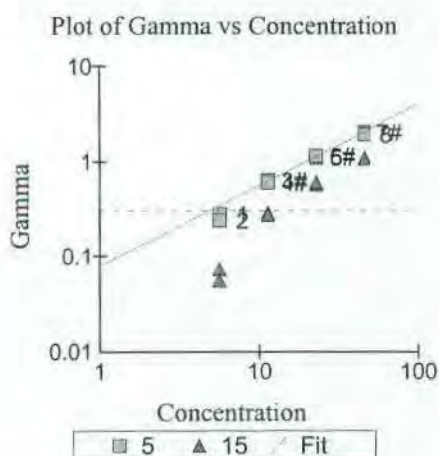
Date	Time	EC50 %	EC50 mg/L Phenol ^a	Mean	StDev	-2 SD	+2 SD
1/21/2010	1015	37.3	63.3	61.6	15.3	31.0	92.2
2/25/2010	1223	17.2	29.2	61.6	15.3	31.0	92.2
3/19/2010	833	35.6	60.5	61.6	15.3	31.0	92.2
4/14/2010	934	31.2	49.9	61.6	15.3	31.0	92.2
5/13/2010	939	47.0	75.2	61.6	15.3	31.0	92.2
6/16/2010	912	51.2	81.9	61.6	15.3	31.0	92.2
7/19/2010	830	35.9	57.4	61.6	15.3	31.0	92.2
8/18/2010	1018	18.2	29.1	61.6	15.3	31.0	92.2
9/13/2010	1214	34.8	55.7	61.6	15.3	31.0	92.2
10/20/2010	904	38.7	61.9	61.6	15.3	31.0	92.2
11/22/2010	1100	46.4	74.2	61.6	15.3	31.0	92.2
1/1/2011	1436	53.9	86.2	61.6	15.3	31.0	92.2
1/24/2011	829	44.1	70.5	61.6	15.3	31.0	92.2
2/14/2011	1339	32.9	52.6	61.6	15.3	31.0	92.2
2/17/2011	1010	31.0	49.6	61.6	15.3	31.0	92.2
3/16/2011	812	38.5	61.6	61.6	15.3	31.0	92.2
3/31/2011	1154	51.6	82.6	61.6	15.3	31.0	92.2
4/21/2011	917	41.5	66.4	61.6	15.3	31.0	92.2
5/25/2011	848	36.5	58.4	61.6	15.3	31.0	92.2
6/6/2011	1220	40.9	65.4	61.6	15.3	31.0	92.2

a - Highest concentration of Phenol is 160 mg/L

MicrotoxOmni Test Report

Date: 06/06/2011 12:20 PM

Test Protocol: Basic Test
 Sample: 160mg/L Phenol
 Toxicant: 160mg/L Phenol
 Reagent Lot no.: 10K1032
 Test description: Reference Toxicant
 Test name: RT060611VF
 Database file: C:\Program Files\MicrotoxOmni\Edge Analytical.mdb



Sample	Conc	5 Mins Data:				15 Mins Data:		
		Io	It	Gamma	% effect	It	Gamma	% effect
Control	0.000	95.37	94.07	0.9864 #		64.12	0.6723 #	
Control	0.000	96.55	96.74	1.002 #		65.20	0.6753 #	
1	5.625	102.88	79.94	0.2795	21.84%	64.63	0.0726	6.768%
2	5.625	99.02	79.24	0.2423	19.51%	63.20	0.0557	5.277%
3	11.25	103.46	62.83	0.6371 #	38.91%	54.10	0.2886	22.40%
4	11.25	105.65	65.49	0.6038 #	37.65%	55.82	0.2753	21.59%
5	22.50	107.92	50.83	1.111 #	52.62%	46.07	0.5784 #	36.65%
6	22.50	109.63	50.79	1.146 #	53.40%	46.09	0.6027 #	37.61%
7	45.00	109.14	35.85	2.027 #	66.96%	35.13	1.093 #	52.23%
8	45.00	108.87	36.88	1.935	65.93%	35.23	1.082 #	51.98%

- used in calculation; * - invalid data; D - deleted from calcs.
 Autocalc has been used.

Calculations on 5 Mins data:
 EC50 Concentration: 19.62% (95% confidence range: 18.81 to 20.48)
 95% Confidence Factor: 1.043
 Estimating Equation: $\text{LOG C} = 1.167 \times \text{LOG G} + 1.293$
 Coeff. of Determination (R^2): 0.9980
 Slope: 0.8554
 Correction Factor: 0.9942

Calculations on 15 Mins data:
 EC50 Concentration: 40.88% (95% confidence range: 38.35 to 43.57)
 95% Confidence Factor: 1.066
 Estimating Equation: $\text{LOG C} = 1.132 \times \text{LOG G} + 1.611$
 Coeff. of Determination (R^2): 0.9976
 Slope: 0.8815
 Correction Factor: 0.6738

APPENDIX F - Chain-of-Custody Forms

ATTACHMENT D
ENVIRON AGRI-TECH YAKIMA STEEL SEDIMENT EVALUATION

WETLAND EVALUATION TECHNICAL MEMORANDUM
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Agreed Order No. DE 6091

Farallon PN: 765-001

**Wetland Sediment Evaluations at the
Agri-Tech/Yakima Steel Fabricators Site**

Agency Review Draft

May 7, 2014

Revised: December 30, 2014

Prepared for:

Farallon Consulting
Issaquah, Washington

Prepared by:

 **ENVIRON**
Port Gamble, Washington

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Appendixes

Appendix A: 2011 Toxicity Testing Report

Appendix B: Microtox[®] Report: Baseline and Dilution Series

Appendix C: Amphipod and *Chironomus* Data Sheets – Baseline and Dilution Series

Appendix D: Porewater TIE Toxicity Test Data Sheets and Porewater Chemistry

Appendix E: Solid-Phase TIE Test Data Sheets

Appendix F: Sediment Chemistry Reports and Bench Sheets

Glossary of Terms

Acute toxicity: Toxicity due to a short-term exposure. The measured effect may be lethal or sub-lethal.

AFDW: Ashed-free dry weight

Amphipod: *Hyalella azteca*: For this program, the amphipod, *Hyalella azteca* was used to evaluate toxicity.

Benthic Test: A whole-sediment test, conducted with animals exposed to test sediments

C: Control

Chironomus: The genus for the midge test species, *Chironomus dilutus*. For this report, *Chironomus* is sometimes used to refer to *Chironomus dilutus*.

Chronic toxicity: Toxicity due to a longer duration exposure. The measured effect may be lethal or sub-lethal (e.g. growth).

COPC: Chemicals of Potential Concern

CSL: Cleanup screening level; levels which may require action

EC50: Median effective concentration. That concentration that elicits an effect on 50% of the test population.

Ecology: Washington Department of Ecology

Hyalella: The genus for the amphipod test species, *Hyalella azteca*. For the purposes of this report, *Hyalella* is sometimes used to refer to *Hyalella azteca*.

LC50: Median lethal concentration. That concentration that is lethal to 50% of the test population.

M: Mortality

Midge: *Chironomus dilutus* – for this program, the midge *Chironomus dilutus* was used to evaluate toxicity.

MIG: Mean individual growth

Porewater Test: Toxicity test with test organisms exposed to porewater extracted from test sediments

RSET: Regional Sediment Evaluation Team

SCO: Sediment cleanup objective; long-term sediment quality goals for cleanup actions

SMS: Sediment management standards

TNWR: Toppenish National Wildlife Refuge

YSF: Yakima Steel Fabricators

1. Introduction

Farallon Consulting LLC (Farallon) is conducting a remedial investigation of a light industrial site in Yakima, Washington. The Agri-Tech/Yakima Steel Fabricator (YSF) property includes a small Type 3 wetland. Previous studies with sediment collected from three wetland stations found cadmium levels above the State screening levels; sediment toxicity testing showed the potential for adverse biological effects. However, the results of previous tests were equivocal. ENVIRON (formerly NewFields) were requested to conduct an evaluation of toxicity and the potential causes of toxicity in sediments from the wetland. The purpose of this supplemental remedial investigation was to inform the feasible remedial analysis and cleanup action plan as it relates to the wetland area by:

- Reevaluating the potential for toxicity in site wetland sediments; and,
- If toxicity is observed, determine whether cadmium or other metals of potential concern are the likely cause.
- Generate data that can lead to a cleanup level for the site.

1.1 Background and 2011 Investigation

Prior studies evaluated wetland soils and sediments at the south end of the Agri-Tech/YSF property (Figure 1) for contaminants of potential concern (COPC) and sediments were evaluated for toxicity (Farallon 2011). Based on the soil and sediment chemistry, cadmium was the only analyte observed at concentrations exceeding the preliminary soil screening levels (Table 1). For the sediment samples, cadmium was the only COPC that exceeded the State of Washington's recently promulgated freshwater sediment cleanup screening level (CSL) and sediment cleanup objective (SCO) criterion. The CSL values represent levels which may require action; whereas the SCO values represent long-term sediment quality goals for cleanup. The CSL chemical criteria are higher than the SCO criteria; likewise, the toxicity thresholds for CSL are higher than those of the SCO. The Freshwater CSL and SCO values are based on a regional dataset with concomitant sediment chemistry and bioassay data. However, this dataset did not include small wetlands and as such they may not necessarily represent the bioavailability and toxicity of chemicals in the largely static sediment reducing environments found in small wetlands.

As required by the Sediment Management Standards (SMS), toxicity tests were conducted on the wetland sediments in 2011. Tests included the 10-day amphipod survival test with the amphipod, *Hyalella azteca*, the 20-day midge growth and survival test with the midge, *Chironomus dilutus*, and the Microtox® test. The bioassay report (Nautilus 2011; Appendix A) compared the test results to control samples based on criteria as defined in the Regional Sediment Evaluation Team (RSET) sediment evaluation framework for dredged material (USACE/EPA 2009). Since that time, the Washington Department of Ecology (Ecology) promulgated biological criteria for the freshwater sediment tests with *Hyalella* and *Chironomus*. The results of the wetland sediment toxicity tests are compared to the Ecology criteria in Table 2. For the Microtox® test, RSET criteria were used as the SMS revisions do not include Microtox® criteria. It should be noted that the RSET criteria are based on a "one-hit/two-hit" evaluation. Toxicity observed at the two-hit level represents a lower level of toxicity and indicates that two toxicity tests would need to exceed the two-hit criteria to fail a sediment treatment. The one-hit

criteria represents a higher level of toxicity and indicates that one toxicity test exceeding the one-hit criteria would fail a sediment treatment.

Toxicity exceeding the CSL criteria was observed in WETSED-1 for the *Hyalella* test, whereas no toxicity was observed in the *Chironomus* test for both survival and growth. WETSED-2 passed the CSL and SCO criteria for *Hyalella* survival and *Chironomus* growth, with *Chironomus* mortality slightly above the SCO criteria. In contrast, the WETSED-3 sediment passed the SCO criteria for the *Hyalella* test, but failed the CSL criteria for *Chironomus* mortality. Survival among the replicates for the *Chironomus* test was highly variable, ranging from 0 to 9 individuals per replicate. Marginal toxicity exceeding the CSL and SCO criteria were observed for each of the test treatments in the Microtox® test.

Table 1. Summary of Wetland Soil and Sediment Chemistry, Agri-Tech/YSF 2011 Survey.

Analyte	WETSED			WETSOIL			SL ¹	SCO ²	CSL ³
	1	2	3	1	2	3			
Grain Size									
Sand	40.4	14.1	4.1	--	--	--	--	--	--
Silt	48.1	76.8	61.9	--	--	--	--	--	--
Clay	11.5	9.1	34.0	--	--	--	--	--	--
TOC (%)	5.3	4.7	3.6	--	--	--	--	--	--
TVS (%)	82	63	60	--	--	--	--	--	--
As	<5.8	7.6	8.5	<5.1	<3.4	<2.4	20	14	120
Cd	<u>9.2</u>	<u>6.8</u>	<u>7.8</u>	<u>3.7</u>	1.8	1.5	2	2.1	5.4
Cu	36	41	52	39	19	16	2,960	400	1200
Hg	0.07 ³	0.04 ³	0.14 ³	0.14	0.071	0.14	2	0.66	0.80
Mn	210	220	270	190	250	210	11,000	--	--
Pb	190	150	180	110	19	3.5	1,000	360	>1300
Sb	<5.8	<6.9	<6.1	<5.1	<3.4	<2.4	32	--	--
Zn	2700	2800	2700	1700	670	41	24,000	3200	>4200
TPH-GRO	ND	ND	ND	ND	ND	ND	10	--	--
TPH-DRO	ND	ND	ND	ND	ND	ND	2,000	--	--
TPH-ORO	ND	ND	ND	ND	ND	ND	2,000	--	--
Pesticides/Herbicides	ND	ND	ND	ND	ND	ND	--	--	--
Acetone	0.082	<0.039	0.110	0.094	0.029	<0.019	3.21	--	--
Carbon Disulfide	<0.003	0.003	<0.003	0.064	0.010	<0.001	5.651	--	--
MEK	<0.014	<0.013	0.025	0.010	<0.0045	<0.0064	22	--	--
Other VOCs	ND	ND	ND	ND	ND	ND	--	--	--

¹ RI Screening Level

² Sediment Cleanup Objective; ³ Cleanup Screening Level

³ Reported value from nearby WETSOIL station

Bold: Exceeds SCO

Underline: Exceeds SCO and CSL

Table 2. Summary of 2011 Toxicity Test Results for Wetland Sediments, Agri-Tech/YSF.

Test	SCO ¹	CSL ¹	WETSED-1	WETSED-2	WETSED-3
<i>Hyalella</i> 10-day					
Mortality	$M_T - M_C^2 > 15\%$	$M_T - M_C > 25\%$	100% CSL	13.8% Pass	3.8% Pass
<i>Chironomus</i> 20-day					
Mortality	$M_T - M_C > 15\%$	$M_T - M_C > 25\%$	14.6% Pass	17.7% SCO	57.3% CSL
Growth	$(MIG_c - MIG_t) / MIG_c > 0.25$	$(MIG_c - MIG_t) / MIG_c > 0.40$	-0.23 Pass	0.04 Pass	0.34 SCO
Microtox [®] (evaluated with RSET criteria)					
Test	RSET Criteria "two hit"	RSET Criteria "one hit"	WETSED-1	WETSED-2	WETSED-3
Change in light output @ 5 minutes	T/C <85%	T/C <75%	70.8%	75.0%	84.4%
Change in light output @ 15 minutes	T/C <85%	T/C <75%	20.2%	29.8%	41.7%
COPCs					
Cadmium	2.1	5.4	9.2	6.8	7.8

¹ Biological criteria in revised Sediment Management Standards

²M: mortality; MIG: mean individual growth; T: treatment; C: control

Bold: Exceeds SCO

Underline: Exceeds SCO and CSL

Overall the QA/QC was acceptable for the toxicity tests (summary in Table 3; full report in Appendix A). Survival and growth in the negative control sediment (clean silica sand routinely used in freshwater sediment tests or laboratory seawater for the Microtox[®] test) were within acceptable limits. The positive control (reference-toxicant tests) with the exception of the Microtox[®] LC₅₀ for the 5 minute reading, which was slightly below the acceptable range. Water quality parameters, including ammonia and sulfide values were within the tolerance limits for the test organisms. The amphipod test was initiated with 20 test organisms rather than 10; however, the food ration was not altered for the increased loading rate. While this may have affected test organism fitness and growth, it is unlikely that this would result in the high mortality observed in WETSED-1. For the *Chironomus* test, there was high inter-replicate variability with coefficients of variation ranging from 49% to 102%. This test can be subject to error at test initiation if proper care is not taken placing the extremely small larval *Chironomus* into the test chambers. Nematodes were observed in some test replicates, which could result in predation and loss of early Chironomid larvae which are very small (about the size of an eyelash). Additionally, the duration of this test is very near the hatch stage and it is possible to have a loss of test organisms when they have developed into flies. While it is not possible to determine if these were sources of the variability from the available data, high variability is an indication that non-contaminant interactions may have affected the test results.

Table 3. Negative and Positive Control Performance, 2011 Toxicity Tests.

Test	Negative Control Performance	Acceptable Limit	Positive Control Performance	Acceptable Range
<i>Hyalella</i>	1.3% mortality	<20%	188 µg/L Cu	0 – 1,360 µg/L Cu
<i>Chironomus</i>	6.3% mortality 0.91 mg AFDW/ind	<32% >0.48 mg AFDW/ind	571 µg/L Cu	401 – 1,070 µg/L Cu
Microtox	5 min: 96% 5 min: 84%	72% - 110%	19.6 mg/L phenol 40.9 mg/L phenol	24.2 – 55.1 mg/L 31.0 – 92.2 mg/L

Although cadmium concentrations were generally similar for the three wetland sediments (6.8 to 9.2 mg/kg), the observed toxicity was highly variable across the site. Sample WETSED-1 had 100% mortality in the *Hyalella* test, but did not show toxicity in the *Chironomus* test; sample WETSED-3 had 57% mortality in the *Chironomus* test, but high survival in the *Hyalella* test. With the exception of the Microtox® test, WETSED-2 showed little toxicity. While it would not be unexpected to have different cadmium sensitivities among test species, the pattern of responses for each test would be expected to be somewhat consistent across the test treatments if cadmium was the primary cause of toxicity as the sediment chemistry might suggest.

There was consistency in response for all sediment treatments for the Microtox® test results. However, Microtox® tests have been shown to be highly sensitive to non-contaminant factors such as turbidity, ammonia, sulfides, organics, and holding times (Brouwer and Murphy 1994; Benton et al. 1995; Pardos et al 1999; Bennet and Cabbage 1992). In Microtox® tests with marine samples, holding times have been associated with toxicity (NewFields 2009). In a holding-time study, no toxicity was observed for samples tested within 2 to 4 days of collection; however, nearly half of the samples were found to exceed SMS criteria for samples tested 20 days after collection. All samples tested 37 days after collection failed in the Microtox®. In the Microtox® tests conducted with the Agri-Tech/YSF wetland sediments holding times were 15 days and likely affected the test results.

Site-specific factors (e.g. pH, redox potential, sediment grain size, and organic carbon) can affect metals availability and toxicity, as well as the ability of chemical criteria to predict a relationship between COPCs and toxicity. In many cases, the pH in wetland sediments may be lower than for larger, more dynamic water bodies. Lower pH tends to favor adsorption of metals onto finer sediment particles (John and Leventhal 1994). Furthermore, wetland sediments typically have elevated total organic carbon content due to the dense vegetation, which is not exported, from the system. Binding with organic carbon also reduces availability. Organically enriched sediments can form a strongly reducing (anoxic) environment which promotes sulfate reduction and sulfide mineral deposition. In such environments, free cadmium (the more toxic fraction) can form less toxic insoluble sulfide complexes. As such, the measured cadmium concentrations may not be similarly available or toxic as in riverine or lake systems. National chemical criteria or guidance values (e.g. Threshold and Probable Effects Levels), are based on datasets developed in water bodies that are quite different than the small wetland on the Agri-Tech/YSF

site. The dataset used in developing the recently promulgated SMS criteria includes large water bodies such as Portland Harbor, the Columbia River, Lake Roosevelt and the Spokane River.

The potential differences in availability and toxicity in wetland sediments versus sediments from larger water bodies are a significant source of uncertainty in developing a cause-effect relationship between screening level exceedances of chemicals of potential concern and toxicity. This is reinforced by a lack of consistency between the observed concentrations of cadmium and other metals in the sediment samples and toxicity among the three sediment samples. Confirming the cause of toxicity is an important step to determining appropriate subsequent actions for the wetland site, for completing the Feasibility Study, developing the conceptual site model, and for developing the cleanup action plan (CAP). Since Ecology has indicated that the success of the cleanup action will be based on the absence of toxicity, it is critical that appropriate criteria define any cleanup action for the wetland and be used to determine when the cleanup action is complete.

1.2 Approach for 2013 Supplemental Investigation

In order to determine whether site-related metals were associated with the observed toxicity, ENVIRON conducted a targeted study to accomplish the following objectives:

- Verify toxicity in the WETSED samples from each of the three stations;
- If toxicity is confirmed, determine whether cadmium or other metals present in the wetland site are the likely cause;
- If toxicity is confirmed and related to metals, determine whether a site-specific clean-up level would be appropriate.

The approach to address these study objectives was to conduct a sampling and analysis program that included resampling the three wetland stations previously tested, conducting confirmatory toxicity tests and targeted analytical chemistry, and performing a suite of forensic toxicity tests called toxicity identification evaluations (TIEs). The TIEs are a series of sample manipulations intended to alter the availability of certain classes of compounds (such as cationic metals) which are followed by toxicity tests with the manipulated sample. If sample toxicity changes in a manner predicted by the TIE manipulation, it provides a line of evidence that that class of compounds is associated with the observed toxicity. A suite of manipulations are included in this program to provide multiple lines of evidence. It should be noted that the TIE may not necessarily identify synergistic or additive effects, however, it may identify key factors that are driving factors in any observed toxicity. The results of the toxicity tests and TIE studies will then be evaluated in combination with the analytical chemistry to better understand the availability of site-related metals and the potential sources of observed toxicity.

2 Methods

2.1 Sediment Collection and Handling

Surface sediment collection was conducted on December 3, 2013. Surface samples were collected from the three previously sampled WETSED stations at the Agri-Tech/YSF site (Site; Figure 1) as well as from one location at the Toppenish National Wildlife Refuge (TNWR) for use in dilution series testing. The WETSED stations were located within the wetland and were immediately east of, and distinctly separate from the previous backfill area associated with Bay Chemical sediment removal. Stations were located using a WAAS enabled GPS and visual landmarks. Final station coordinates were recorded in the field and are presented in Table 4.

Surface sediment to a depth of 6" was collected from each of the WETSED stations. This sampling depth targeted the depth of sediment considered to be biologically active and most relevant to evaluating risk at the site. The site was dominated by cattails (*Typha* sp.) which had a root system that extended to approximately 6". Additionally, many of the wetland invertebrates (e.g. amphipods, Chironomids) occupy the upper most sediment surface (1"-2"). The wetland at the Site was dry at the time of sampling and sediment was collected by hand to a depth of 6 inches using stainless steel scoops. Collection tools were washed with warm soapy water, rinsed with deionized water, and then rinsed with acetone. Stainless steel spoons and scoops were cleaned at the Port Gamble laboratory and wrapped in foil.

Prior to sampling, above-ground vegetation was cleared from the sampling area. Care was taken during sampling to avoid roots and other large organic debris. Sediment from the TNWR was collected using a small stainless steel van Veen sampler from Toppenish Creek. Sediment was collected from an area closed to hunting, approximately 25 to 30 ft. upstream of a small bridge. Approximately five gallons of sediment was collected from each location to provide sufficient sample volume to support the analyses and TIE manipulations. Sediment from each station was placed into clean, food-grade plastic bags, labeled with station number, and then placed into a cooler. Sediment for AVS/SEM analysis was placed directly into certified clean glass sample jars with no head space. The samples remained on ice and in the dark until they were delivered to the ENVIRON laboratory for processing.

At the laboratory, sediment from each station was homogenized and then subsampled for chemical analysis. Samples were sent to the analytical laboratory (Analytical Resources Incorporated). Target analytes for project sediments included sediment grain size, total organic carbon, AVS/SEM, and total Cd, Mn, Pb, and Zn.

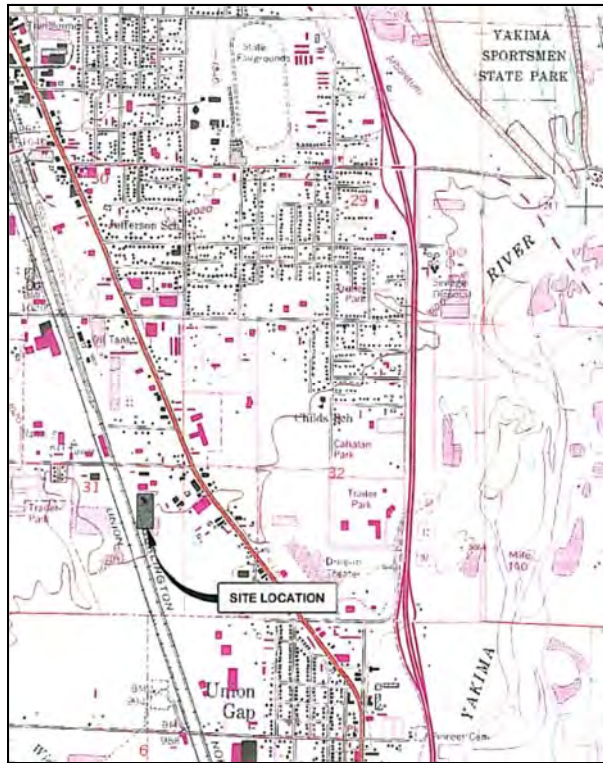


Figure 1. Agri-Tech/Yakima Steel Wetland study area.

Table 4. Station locations, Agri-Tech/YSF 2013.

Station	Latitude	Longitude	Time	Comments
WETSED-1-13	46° 34.034	120° 20.416	12:31	Dry silt/clay overlying wet cobble; heavy vegetation
WETSED-2-13	46° 34.036	120° 29.406	13:06	Dry silt/clay; heavy vegetation
WETSED-3-13	46° 34.028	120° 29.406	13:36	Dry silt/clay with sand overlying moist silt/sand; heavy vegetation
TNWR	46° 18.508	120° 20.786	10:01	Silty sand

2.2 Chemical Analysis

The three WETSED test sediments and dilution series sediments were analyzed for grain size, total organic carbon (TOC), porewater ammonia and sulfides, the metals cadmium (Cd), lead (Pb), manganese (Mn), and zinc (Zn), and AVS/SEM (Table 5). Note that the 0% dilution (TNWR only) was not submitted for chemical analysis. With the exception of ammonia and sulfides, laboratory analyses were conducted by Analytical Resources Inc. of Tukwila, Washington. Porewater ammonia and sulfides were measured at the ENVIRON laboratory.

Sediment grain size was analyzed to determine the general size classes that make up the sediment (e.g., gravel, sand, silt, and clay). Grain size was conducted using the gravimetric procedure described in PSEP (1986) and Plumb (1981). The TOC, made up of volatile and nonvolatile organic compounds, was determined following Plumb (1981). This procedure involved dissolving inorganic carbon (carbonates and bicarbonates) with hydrochloric acid or sulfuric acid prior to TOC analysis. Total solids were also measured to convert concentrations of the chemical parameters from a wet-weight to a dry-weight basis. Percent solids were determined by Standard Method SM2540G (APHA 2002).

The analysis for the project specific metals was conducted using an inductively coupled plasma emissions spectrometer equipped with a mass detector (ICP-MS), in accordance with USEPA 6010C Rev.3 (EPA 2007). Porewater samples were collected by ENVIRON and were analyzed for ammonia and dissolved sulfides. Total ammonia as nitrogen was measured using an Orion meter fitted with an ammonia ion-specific probe. Total sulfides as S^{-2} were measured using a HACH DR/2800V Spectrophotometer.

The methods for acid volatile sulfides followed EPA (1991). In this colorimetric method, sulfide in the sample was converted to hydrogen sulfide by the addition of hydrochloric acid at room temperature. The hydrogen sulfide (H_2S) was purged from the sample by an inert gas and trapped in a sodium hydroxide (NaOH) solution. With the addition of a mixed-diamine reagent (MDR), the sulfide was

Table 5. Chemical and Physical Parameters, Analytical Methods, and Target Detection Limits, Agri-Tech/ YSF 2013.

Parameter	Method	Procedure	Sediment Target Reporting Limit (dry weight)
Conventionals			
Grain Size	PSEP; Plumb (1981)	Sieve/Pipette	1.0%
TOC	Plumb (1981)	Combustion IR	0.1%
Percent Solids	SM2540G	Gravimetric	0.1%
Dissolved Sulfides	SM4500	Colorimetric	0.001 mg/L
Ammonia	SM 4500N H3F	Probe	0.001 mg/L
Metals			
Cadmium (Cd)	USEPA 6010c	ICP-MS	0.2 mg/kg
Lead (Pb)	USEPA 6010c	ICP-MS	2 mg/kg
Manganese (Mn)	USEPA 6010c	ICP-MS	0.1 mg/kg
Zinc (Zn)	USEPA 6010c	ICP-MS	1 mg/kg
AVS	EPA 1991	Colorimetric	0.05
SEM	EPA 1991	ICP-MS	As above
Bioassays			
Acute Toxicity	USEPA 100.1	Amphipod	NA
Acute Toxicity	SAPA 2008	Microtox®	NA
Chronic Toxicity	USEPA 100.5	Larval Midge	NA

converted to methylene blue and measured on a UV-VIS spectrometer. The acid-sediment slurry was centrifuged to settle the sediment. The supernatant was poured into an acid cleaned Teflon bottle and then analyzed by Inductively Coupled Plasma Mass Spectrometry (ICP-MS) for cadmium, lead, manganese, and zinc following a modification of EPA Method 1638. The amount of each metal that is soluble in the porewater is dependent upon the amount of sulfides to bind with and the relative affinity of the metal to bind with sulfides. For these four metals, lead can replace the other three metals bound to sulfides, followed by cadmium replacing zinc and manganese (EPA 2005). Zinc and manganese will then bind to what sulfides are available.

2.3 Test Treatment Preparation

2.3.1 Test Sediments for Baseline and Dilution Series Toxicity Testing

The potential for benthic toxicity in sediment from the three stations was evaluated using three benthic toxicity tests: the 10-day acute toxicity test with the amphipod *Hyalella azteca*, the 20-day chronic test with the midge *Chironomus dilutus*, and the Microtox® test using bioluminescent bacteria. The purpose of the baseline toxicity tests was to establish a baseline for subsequent TIE and to confirm or refine earlier estimates of toxicity from the 2011 toxicity tests. A dilution series test was also conducted using decreasing concentrations of WETSED-3 test sediment mixed with sediment collected from TNWR. The dilution series test was included to determine whether there was a dose-response to the test sediment

to assist in determining a site-specific clean up criteria if required. As indicated in the results section, there was no response in the WETSED-3 sediment dilution test.

The baseline tests were conducted with homogenized sediment from the three on-site stations (WETSED 1, WETSED-2, and WETSED-3), a series of dilutions of WETSED-3, and a laboratory control sediment. The laboratory control sediment was tested with two benthic tests to validate test results and verify that test conditions were suitable for test organism health. The laboratory control sediment was silica sand that was thoroughly rinsed with diluted mineral water (DMW).

The dilution series test was conducted with a series of sediment dilutions prepared using sediment from WETSED-3 and gradually increasing volumes of TNWR sediment. Sediment dilutions tested were 100%, 67%, 33%, and 11% test sediment in reference sediment and targeted whole sediment cadmium concentrations of 9, 6, 3, 1 mg/kg Cd. Sediment dilutions were prepared volumetrically based on the whole sediment concentration of 9 mg/kg Cd in WETSED-3 sediment. An appropriate mass of test and dilution sediment was combined in 1-gal glass jars. The sediment was homogenized using a clean, stainless-steel spoon and then fitted with Teflon-line lids. Jars were then placed onto a roller table and mixed continuously for 24 hours to evenly distribute the test and dilution sediment. After the mixing period, the test jars were placed in the cold-room (4°C) to allow for equilibration. A subsample of each dilution was submitted to the analytical laboratory to confirm the test cadmium concentration.

2.4 TIE Manipulations

Based on the results of the baseline testing, TIE tests were conducted with both sediment and porewater from the WETSED-1 sample. TIE procedures followed methods outlined in EPA (2007) and WERF (2007). Porewater was collected by double centrifugation. After the sediment was centrifuged once, the supernatant was decanted into another clean Teflon jar and centrifuged again. The supernatant in this jar was decanted into a glass container. This was the unmanipulated WETSED-1 sample for the porewater TIE. A TIE treatment control was tested concurrent to each of the sediment and porewater TIE manipulations. For sediment tests, the TIE control was comprised of silica sand (control sediment) plus the respective treatment. For the porewater TIE manipulations, the negative controls were diluted mineral water (control water) plus the respective treatment. The TIE manipulations included in this evaluation are summarized in Table 6 and the methods are summarized in the following sections.

Table 6. Toxicity Tests and TIE Manipulations Included in Agri-Tech/YSF 2013.

Matrix	TIE Method	Target Chemical Class	Test	Control
Sediment	SIR-300	Cationic Metals	10-d Amphipod	Silica sand + SIR-300
Sediment	Powdered Coconut Charcoal	Organics	10-d Amphipod	Silica sand + PCC
Porewater	EDTA (4 and 2 mg/L)	Metals	10-d Amphipod	Control water + EDTA (4 and 2 mg/L)
Porewater	SIR-300	Cationic Metals	10-d Amphipod Microtox	Control water filtered through SIR-300
Porewater	C18 Column	Organics	10-d Amphipod	Control water filtered through C18 column
Porewater	Filtration	Particulate bound contaminants	10-d Amphipod	Filtered control water

2.4.1 Whole Sediment TIE Manipulations

Two whole sediment manipulations were included in the TIE evaluations to evaluate the role of metals and organic contaminants of potential concern. Whole sediment TIE tests were conducted with *Hyaella azteca*. The following section describes the methods for the whole sediment TIE manipulations.

2.4.1.1 Cation-exchange Resin Beads in Sediment

SIR-300 is a macroporous, weak-acid cation exchange resin which has chelating properties for heavy metal ions. SIR-300 beads can be mixed directly into sediments to reduce cationic metal bioavailability (Burgess et al. 2000).

To prepare the resin beads, approximately 50 g of beads (Resin Tech Inc. West Berlin NJ), were placed in a polycarbonate tube fitted with a nytex screen and rinsed with tapwater and then deionized (DI) water. A 10% mixture of SIR-300 resin in test sediment by wet weight was prepared by manually mixing 25 g of resin beads into 225g sediment for a total mass of 250 g. Once visually homogenous, the mixture was placed on a rolling table for 24 hours, and then placed in test chambers and tested following the standard procedure for the 10-day test.

A SIR-300 blank was also tested concurrently by creating a 10% mixture of the resin beads in control sediment following the procedure described above.

2.4.1.2 Powdered Coconut Charcoal (PCC) in Sediment

Powdered coconut charcoal is pyrolyzed activated coconut husk that has been ground to <45 µm. PCC can be added to whole sediment to reduce bioavailability of a broad spectrum of organic contaminants (Ho et al. 2004). This treatment was added to determine whether site-related organics were related to observed toxicity. Previous studies have shown a toxic threshold for PCC at 15% (WERF 2007), therefore a 5% mixture was used.

PCC was prepared by hydrating the charcoal with deionized water in a 2000 mL Erlenmeyer flask. Excess moisture was then removed after hydration using a vacuum filter. Once the free moisture was removed from the PCC, a 5% mixture by wet weight was prepared by homogenizing 40 g of PCC in 800 g of WETSED-1 test sediment. Once uniform in appearance, the test sediment was placed on rolling table for 24 hours, and then placed in test chambers following the standard procedure.

A PCC blank was also tested concurrently by creating a mixture of PCC in control sediment (45 g PCC in 900 g control sediment) following the procedure described above.

2.4.2 Porewater TIE Manipulations

Porewater from WETSED-1 was extracted from the whole sediment and treated with several targeted TIE manipulations. Porewater toxicity tests were conducted with amphipods and Microtox®; larval midge (*C. dilutus*) do not survive well in water-only exposures and are not typically included in porewater evaluations.

2.4.2.1 Baseline Toxicity

The baseline toxicity test was conducted on unmanipulated porewater samples. For the purposes of this study, undiluted porewater was tested without a dilution series. Porewater was collected from the whole sediment by double centrifugation as described above. The supernatant was then collected into a clean, glass jar taking care to avoid collection of the fine particulates from the sediment-water interface. Porewater was then held at 4°C until it was used in toxicity tests or treated following the TIE procedures described below.

2.4.2.2 Cation-Exchange Column

Sediment interstitial water was pumped through a cation exchange column to extract cationic metals. When combined with chemical analysis of the rinsate, a removal of toxicity in the rinsate can be used to identify the cause of toxicity (USEPA 1996; Burgess et al. 1997).

The cation exchange column was prepared by packing SIR-300 resin beads in a Supelco LC-WCX column. A peristaltic pump fitted with solastic tubing was attached to the input fitting of the extraction column and the flow adjusted to 2.5 mL per minute. In order to prepare the resin beads, 2 mL of methanol was pumped through the column followed by 6 mL of deionized water. Care was taken to keep the resin column moist between each step.

Control water was passed through the cation-exchange column at a flow rate of 2.5 mL per minute and collected in a clean glass beaker. The column was re-prepared using methanol followed by deionized water prior to filtering the WETSED-1 porewater. Sufficient porewater was passed through the resin column to allow for testing and chemical analysis. The SIR-300 control and the treated porewater were then placed in the temperature-controlled room to equilibrate to test temperature prior to testing.

2.4.2.3 C-18 Column

Sediment interstitial water was pumped through an organic compound solid-phase extraction column, or C-18 exchange column, to remove non-ionic organic toxicants from interstitial water. Reduction of toxicity in the column rinsate provides evidence to characterize toxicity caused by organic compounds (USEPA 1991).

An Oasis HLB organic solid-phase extraction column was fitted with solastic tubing. A peristaltic pump was used with the flow adjusted to 1 mL per minute. In order to prepare the column, 3 mL of methanol was pumped through the column followed by 5 mL of DI water. Care was taken to keep the column moist between each step.

Control water was passed through the C18 column at a flow rate of 2 mL per minute and collected in a clean glass beaker. The column was re-prepared using methanol followed by DI water prior to filtering the WETSED-1 porewater. Sufficient porewater was passed through the column to allow for testing and chemical analysis. The C18 control and the treated porewater were then placed in the temperature-controlled room to equilibrate to test temperature.

2.4.2.4 EDTA

Disodium ethylenediaminetetraacetic acid (EDTA) is an organic chelating molecule that preferentially binds divalent metals. When added directly to interstitial water samples, EDTA can reduce the bioavailability and toxicity of metals such as cadmium and zinc. EDTA can also exhibit toxicity to aquatic invertebrates, so care must be taken not to use concentrations that approach the effects thresholds for *Hyalella*.

An EDTA stock solution was prepared by adding 2.78 g disodium EDTA in 100-mL of DI water and mixed with a stir bar. While some guidance recommends EDTA concentrations as high as 60 mg/L, we have previously observed *Hyalella* toxicity at 8 mg/L (Weston 2007). The target EDTA concentrations for this study were 4 mg/L and 2 mg/L in order to minimize EDTA toxicity in the treated porewater preparations. WETSED-1 porewater was treated with 0.16 μ L and 0.08 μ L of stock solution for each mL of test water. The EDTA was mixed with the control and test porewater for 3 hours. The resulting pH of the treated porewater sample was low (pH = 2) and was adjusted to within the test range by adding NaOH. A high and low EDTA control was prepared in a similar manner with 0.16 μ L and 0.08 μ L of stock solution per mL dilution water.

2.4.2.5 Filtration Tests

Filtration tests were performed to determine whether the chemicals causing toxicity were bound to particulate matter in the porewater. A reduction in toxicity following filtration indicates that chemicals are particulate bound; the filtration step is also used as a control for the SIR-300 and C18 methods that filter samples during treatment. The WETSED-1 porewater was prepared by filtering the sample (50 mL) through a 1 μ m glass fiber filter with a vacuum pump. A filtration-control was prepared by filtering dilution water (control water) in a similar manner.

2.5 Toxicity Test Methods

2.5.1 10-d Acute Amphipod Sediment Test with *Hyaletta azteca*

Testing methods for the amphipod bioassay followed procedures outlined in the test method 100.1 of the Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates (USEPA 2000). The 10-day endpoint measured the impact of the site sediments on the survival of *H. azteca*.

Test organisms were exposed to the test sediments and the laboratory control sediment in 300-mL glass jars fitted with screened ports to allow for water renewals. Approximately 100 mL of test and control sediment (to a depth of 1 cm) was placed in each of eight replicate test chambers with 175 mL of moderately hard diluted mineral water (DMW; 80 – 100 mg/L CaCO₃). Two surrogate chambers were set up for each treatment to allow for pore water ammonia measurement at test initiation and termination. An additional surrogate was set up for water quality measurements on days 0 - 10 to limit the impact of disturbance to the test organisms. Test chambers were placed in predetermined random positions and allowed to equilibrate to test conditions overnight. The amphipod test was run under a 16-hour light: 8-hour dark photoperiod at a temperature of 23 ± 1°C.

Prior to test initiation, an initial set of water quality parameters was measured in the overlying water of the water quality surrogate. The water quality parameters included temperature, dissolved oxygen, pH, and conductivity. Hardness, alkalinity, and ammonia were measured in the overlying water of a composite from replicates within each treatment. In addition, one surrogate replicate from each test treatment was used to extract pore water via centrifugation for subsequent analysis of ammonia. The water quality instruments were calibrated daily or on their recommended schedule. Records of instrument calibration were retained in the laboratory logs.

Amphipods (*H. azteca*) were supplied by Aquatic Biosystems of Fort Collins, Colorado. To initiate the test, 10 amphipods were randomly selected and placed into each test chamber. Amphipods remaining in the water column and exhibiting abnormal behavior after one hour were replaced. Each test chamber was outfitted with a Zumwalt style water delivery system to facilitate twice daily water renewals. Each test chamber was fed daily with 1 mL of stock YCT/Tetrafin™ solution. The number of dead and surfaced animals was noted for each replicate daily. On Day 10, the sediments from each chambers was sieved through a 0.5-mm screen and the number of survivors was recorded. Test acceptability criterion was greater than 80 percent mean control survival.

To evaluate the relative sensitivity of the organisms, a 4-day water-only reference toxicant test was conducted using ammonium chloride with nominal concentrations of 0, 5, 10, 20, 40, and 80 mg/L total ammonia to establish the sensitivity of test organisms used in the evaluation of the project sediments. The reference-toxicant LC₅₀ for the population of test organisms used in the project tests were compared to laboratory control charts to determine their sensitivity relative to populations previously tested at the ENVIRON laboratory.

2.5.2 20-d Chronic Midge Sediment Test with *Chironomus dilutus*

Testing methods for the midge larvae bioassay followed procedures outlined in the test method 100.5 of the Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates (EPA 2000). The 20-day endpoint measured the impact of the site sediments on the survival and growth of *C. dilutus*.

Test organisms were exposed to the test sediments and the laboratory control sediment in 300-mL glass jars fitted with screened ports to allow for water renewals. Approximately 100 mL of test and control sediment (to a depth of 1 cm) was placed in each of eight replicate test chambers with 175 mL of moderately hard diluted mineral water (DMW; 80 – 100 mg/L CaCO₃). Two surrogate chambers were set up for each treatment to allow for pore water ammonia measurement at test initiation and termination. An additional surrogate was set up for water quality measurements on days 0 - 10 to limit the impact of disturbance to the test organisms. Test chambers were placed in predetermined random positions and allowed to equilibrate to test conditions overnight. The larval midge test was run under a 16-hour light: 8-hour dark photoperiod at a temperature of 22 ± 1°C.

Prior to test initiation, an initial set of water quality parameters was measured in the overlying water of the water quality surrogate. The water quality parameters included temperature, dissolved oxygen, pH, and conductivity. Hardness, alkalinity, and ammonia were measured in the overlying water of a composite from replicates within each treatment. In addition, one surrogate replicate from each test treatment was used to extract pore water via centrifugation for subsequent analysis of ammonia. Water quality instruments were calibrated daily or on their recommended schedule. Records of instrument calibration were retained in the laboratory logs.

Chironomus dilutus egg cases were obtained from Aquatic BioSystems of Fort Collins, Colorado and cultured to obtain larvae <2-hours in age for the test. Egg cases were held in diluted mineral water at 23°C until test initiation. Larvae began hatching after approximately 2 – 4 days. To select organisms for the test, egg cases were transferred to petri dishes with culture water and observed under a dissecting microscope. Healthy organisms were considered those actively moving and less than two hours separated from their egg cases. Twelve (12) larvae were transferred directly to each test chamber using a fine-tip Pasteur pipette. A squirt bottle with diluted mineral water was used to spray the surface to ensure no animals were caught in the surface tension and to allow animals to successfully bury into the sediment. The chambers were outfitted with a Zumwalt style water delivery system to facilitate twice daily water renewals. Water quality parameters were measured in the water quality surrogate. The number of dead and surfaced animals was noted for each replicate daily. Organisms were fed 6 mg of ground Tetramin™ per test chamber daily.

On Day 20, the sediments from the chambers were sieved through a 0.5-mm screen and the number of survivors was recorded. Survivorship was measured as the number of *C. dilutus* larvae, pupae, and flies remaining at test termination; however, only the larvae were utilized for determining the growth endpoint. Surviving larvae from each replicate were placed in pre-ashed and pre-weighed aluminum

boats and dried at 60°C for 24 hours to determine dry weights. The weigh boats were subsequently ashed at 550°C for 2 hours and reweighed in order to calculate the ash-free dry weight (AFDW) of the surviving larvae. Mean AFDW per surviving individual (growth) and per original number (biomass) was calculated. Test acceptability criteria were >68% mean control survival (≤32% mean mortality) and a mean growth per survivor (MIG) of greater than 0.60 mg AFDW. The formula for growth was as follows:

$$\text{Growth} = (\text{Dry Weight} - \text{Ashed Weight})/N_t$$

$$\text{Biomass} = (\text{Dry Weight} - \text{Ashed Weight})/N_i$$

$$\text{MIG} = [(\text{Dry Weight} - \text{Ashed Weight})/N_t]/20$$

where:

N_t = total number of animals recovered at test termination

N_i = number of animals added at test initiation.

A reference toxicant test was conducted using copper sulfate with concentrations of 0, 250, 500, 1000, 2000, and 4000 µg/L Cu²⁺ to establish the sensitivity of test organisms used in the evaluation of the project sediments. The reference-toxicant LC₅₀ for the population of test organisms used in the project tests were compared to laboratory control charts to determine their sensitivity relative to populations previously tested at the ENVIRON laboratory.

2.5.3 Microtox® Test

The Microtox® test was performed by Rainier Environmental LLC. The Microtox test exposed the luminescent marine bacterium *Vibrio fischeri* to porewater extracted from test sediments, as well as for the SIR-300 treated porewater and SIR-300 control. Bacterial light output was measured using the Microtox® Model 500 Analyzer at 5 and 15 minutes of exposure. Light output from the test porewater was compared to that of the reference treatments at both time intervals. A complete description of the Microtox® test methods is presented in Appendix B.

2.5.4 Porewater Toxicity Tests

Porewater toxicity tests were conducted during the toxicity identification evaluations with the amphipod *Hyalella azteca*. Tests were conducted as static, acute exposures with 15 mL of whole and treated porewater, treatment controls, and a laboratory control in 20 mL glass vials. Porewater was collected from the whole sediment by double centrifugation. Test sediment was placed in 1-L Teflon jars and centrifuged for 30 minutes at 3200 g. After the sediment was centrifuged once, the supernatant was decanted into another clean Teflon jar and centrifuged again. The supernatant was then collected into a clean, glass jar taking care to avoid collection of the fine particulates from the sediment-water interface. Prior to testing, porewater and control samples were placed in a temperature-controlled room and allowed to equilibrate. Porewater samples were provided trickle flow aeration prior to testing to ensure that dissolved oxygen would remain within acceptable ranges throughout the test.

The porewater tests were conducted with four amphipods in each of five test chambers for a total test population of 20 organisms. Test chambers were placed in predetermined random positions and allowed to equilibrate to test conditions. The amphipod test was run under a 16-hour light: 8-hour dark photoperiod at a temperature of $23 \pm 1^\circ\text{C}$.

Prior to test initiation, an initial set of water quality parameters was measured. Amphipods (*H. azteca*) were supplied by Aquatic Biosystems and were 6 to 8 days old at test initiation. To initiate the test, four amphipods were randomly selected and placed into each test chamber. Each test chamber was fed with 1 mL of stock YCT/Tetrafin™ solution on test day 5. The number of dead animals was noted for each replicate on test days 4 and 10. Test acceptability criterion was greater than 80 percent mean control survival.

2.5.5 Water for Bioassay Testing

The laboratory water used in this study was diluted mineral water (DMW). This water was prepared by diluting Perrier® mineral water with laboratory de-ionized water to the appropriate hardness. This water source has been used successfully on numerous similar bioassay testing programs conducted at the Port Gamble Laboratory. Extensive testing with a variety of species has shown that this water source provide good survival in laboratory controls.

2.5.6 Water Quality

Water quality was monitored daily and readings were recorded on data sheets. Dissolved oxygen and temperature were measured using a Hach™ HQ40d multimeter with a Luminescent Dissolved Oxygen (LDO) probe. Conductivity was measured using an Orion™ 5-Star multimeter with a conductivity probe; pH was measured using a YSI™ pH100 meter with a pH probe. Ammonia was analyzed using an Orion™ 5-Star multimeter with an ammonia ion-selective electrode calibrated with a three-point calibration curve (1, 10, and 100 mg/L). Hardness and alkalinity were measured utilizing Hach™ titration kits.

2.6 Data Analysis and QA/QC

Water quality and endpoint data were entered into Excel spreadsheets. Water quality parameters were summarized by calculating the mean, minimum, and maximum values for each test treatment. Endpoint data were calculated for each replicate and the mean values and standard deviations were determined for each test treatment.

Hand-entered data was reviewed for data entry errors, which were corrected prior to summary calculations. A minimum of 10% of the calculations and data sorting were reviewed for errors. Review counts were conducted on apparent outliers.

Statistical comparisons were made using a t-test following guidance in USEPA (2000). Data reported as percent survival were transformed using an arcsine square root transformation prior to statistical analysis. Data were tested for normality using the Wilk-Shapiro test and equality of variance using Levene's test. Determinations of statistical significance were based on one-tailed Student's t-tests with an alpha of 0.05. For samples failing to meet assumptions of normality, a Mann-Whitney test was

conducted to determine significance. For those samples failing to meet the assumptions of normality and equality of variance, a t-test on rankits was used.

For AVS/SEM evaluations, total SEM was calculated as the sum of the four metals analyzed during SEM and AVS measurements. Total excess SEM (free metal ions) was calculated as the molar AVS concentration subtracted from the molar total SEM concentration. This value was divided by the fraction of TOC in the sediment sample for comparison to the equilibrium sediment benchmarks as described by the EPA (EPA 2005). The result is the TOC normalized-total SEM in excess of the sediment binding capacity ($\mu\text{mol SEM/g}_{\text{TOC}}$).

3. Results

Each of the three WETSED stations was reoccupied and sediment was collected to a depth of 6". There was no standing water at the time of sampling, with the water-level at approximately 6" below ground surface (Figures 2 and 3). Sediment was moist at the surface to wet at the bottom of the 6" sampling horizon. At each of the stations, the sediment surface was covered with a heavy layer of large organic debris, primarily dead and decaying cattails. Care was taken to remove heavy organic debris and large root matter.

Sediment from WETSED-1 was dominated by sand (68%), with moderate amounts of silt (28.3%) and clay (13.4%; Table 7). Total organic carbon was 5.15%. Sediment from Stations WETSED-2 and WETSED-3 were dominated by clayey silt, with 76.7% and 88.3% silt and clay, respectively. TOC for sediment from WETSED-2 and WETSED-3 was 3.79% and 4.37%, respectively. While large plant material was removed from samples prior to chemical analysis, it is likely that this material contributed to the organic carbon. Porewater ammonia concentrations were generally low, below 1 mg/kg in each of the sediment treatments. Similarly, porewater sulfide concentrations were generally low, ranging from 0.036 to 0.055 mg/L. Porewater pH ranged from 7.14 to 7.28.



Figure 2. Wetland study area with approximate station locations.

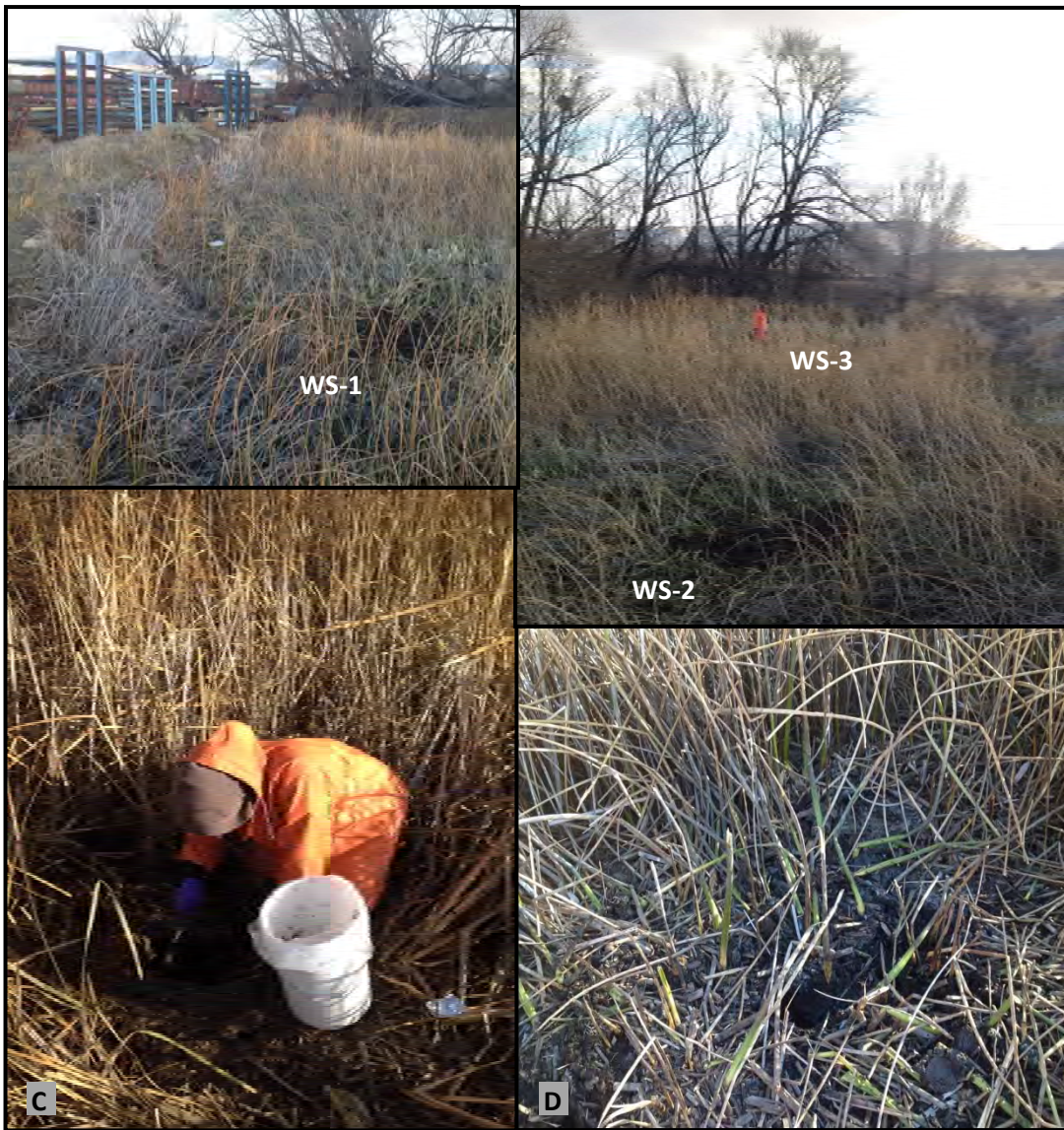


Figure 3. A and B. Wetland study area; C and D. Sampling Station WS-3.

Table 7. Results of Chemical Analysis of Test Sediments, Agri-Tech/YSF 2013.

Analyte	SCO	CSL	WETSED-1	WETSED-2	WETSED-3
Sand/Gravel (%)	-- ^a		58.3	23.4	11.8
Silt (%)	--		28.3	56.7	63.6
Clay (%)	--		13.4	20.0	24.7
TOC (%)	--		5.15	3.79	4.37
Total Solids (%)	--		46.9	47.2	38.7
Acid Volatile Sulfides (mg/kg)	--		1570	294	231
Total Ammonia (mg/L)	--		0.46	0.35	0.61
Total Sulfides (mg/L)	--		0.046	0.055	0.036
Porewater pH	--		7.14	7.25	7.28
Cadmium	2.1	5.4	<u>6.5</u>	<u>7.4</u>	<u>9.4</u>
Lead	360	1300	147	146	178
Manganese	--	--	189	342	324
Zinc	3200	4200	2240	2940	3810
	Test Treatment				
Analyte	100% WETSED-3	67% WETSED-3	33% WETSED-3	10% WETSED-3	
Cadmium	7.1	5.1	2.9	1.1	
Lead	139	97	48	20	
Manganese	158	436	571	1560	
Zinc	3,090	2150	1,140	451	

^a--: no value

Bold: Fails SCO

Underline: Fails SCO and CSL

Concentrations of metals were generally similar to those observed during the initial site investigation (Farallon 2011). Cadmium concentrations in the 2013 sediment samples ranged from 6.5 to 9.4 mg/kg; cadmium concentrations in 2011 ranged from 6.8 to 9.2 mg/kg. Concentrations of lead, manganese, and zinc in 2013 were generally similar across the site and were also similar to values observed in 2011. Zinc concentrations were 2240 to 3810 mg/kg in the 2013 samples.

3.1 Baseline and Dilution Series Whole-Sediment Tests

3.1.1 10-Day Benthic Amphipod Test

The 10-d amphipod test with *Hyalella azteca* was initiated on December 13, 2013. A summary of test conditions, test results and water quality observations for the test are presented in Tables 8 to 10. All data sheets are presented in Appendix C. With the exception of temperature and pH, water quality parameters remained within the recommended ranges throughout the duration of the test. Temperature was within range from Day 0 to 9; test temperature on Day 10 was 20.0° to 20.5°C. This temperature is within the tolerance range for *Hyalella azteca* and was observed only at test termination, and therefore was unlikely to have affected test performance. Porewater ammonia in the three test treatments was 0.3 to 1.1 mg/L total ammonia in the treatments. This was below the project-specific LC₅₀ of for ammonia of 1.46 mg/L total ammonia. The test was validated by 91% survival in the controls. The LC₅₀ for the ammonia reference-toxicant test was 1.46 mg/L total ammonia, within the control chart limits (1.2 – 26 mg/L), indicating that the test animals were similar in sensitivity to previous populations used at the Port Gamble laboratory.

Mean percentage mortality in the test treatments WETSED-2 and WETSED-3 was 5% and was not significantly different than that of the control. Mean mortality in the two treatments was lower than that of the control, passing the SMS criteria. Mean mortality in the WETSED-1 sediment was 100% and was significantly different from the control. Mean mortality in the WETSED-1 treatment was 91.8% greater than that of the control and failing the CSL for the amphipod test ($M_T - M_C > 25\%$). The dilution series test was conducted concurrent with the baseline tests to evaluate the relationship between the cadmium concentration and toxicity. Based on an initial screen of metals concentrations, WETSED-3 was selected for use in the dilution series test, with test concentrations targeting cadmium concentrations of 9, 6, 3, and 1 mg/kg. Concentrations observed in the 100%, 67%, 33%, and 11% treatments were 7.1, 5.1, 2.9, 1.1 mg/kg Cd, respectively (Table 7). The dilution series showed no relationship between the total cadmium concentration and survival, with no significant changes in mean percentage survival, relative to the control, across the dilution series. This was true for total lead, manganese, and zinc as well. Survival ranged from 88.8% to 97.5% for the different test treatments.

Table 8. Survival Summary for the 10-day Benthic Test with *Hyalella azteca*, Agri-Tech/YSF 2013.

Treatment	Mean Percentage Survival	Standard Deviation	Mean Percentage Mortality	$M_T - M_C^3$
<i>Baseline Test</i>				
Control	91.2	8.3	8.8	--
WETSED-1	0.0 S ¹	0.0	100	<u>91.2</u>
WETSED-2	95.0	5.3	5.0	-3.8
WETSED-3	95.0	7.6	5.0	-3.8
<i>Dilution Series Test</i> ²				
100% WETSED-3	95.0	7.6	5.0	-3.8
67% WETSED-3	93.8	7.4	6.2	-2.6
33% WETSED-3	88.8	5.3	11.2	1.4
11% WETSED-3	93.8	7.4	6.2	-2.6
TNWR	97.5	7.0	2.5	-7.3

¹ S: Mean value is statistically different than the mean value in the control treatment

²Treatments listed as nominal concentrations

³SCO: $M_T - M_C > 15\%$; CSL: $M_T - M_C > 25\%$

Bold: Fails SCO

Underline: Fails SCO and CSL

Table 9. Water Quality Summary for the 10-day Benthic Test with *Hyalella azteca*, Agri-Tech/YSF 2013.

Treatment	Dissolved Oxygen (mg/L)			Temperature (°C)			Conductivity (mS/cm)			pH		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
<i>Baseline Test</i>												
Control	6.6	5.4	8.6	22.3	20.3	22.8	197	183	203	7.5	7.3	8.1
WETSED-1	5.7	4.5	7.5	22.4	20.4	23.2	233	199	320	7.1	6.8	7.3
WETSED-2	5.8	4.7	7.2	22.3	20.3	23.2	255	231	307	7.4	7.3	7.5
WETSED-3	6.0	5.2	7.9	20.0	19.4	20.2	268	229	354	7.5	7.3	7.8
<i>Dilution Series Test¹</i>												
100% WETSED-3	6.0	5.2	7.9	22.5	20.4	23.9	268	229	354	7.5	7.3	7.8
67% WETSED-3	5.6	3.8	6.9	22.3	20.2	23.5	263	229	343	7.4	7.3	7.6
33% WETSED-3	5.6	4.1	6.9	22.5	20.4	23.4	239	217	283	7.3	7.1	7.6
11% WETSED-3	5.3	2.9	8.0	22.2	20.3	22.7	231	204	269	7.4	7.0	8.0
TNWR	6.2	4.6	8.5	21.9	20.1	23.7	216	202	225	7.5	7.2	8.1

¹Treatments listed as nominal concentrations

Table 10. Test Condition Summary for *Hyalella azteca*, Agri-Tech/YSF 2013.

Test Conditions: <i>H. azteca</i>		
Supplier	Aquatic Biosystems	
Date acquired	12/11/2013	
Acclimation/holding time	2 days	
Age class	Adult	
Test type/duration	10-Day Benthic	
Test dates	December 13 - 23	
Weeks of Holding	<2 weeks	
Control Sediment	Silica Sand	
Test temperature	Recommended: 23 ± 1 °C	Achieved: 19.4 – 23.9 °C
Test dissolved oxygen	Recommended: > 2.5 mg/L	Achieved: 2.9 – 8.6 mg/L
Test pH	Recommended: 6-9	Achieved: 7.0 – 8.1
Control performance	Recommended: Control ≤ 10% mortality	Achieved: 9%
Reference Toxicant LC50	1.46 mg/L total ammonia	
Acceptable Range	1.2 – 26 mg/L total ammonia	
Test chamber	300 mL glass chamber	
Replicates/treatment	8 + 2 surrogates for measuring porewater ammonia levels	
Organisms/replicate	10	
Exposure volume	100 mL sediment/ 275 mL water	
Feeding	Daily with 1 mL of stock YCT/Tetrafin™ solution	
Water renewal/Lighting	Twice daily/16:8	
Test Protocol Deviations	Temperature	

3.1.2 Benthic toxicity tests with *Chironomus dilutus*

The 20-d chronic test with larval midge (*C. dilutus*) was initiated on December 13, 2013. A summary of test conditions, test results and water quality observations for the test are presented in Tables 11 through 13. Test results and water quality observations for each of the test replicates and supporting information of the *Chironomus* test is presented in Appendix C. Mean percentage survival in the control sediment was 90.6%, meeting the performance criteria of >68% survival for the controls. Mean growth in the controls was 1.82 mg AFDW/ind, meeting the performance criteria of ≥0.60 mg/ind.

Water quality measurements were within target limits with the exception of dissolved oxygen and temperature. Dissolved oxygen dropped to below target parameters on Day 19 and trickle-flow aeration was added to all chambers for the duration of the test period. Because the decrease in DO was observed at the end of the test period and renewals were performed twice daily limiting the duration of the deviation, it is unlikely that survival or growth endpoints were affected. While the published range for temperature is 23° ±1°C, the test conducted for this study targeted a range of 21° to 23°C to prevent larvae from prematurely pupating. Temperatures were slightly above this range at test initiation; however, at the time animals were placed in the test chambers, test temperatures were within range. On test day 10, test temperature was below 21°C, but was within 1°C in all chambers. Ammonia values

were below NOEC values for *C. dilutus*. The LC₅₀ values for the copper sulfate reference-toxicant tests were 1.18 mg/L, within the control chart limits of 0.30 – 2.12 mg/L. This indicates that the test organisms were of similar sensitivity to those previously tested at the Port Gamble Laboratory.

Mean mortality in the test treatments ranged from 22.9% to 29.2%. There was no statistically significant increase in mortality in WETSED-1, relative to the control. Mean percent mortality in WETSED-2 and WETSED-3 were statistically different from the control; however, the difference between mean mortality observed in each of the WETSED test treatments and the control was 13.5% to 19.8%, which was within the CSL criterion for *Chironomus* survival ($M_T - M_C > 25\%$). Mean mortality in WETSED-2 and WETSED-3 was slightly above the SCO for mortality ($M_T - M_C > 15\%$). *Chironomus* survival in both the WETSED-2 and WETSED-3 test treatments exceeded the control performance criteria.

No statistical decreases in growth were observed in the test treatments, relative to the control. With the exception of WETSED-1, growth in the test treatments exceeded that of the control. Mean individual growth in WETSED-1 was 1.61 mg/ind AFDW, which was 11.5% of the control treatment. This difference was within both the SCO and CSL for freshwater sediments.

The dilution series showed no relationship between the total metals concentrations and survival, with no significant changes in mean percentage survival, relative to the control, across the dilution series. Mean mortality for the different test treatments ranged from 22.3% to 37.5%, with the TNWR (0% WETSED-3) showing the highest mortality for each of the dilution series treatments. *Chironomus* growth in each of the dilution series treatments was greater than that of the control. The highest growth was observed in the 10% and 0% treatments, however, there were no significant differences across the treatments.

Table 11. Survival Summary for the 20-day Benthic Test with *Chironomus dilutus*, Agri-Tech/YSF 2013.

Treatment	Mean Percentage Survival	SD	Mean Percentage Mortality	$M_T - M_C^{3,4}$	Mean AFDW per Survivor ² (mg)	SD	$(MIG_c - MIG_t) / MIG_c^{3,4}$
<i>Baseline Test</i>							
Control	90.6	9.4	9.4	--	1.82	0.17	--
WETSED-1	77.1	19.3	22.9	13.5	1.61	0.28	0.12
WETSED-2	74.0	10.4	26.0	16.6 S¹	2.39	0.49	-0.31
WETSED-3	70.8	7.7	29.2	19.8 S	1.83	0.63	-0.01
<i>Dilution Series Test²</i>							
100% WETSED-3	70.8	7.7	29.2	19.8 S	1.83	0.63	-0.01
67% WETSED-3	72.9	20.8	27.1	17.7	2.39	0.74	-0.31
33% WETSED-3	77.1	22.2	22.3	13.5	2.06	0.28	-0.13
11% WETSED-3	62.5	27.8	37.5	28.1 S	3.16	0.84	-0.74
TNWR	69.8	16.6	30.2	20.8 S	2.86	0.52	-0.57

¹ S: Mean value is statistically different than the mean value in the control treatment

MIG_c: Mean individual growth in the control; MIG_t: Mean individual growth in the treatment

²Treatments listed as nominal concentrations

³SCO: $M_T - M_C > 15\%$; $(MIG_c - MIG_t) / MIG_c > 0.25$

⁴CSL: $M_T - M_C > 25\%$; $(MIG_c - MIG_t) / MIG_c > 0.40$

Bold: Fails SCO

Underline: Fails SCO and CSL

Table 12. Water-Quality Summary - 20-day Benthic Test with *Chironomus dilutus*, Agri-Tech/YSF 2013.

Treatment	Dissolved Oxygen (mg/L)			Temperature (°C)			Conductivity (mS/cm)			pH		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
<i>Baseline Test</i>												
Control	5.3	2.3	8.7	22.7	20.0	23.9	201	170	213	7.3	7.0	7.8
WETSED-1	5.1	2.0	8.6	22.6	20.0	24.0	213	183	318	7.1	6.8	7.8
WETSED-2	4.8	1.8	7.6	22.3	20.1	23.0	246	219	306	7.4	7.1	7.6
WETSED-3	4.7	2.1	7.8	22.4	20.0	23.6	248	228	341	7.4	7.2	7.6
<i>Dilution Series Test¹</i>												
100% WETSED-3	4.7	2.1	7.8	22.4	20.0	23.6	248	228	341	7.4	7.2	7.6
67% WETSED-3	4.5	3.0	7.7	22.3	20.4	23.6	243	222	323	7.4	7.1	7.7
33% WETSED-3	6.6	3.1	9.0	22.3	20.0	22.9	234	214	301	7.6	7.1	8.2
11% WETSED-3	6.7	2.8	8.4	22.4	20.1	24.0	225	210	259	7.6	7.2	8.0
TNWR	7.0	2.7	9.3	22.1	20.0	24.0	219	183	242	7.7	7.2	8.5

¹Treatments listed as nominal concentrations

Table 13. Test Condition Summary for *Chironomus dilutus*, Agri-Tech/YSF 2013.

Test Conditions: <i>C. dilutus</i>		
Supplier	Aquatic Biosystems	
Date acquired	12/11/13	
Acclimation/holding time	NA	
Age class	<2-day old	
Test type/duration	20-Day Benthic Chronic	
Test dates	December 13 – January 2, 2014	
Weeks of Holding	<2 weeks	
Control Sediment	Silica sand	
Test temperature	Recommended: 22 ± 1 °C	Achieved: 20.0 – 24.0 °C
Test dissolved oxygen	Recommended: > 2.5 mg/L	Achieved: 1.8 – 9.3 mg/L
Test pH	Recommended: 6-9	Achieved: 6.8 – 8.5
Control performance	Recommended: Control ≤ 10% mortality	Achieved: 9%
Reference Toxicant LC50	1.18 mg/L Cu	
Acceptable Range	0.3 – 2.12 mg/L Cu	
Test chamber	300 mL glass chamber	
Replicates/treatment	8 + 2 surrogates for measuring porewater ammonia levels	
Organisms/replicate	12	
Exposure volume	100 mL sediment/ 275 mL water	
Feeding	6 mg of ground Tetramin™ per test chamber daily	
Water renewal/Lighting	Twice daily/16:8	
Test Protocol Deviations	DO, Temperature	

3.1.3 Benthic toxicity tests with Microtox®

The Microtox® tests were performed by Rainier Environmental using the luminescent marine bacterium *Vibrio fischeri* in combination with the Microtox® Model 500 Analyzer. Light output of the bacterium reacting with the test sample was measured at 5 and 15 minutes of exposure. The test compared sample porewater extracts to the controls and the data was evaluated statistically on the change in output over time. Full test results with benchsheets are presented in Appendix B.

Water quality parameters were within target ranges with dissolved oxygen ranging from 6.2 to 7.5 mg/L and pH ranging from 7.14 to 8.15. The final mean light output in the control treatment was 80% of initial output, exceeding the control performance criteria of 72% (Table 14). The estimated LC₅₀ for the reference toxicant test was 1209 µg/L and 438 µg/L Cu for the 5 and 15 minute exposures, respectively. These values were within the laboratory historical limits (5 min: 929 – 1666 µg/L; 15 min: 425-613 µg/L Cu), indicating that the test organisms were similar to those tested previously at the Rainier Environmental laboratory.

Table 14. Summary of Test Results for the Microtox® Test, Agri-Tech/YSF 2013.

Treatment ²	5-Minute Reading		15-Minute Reading	
	Mean Percentage Change in Light Output	T/C ^{3,4}	Mean Percentage Change in Light Output	T/C ^{3,4}
Control	91 ±4	--	80 ±4	--
WETSED-1	59 ±3	<u>0.65</u> S¹	11 ±1	<u>0.14</u> S
WETSED-2	94 ±3	1.03	78 ±4	0.98
WETSED-3	97 ±2	1.07	80 ±2	1.00
Control	91 ±3	--	79 ±4	--
100% WETSED-3	95 ±5	1.04	77 ±4	0.97
67% WETSED-3	94 ±3	1.03	80 ±7	1.01
33% WETSED-3	98 ±3	1.08	84 ±5	1.06
11% WETSED-3	98 ±2	1.08	85 ±2	1.08
TNWR	97 ±1	1.07	86 ±2	1.09

¹ S: Mean value is statistically different than the mean value in the control treatment

²Dilution series treatments listed as nominal concentrations

³RSET low (two hit): T/C <0.85

⁴RSET high (one-hit): T/C <0.75

Bold: Fails SCO; Underline: Fails SCO and CSL

With the exception of WETSED-1, no significant differences in mean percentage light output were observed in the WETSED or dilution test samples. Light output was >90% of the initial reading at 5 minutes, and >77% at 15 minutes; ≥97% of the control. Light output in the WETSED-1 treatment was 35% that of the control at 5 minutes and was 14% of the control at 15 minutes (a reduction in light output of 86%). The WETSED-1 light output failed the RSET Microtox® criteria for both time intervals.

3.2 Toxicity Identification Tests

Porewater was extracted from the whole sediment collected from Station WETSED-1 using centrifugation. Porewater samples and whole sediment were then treated following the methods outlined in Section 2.4. The toxicity identification evaluation of the WETSED-1 sediment included the following targeted chemical classes and associated methods:

- Cationic metals – cation exchange resin beads in sediment and in porewater filtered through SIR-300 to address the role of cationic metals;
- Metals – EDTA in porewater to address the role of metals in general;
- Organics – Powdered coconut charcoal (PCC) in sediment and sediment filtered through a solid-phase extraction column (C-18 cartridge) to address the potential role of non-ionic organics;
- Ammonia/sulfides – compare porewater concentration with species sensitivity data; and,
- Particulates – filtered sample to address the potential role of particulates.

3.2.1 Porewater Chemistry

Treated and untreated porewater samples were analyzed for metals (Table 15). Cadmium and lead were undetected in the WETSED-1 porewater, with detection limits of 0.002 mg/L and 0.02 mg/L, respectively. Zinc was observed at a concentration of 28.3 mg/kg in the WETSED-1 porewater, with a manganese concentration of 4.49 mg/kg. Ammonia in the WETSED-1 porewater was 0.46 mg/L.

With the exception of the SIR-300 treatment, porewater concentrations of metals were unchanged by the TIE manipulations. Two concentrations of EDTA were added to the porewater; however, neither treatment decreased the concentration of manganese or zinc in the porewater. The target concentrations of EDTA were 0.25 and 0.5 times the EDTA LC₅₀ and were considered an upper concentration for testing with *Hyalella azteca*. Filtration of the porewater also did not decrease the concentration of manganese or zinc, indicating that these metals were not associated with particulates but were present in a dissolved phase. As expected, treatment of the WETSED-1 porewater with the C18 column did not alter the concentrations of metals in the porewater.

Treatment of the WETSED-1 porewater with the SIR-300 cation-exchange resin effectively decreased the concentrations of both manganese and zinc. The concentration of manganese was decreased from 4.49 mg/L to 0.053 mg/L Mn; zinc was decreased from 28.3 to 0.13 mg/L Zn.

Table 15. Metals in Untreated and Treated WETSED-1 Porewater, Agri-Tech/YSF 2013.

Treatment	Metal (mg/L)				Ammonia (mg/L Total)
	Cadmium	Lead	Manganese	Zinc	
WETSED-1	0.002 U	0.02 U	4.49	28.3	0.46
WS-1 SIR-300	0.002 U	0.02 U	0.053	0.13	0.40
WS-1 EDTA Low	0.002 U	0.02 U	4.18	26.0	--
WS-1 EDTA High	0.002 U	0.02 U	4.36	26.9	--
WS-1 C18	0.002 U	0.02 U	4.25	26.0	--
WS-1 Filtered	0.002 U	0.02 U	4.37	25.8	--

U: Undetected. Actual concentration below reported concentration

3.2.2 Porewater Toxicity Tests with *Hyalella azteca*

Water-only toxicity tests were conducted with the amphipod *Hyalella azteca*. The porewater test was conducted as a 10-day test, with both a 96-h and 10-d endpoint. The porewater test was initiated on January December 13, 2013. A summary of test conditions, test results, and water quality observations for the test are presented in Tables 16 to 18. Data for all replicates, as well as testing bench sheets are presented in Appendix D. Water quality parameters remained within the recommended ranges throughout the duration of the test. The test was validated by 90% survival in the controls. The LC₅₀ for the ammonia reference-toxicant test was 6.79 mg/L total ammonia, within the control chart limits (0.0 – 26.5 mg/L), indicating that the test animals were similar in sensitivity to previous populations used at the Port Gamble laboratory.

Mean percentage survival in the unfiltered WETSED-1 porewater was 0.0%, with complete effects observed at the 96-h endpoint. Mean percentage survival in the two EDTA treatments, the C18 treated and filtered porewater was also 0%, indicating that these treatments did not decrease toxicity. Survival in the EDTA and C18 controls (clean DI treated in a similar manner) ranged from 75% to 95%, indicating that the observed toxicity was not associated with the EDTA or C18 treatments.

Mean percentage survival in the SIR-300 treated porewater was 50% at 96-hours, showing a significant increase in survival relative to the WETSED-1 porewater. This provided a strong indication cationic metals were likely to have had a role in the toxicity observed in the WETSED-1 porewater. This observation was further strengthened by the low ammonia concentrations observed in the porewater samples (<1 mg/L total ammonia). Ammonia concentrations can sometimes be increased by SIR-300 treatment, potentially contributing to toxicity. No significant toxicity was observed in the SIR-300 control, indicating that the cation exchange resin did not affect amphipod survival.

While there was some additional mortality at 10-days of exposure, this was due to one to two additional mortalities in both the SIR-300 treatment and control. Because the effects in the WETSED-1 treatment were observed at 96-hours and little change was observed across the test between 96-hour and 10-day, the 96-hour endpoint was used for evaluating toxicity.

Table 16. Summary of Results for the 4-day and 10-day Porewater TIE Test with *Hyalella azteca*, Agri-Tech/YSF 2013.

Treatment	96-h Endpoint		10-day Endpoint	
	Mean Percentage Survival	Standard Deviation	Mean Percentage Survival	Standard Deviation
Control	90.0	13.7	90.0	13.7
WETSED-1	0.0	0.0	-- ¹	--
WS-1 Filtered	0.0	0.0	--	--
WS-1 SIR-300	50.0 S ²	30.6	40.0 S	37.9
SIR-300 Control	90.0	13.7	85.0	13.7
WS-1 EDTA Low	0.0	0.0	--	--
EDTA-Low Control	75.0	30.6	--	--
WS-1 EDTA High	0.0	0.0	--	--
EDTA High Control	95.0	11.2	--	--
WS-1 C18	0.0	0.0	--	--
C18 Control	90.0	22.4	--	--

¹Test treatment terminated at 96-hours.

²S: Statistically significantly different, relative to the TIE treatment control.

Table 17. Summary of Water Quality for the Porewater Test with *Hyalella azteca*, Agri-Tech/YSF 2013.

Treatment	Dissolved Oxygen (mg/L)			Temperature (°C)			Conductivity (mS/cm)			pH		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control	7.6	4.8	9.1	22.6	21.9	23.8	325	195	505	7.4	6.8	7.9
WETSED-1	7.3	4.7	8.3	23.1	22.0	23.9	1723	1612	1805	5.9	5.1	6.5
WS-1 Filtered	8.1	7.3	9.1	23.4	22.3	24.5	1721	1655	1772	7.0	6.9	7.1
WS-1 SIR-300	6.7	4.3	8.9	22.9	22.1	23.9	2031	1631	2270	7.3	6.5	8.6
SIR-300 Control	6.1	3.5	8.8	22.7	21.8	24.5	262	179	381	7.3	6.7	7.8
WS-1 EDTA Low	7.8	6.1	8.9	23.2	22.0	24.3	1728	1672	1798	7.3	7.2	7.5
EDTA-Low Control	8.0	7.1	8.9	23.6	22.9	24.5	162	155	173	7.0	6.0	7.5
WS-1 EDTA High	7.9	6.0	9.4	23.4	22.0	24.4	1719	1648	1793	6.9	6.7	7.1
EDTA High Control	7.9	6.0	9.4	23.4	22.0	24.4	467	161	561	6.9	6.7	7.1
WS-1 C18	7.6	6.3	8.5	23.1	22.2	23.9	1688	1589	1751	7.1	6.9	7.2
C18 Control	8.4	7.5	8.8	23.2	22.2	23.7	220	188	272	7.8	7.7	7.8

Table 18. Test Condition Summary for the Porewater Test with *Hyalella azteca*, Agri-Tech/YSF 2013.

Test Conditions: <i>H. azteca</i>		
Supplier	Aquatic Biosystems	
Date acquired	01/28/14	
Acclimation/holding time	2 days	
Age class	Adult	
Test type/duration	96-h and 10-d Porewater Test	
Test dates	January 31	
Weeks of Holding	8 weeks	
Control Sediment	Silica Sand	
Test temperature	Recommended: 23 ± 1 °C	Achieved: 21.8 – 24.7 °C
Test dissolved oxygen	Recommended: > 2.5 mg/L	Achieved: 3.5 – 7.9 mg/L
Test pH	Recommended: 6-9	Achieved: 7.7 – 8.5
Control performance	Recommended: Control ≤ 10% mortality	Achieved: 10%
Reference Toxicant LC50	6.79 mg/L total ammonia	
Acceptable Range	0.0 – 26.5 mg/L total ammonia	
Test chamber	20-mL glass vials	
Replicates/treatment	5	
Organisms/replicate	4	
Exposure volume	15 mL	
Feeding	Day 5; 1 mL of stock YCT/Tetrafin™ solution	
Water renewal/Lighting	None/16:8	
Test Protocol Deviations	Temperature	

3.2.3 Porewater Toxicity Tests with *Microtox*®

Based on the results of the amphipod TIE tests, the *Microtox*® TIE included the WETSED-1 porewater and SIR-300 treated porewater. A summary of the test results are presented in Table 19. Data for all replicates, as well as testing bench sheets are presented in Appendix D. The final mean light output in the control treatment was 77% of initial output, meeting the control performance criteria of >72%.

The WETSED-1 porewater sample showed significantly decreased light output, relative to the control, at both the 5 minute and 15 minute time interval. Light output in the untreated WETSED-1 porewater was 88% and 67% that of the control for the 5 and 15 minute interval, respectively. While this is decreased relative to the control, the effects were less than those observed from the whole sediment samples. This may have been due to the loss of fines during the centrifugation process.

Treatment with SIR-300 completely removed toxicity, with no significant effects observed in the SIR-300 treated porewater. Light output in this treatment exceeded the control water both at the 5 and 15 minute interval (104% of the control). No effects were observed in the SIR-300 control.

Table 19. Summary of Test Results for the Porewater Microtox® Test, Agri-Tech/YSF 2013.

Treatment	5-Minute Reading		15-Minute Reading	
	Mean Percentage Change in Light Output	T/C ^{1,2}	Mean Percentage Change in Light Output	T/C ^{1,2}
Control	85 ±2	--	77 ±3	--
WS-1	75 ±2	0.88 S	49 ±3	<u>0.63 S</u>
WS-1 SIR300	89 ±3	1.04	81 ±3	1.04
SIR300 Control	93 ±4	1.09	86 ±3	1.11

¹RSET low (two hit): T/C <0.85

²RSET high (one-hit): T/C <0.75

S: Significantly different than treatment control

Bold: Fails SCO

Underline: Fails SCO and CSL

3.2.4 10-Day Benthic (Whole Sediment) Amphipod TIE Test

The 10-d benthic TIE test with *Hyaella azteca* was initiated on January 31, 2014. A summary of test conditions, test results and water quality observations for the test are presented in Tables 20 to 22 and Appendix E. With the exception of temperature, water quality parameters remained within the recommended ranges throughout the duration of the test. Temperature generally ranged between 21.0 to 23.0°C, which is within the tolerance range for this species and was unlikely to have affected test performance. The test was validated by 87.5% survival in the controls, which met the control performance standard of ≥80% survival. The LC₅₀ for the ammonia reference-toxicant test was 6.79 mg/L total ammonia, within the control chart limits (0.0 – 26.5 mg/L), indicating that the test animals were similar in sensitivity to previous populations used at the Port Gamble laboratory.

Mean percentage mortality in the WETSED-1 sediment was similar to that of the first round of tests, with 100% mortality. Treatment with SIR-300 decreased toxicity, with mean percentage mortality of 32.5%. Survival in the SIR-300 treated sediment was not statistically different from the control and the difference between the SIR-300 treated sediment and the control was 20%, within the CSL criteria of ≤25%.

Treatment with powdered coconut charcoal did not alter toxicity, with 0% survival in the PCC amended WETSED-1 sediment. However, survival in the PCC control was 5%, indicating that the PCC amendment likely contributed to toxicity in the PCC treatments.

Table 20. Survival Summary for the 10-day Benthic Test with *Hyalella azteca*, Agri-Tech/YSF 2013.

Treatment	Mean Percentage Survival	Standard Deviation	Mean Percentage Mortality	M _T -M _C ²
<i>TIE Tests</i>				
Control	87.5	9.6	12.5	--
WETSED-1	0.0 S ¹	0.0	100	87.5
WETSED-1 SIR-300	67.5	25.0	32.5	20.0
SIR-300 Blank	82.5	12.6	17.5	5.0
WETSED-1 PCC	0.0 S	0.0	100	87.5
PCC Blank	5.0 S	5.8	95	82.5

¹ S: Mean value is statistically different than the mean value in the control treatment

²SCO: M_T-M_C >15%; CSL: M_T-M_C >25%

Bold: Fails SCO

Underline: Fails SCO and CSL

Table 21. Summary of Water Quality for the Benthic TIE Test with *Hyalella azteca*, Agri-Tech/YSF 2013.

Treatment	Dissolved Oxygen (mg/L)			Temperature (°C)			Conductivity (mS/cm)			pH		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control	6.4	5.0	8.9	21.9	21.2	22.3	201	189	207	7.5	7.2	7.8
WETSED-1	5.8	4.5	8.4	21.9	20.8	22.6	229	186	326	7.2	6.8	7.6
WETSED-1 SIR-300	6.2	4.6	8.3	22.0	21.1	22.5	239	172	430	7.1	6.6	7.4
SIR-300 Blank	8.3	7.0	8.8	21.9	21.5	22.7	172	145	235	7.7	7.0	8.1
WETSED-1 PCC	5.9	3.7	8.5	21.9	21.4	22.6	241	184	399	7.2	6.9	7.4
PCC Blank	5.7	4.4	8.9	21.9	21.2	22.5	208	188	239	7.4	7.1	8.0

Table 22. Test Condition Summary for the Benthic TIE Test with *Hyalella azteca*, Agri-Tech/YSF 2013.

Test Conditions: <i>H. azteca</i>		
Supplier	Aquatic Biosystems	
Date acquired	01/28/14	
Acclimation/holding time	2 days	
Age class	Adult	
Test dates	January 31	
Weeks of Holding	8 weeks	
Control Sediment	Silica Sand	
Test temperature	Recommended: 23 ± 1 °C	Achieved: 20.8 -22.7 °C
Test dissolved oxygen	Recommended: > 2.5 mg/L	Achieved: 3.7 -8.9 mg/L
Test pH	Recommended: 6-9	Achieved: 6.6 – 8.0
Control performance	Recommended: Control ≤ 10% mortality	Achieved: 12.5%
Reference Toxicant LC50	6.79 mg/L total ammonia	
Acceptable Range	0.0 – 26.5 mg/L total ammonia	
Test chamber	300-mL glass chamber	
Replicates/treatment	5	
Organisms/replicate	4	
Exposure volume	100 mL with 175 mL water	
Feeding	Daily; 1 mL of stock YCT/Tetrafin™ solution	
Water renewal/Lighting	None/16:8	
Test Protocol Deviations	Temperature	

4. Discussion

As part of the remedial investigation of the Agri-Tech/YSF property, sediment evaluations were conducted to refine estimates of toxicity in wetland sediments and to better understand the potential relationship between site-related chemicals and observed affects. The results of this investigation are intended to inform the cleanup action plan as it pertains to the wetland.

4.1 Summary of Whole-Sediment Baseline Tests

Concentrations of cadmium exceeded the CSL of 5.4 mg/kg in each of the sediment treatments. With the exception of zinc in sediment from WETSED-3, concentrations of lead, manganese, and zinc were below screening levels. Zinc in sediment from WETSED-3 was 3810 mg/kg, slightly above the SCO of 3200 mg/kg.

In the baseline toxicity tests, WETSED-1 failed the CSL criteria for both the 10-day acute amphipod test and the Microtox® test (Table 23). No significant toxicity was observed in WETSED-1 sediment for either mortality or growth in the 20-day chronic test with *Chironomus dilutus*. Sediment from WETSED-2 and WETSED-3 met the CSL criteria for all three sediment tests. Mortality in the chronic toxicity test with *Chironomus dilutus* exceeded the SCO for both of these treatments, however, control-normalized mortality was within 2% and 5% of the criterion for WETSED-2 and 3, respectively.

Table 23. Summary of Wetland Soil and Sediment Chemistry, Agri-Tech/YSF 2013.

Toxicity Endpoint	SCO	CSL	WETSED-1	WETSED-2	WETSED-3
Amphipod $M_T - M_C$	>15%	>25%	Fails CSL	Pass	Pass
<i>Chironomus</i> $M_T - M_C$	>15%	>25%	Pass	Fails SCO Pass CSL	Fails SCO Pass CSL
<i>Chironomus</i> $(MIG_C - MIG_T) / MIG_C$	>0.25	>0.40	Pass	Pass	Pass
Microtox® 5 minute T/C	<85%	<75%	Fails CSL	Pass	Pass
Microtox® 15 minute T/C	<85%	<75%	Fails CSL	Pass	Pass
Station Summary			Fails CSL	Fails SCO	Fails SCO

4.2 Comparison to the Previous Investigation

In general, the conventional sediment characteristics and metals concentrations were similar between the current samples (2013) and those samples during the previous wetland investigation (2011). Sediment from Station WETSED-1 was characterized as a mixture of sand and silt/clay, with 5% TOC (Table 24). Both WETSED-2 and WETSED-3 were dominated by fine-grained sediment, with slightly lower TOC (3.6% to 4.7% TOC).

Concentrations of cadmium were similar across the two studies, with concentrations ranging from 6.6 to 9.9 mg/kg, with all measured concentrations exceeding the CSL for cadmium. As in the initial investigation, concentrations of lead and zinc were below CSL levels.

The results of the 2013 amphipod tests confirmed the findings of the 2011 study. Acute toxicity was observed for sediment from WETSED-1, with 100% mortality. While mortality was higher in 2011 for WETSED-2 (14%), this treatment met SMS criteria in both studies. No significant mortality was observed in sediment from WETSED-3 in either 2011 or 2013.

For the chronic sediment test with *Chironomus dilutus*, earlier results for WETSED-1 and WETSED-2 sediments were confirmed with no significant mortality or decreased growth observed in sediment from WETSED-1; marginal mortality was observed in WETSED-2, passing CSL criteria. Mortality and growth in WETSED-3 passed CSL criteria, which failed CSL criteria during the 2011 tests.

Microtox® tests showed marked improvement during the current study. Tests were conducted within two days of collection to minimize effects associated with holding times. No toxicity was observed for either the WETSED-2 or WETSED-3 treatments for either the 5 minute or 15 minute endpoint. Both sediment treatments failed CSL criteria in 2011. The CSL failures observed in the WETSED-1 treatment in 2011 was confirmed, with similar responses to those of 2011.

Table 24. Summary of Wetland Sediment Chemistry and Test Results, Agri-Tech/YSF, 2011 and 2013.

Analyte	WETSED-1		WETSED-2		WETSED-3		SMS ¹	
	2011	2013	2011	2013	2011	2013	SCO ²	CSL ³
% Sand and Gravel	40.4	58.3	14.1	23.4	4.1	11.8	--	--
% Fines (silt/clay)	59.6	41.7	85.9	76.6	95.9	88.2	--	--
TOC (%)	5.3	5.2	4.7	3.8	3.6	4.4	--	--
Cd	<u>9.2</u>	<u>6.5</u>	<u>6.8</u>	<u>7.4</u>	<u>7.8</u>	<u>9.4</u>	2.1	5.4
Mn	210	147	220	146	270	178	--	--
Pb	190	189	150	342	180	324	360	>1300
Zn	2700	2240	2800	2940	2700	3810	3200	>4200
Toxicity Tests								
Analyte	WETSED-1		WETSED-2		WETSED-3		SMS	
	2011	2013	2011	2013	2011	2013	SCO	CSL
Hyalella Mortality <i>M_T-M_C</i>	<u>100%</u>	<u>91%</u>	14%	-4%	4%	-4%	>15%	>25%
Chironomus Mortality <i>M_T-M_C</i>	15%	14%	18%	17%	<u>58%</u>	20%	>15%	>25%
Chironomus Growth <i>(MIG_c-MIG_t)/MIG_c</i>	-0.22	0.12	0.04	-0.31	0.34	-0.01	>0.25	>0.40
Microtox® 5 minute <i>T/C</i>	<u>0.71</u>	<u>0.65</u>	0.75	1.03	0.84	1.07	<0.85	<0.75
Microtox® 15 minute <i>T/C</i>	<u>0.20</u>	<u>0.14</u>	<u>0.30</u>	0.98	<u>0.42</u>	1.00	<0.85	<0.75

¹Sediment Management Standards

²Sediment Cleanup Objective

³Cleanup Screening Level

Bold: Fails SCO

Underline: Fails SCO and CSL

4.3 Dilution Series Test

Each of the toxicity tests (*Hyalella*, *Chironomus*, and Microtox) were conducted with a series of sediment dilutions prepared with test sediment WETSED-3 diluted with reference sediment from the Toppenish National Wildlife Refuge. The dilution series test was conducted concurrent to the baseline tests. WETSED-3 was selected based on the concentration of cadmium, which was highest among the three test treatments. Measured concentrations of cadmium, lead, and zinc showed a decrease with test sediment dilutions, with cadmium concentrations generally achieving the target concentration (Table 7). Manganese concentrations in the test sediments increased with dilution, with the highest concentration of manganese found in the 1% WETSED-3 treatment.

In general, there was little difference in response across the dilution series for each of the tests. *Chironomus* growth was higher in the 0% and 11% WETSED-3 treatments (Table 25); however, the variability for this endpoint was quite high and differences were not significant. In all treatments, *Chironomus* growth was greater than in the control sediment. Based on the dilution series test, the total metals concentrations in the WETSED-3 treatment did not appear to be predictive of effects.

Table 25. Summary of Dilution Series Test Results, Agri-Tech/YSF, 2013.

Treatment (Nominal)	<i>Hyalella</i> Survival M_T-M_C	<i>Chironomus</i>		Microtox®	
		Survival M_T-M_C	Growth $(MIG_c-MIG_t)/MIG_c$	5 minute T/C	15 minute T/C
Control Result	91%	91%	1.82 mg/ind/d	91%	80%
100% WETSED-3	-3.8	19.8	-0.01	1.04	0.97
67% WETSED-3	-2.6	17.7	-0.31	1.03	1.01
33% WETSED-3	1.4	13.5	-0.13	1.08	1.06
11% WETSED-3	-2.6	28.1	-0.74	1.08	1.08
TNWR	-7.3	20.8	-0.57	1.07	1.09

Bold: Fails SCO

Underline: Fails SCO and CSL

4.4 Toxicity Identification Evaluation

Based on the results of the baseline toxicity tests, WETSED-1 was selected for further evaluations of the source of toxicity. Toxicity identification evaluations with both sediment and porewater samples provided multiple lines of evidence to relate the observed toxicity in WETSED-1 with contaminants of potential concern. The following section provides a summary of the TIE findings which are then used in a weight of evidence approach to draw conclusions regarding the source(s) of toxicity with the sediments represented by WETSED-1.

4.4.1 AVS/SEM

Total metals concentrations in sediment can be unreliable predictors of toxicity because the availability of metals to aquatic organisms depends upon a number of site-specific factors. ... The primary route of exposure for benthic organisms is uptake via the interstitial pore water that occurs between the grains of sediment. Metals in this aqueous phase tend to be more bioavailable than those bound to sediment (DiToro et al. 1991). Metals bound to sediment solids in various forms are largely unavailable to aquatic organisms and are considered to be far less toxic than dissolved metals in the pore water. The precipitation of metal sulfides (AVS) and the adsorption of metals to organic carbon in sediment are two processes that serve to control the equilibrium between metals on the sediment and dissolved metals in the pore water. The AVS:SEM ratio based on measured acid volatile sulfides (AVS) and simultaneously extracted metals (SEM) allow for a site-specific prediction of the bioavailability of certain metals. The AVS:SEM analysis addresses the question of whether certain metals are present at concentrations that exceed the binding capacity of the sediment matrix. If those metals are not bound, they may be more readily available and more biologically active.

AVS is an operationally defined measurement of metal sulfides that naturally occur in sediments. AVS represents the iron and manganese sulfide minerals in the sediments that react with certain metals. Cationic metals, such as cadmium, form sulfide minerals less soluble than natural AVS. As a result, these toxic metals displace iron or manganese from AVS and are themselves sequestered in a very insoluble and biologically unavailable form. (U.S. EPA 1994; DiToro et al. 1996). The precipitation of metals by AVS is assumed to eliminate the mobility and toxicity of that metal, so it is important to account for this removal when computing the porewater concentration of metal from the concentration on the solids. The amount of AVS can vary in different sediments, resulting in differing binding capacities. Once the binding capacity of the AVS is met, the metals are available for uptake or for other binding mechanisms. Thus, the ratio of simultaneously extracted metals (SEM) to AVS can be used to predict whether metals toxicity should not occur; when SEM:AVS is less than 1. It should be noted that the SEM/AVS model does not necessarily predict toxicity when the SEM:AVS is greater than 1, due to other factors that may control toxicity.

The binding capacity of AVS is competitive between metals with the sulfide form of each metal having its own solubility. The least soluble sulfide-metal will precipitate completely before the other metals are bound by the available AVS. The complete order of sulfide solubilities is: Cu < Pb < Cd < Zn < Ni. This means that for a given amount of AVS, CuS will always precipitate before any others. If the total Hg is greater than the AVS, then all the AVS will be CuS and the remaining metals would not form insoluble precipitates. Mercury will also bind with AVS, however, concentrations observed in previous wetland soil samples were between 0.04 and 0.14 mg/kg (Table 1) and would not result in significant binding of the observed AVS. .

The SEM and AVS measured in the WETSED-1 treatment and the SEM-AVS ratio is presented in Table 26. The SEM for cadmium, lead, and manganese were similar to those of the whole sediment, whereas the SEM_{Zn} was 4,790 mg/kg, which is higher than the total zinc measured in the initial analysis of the WETSED-1 sediment. The total SEM, based on a suite of five metals was 5,096 mg/kg (Table 25, Column 3) or 76.3 μmol/g (Table 25, Column 4). The AVS in the WETSED-1 was 48.9 μmol/g (Table 25, Column 6) and the SEM:AVS ratio was greater than 1 indicating the potential for metals toxicity. Based on the preferential binding capacity of AVS (Table 25, Column 8), all of the copper, cadmium, and lead were predicted to be entirely bound by AVS and in the particulate form. Approximately 60% of the zinc SEM was predicted to be bound to sulfides, with approximately 40% of the zinc and all the remaining manganese predicted to be unbound by sulfides.

Table 26. Results of AVS and SEM Analysis for Sediment from WETSED-1, Agri-Tech/YSF 2013.

1	2	3	4	5	6	7	8	9
Metal	MW ¹	SEM (mg/kg)	SEM (μmol/g)	AVS (mg/kg)	AVS ² (μmol/g)	Fraction TOC	Total SEM – AVS (μmol/g)	TOC-Normalized SEM – AVS (μmol/gOC)
Cu ³	63.6	36	0.6				-48.4	
Cd	112.4	6.6	0.1				-48.3	
Pb	207.2	183	0.9				-47.4	
Zn	65.4	4790	73.2				+25.8	
Mn	54.9	80.9	1.5				+26.7	
Total		5096.5	76.3	1570	48.9	0.052	+26.7	518

¹ MW= molecular weight;

² Mass of AVS divided by molecular weight of sulfur (32.087) to obtain AVS molar mass

³ Copper concentration based on total copper measurement (Table 1).

As indicated above, simply knowing that metals are available does not predict effects. Previous studies have compared the available metals (SEM-AVS) to the fraction of total organic carbon (TOC) in the sediments and ranked the likelihood of toxicity (Besser et al. 2013; DiToro et al. 1991; 1992). The TOC normalized SEM/AVS (SEM-AVS divided by the fraction of TOC) can be ranked into one of three categories: metals unlikely to cause toxicity (<130 μmol/g_{OC}), potential metals toxicity (130-3000 μmol/g_{OC}) and metals toxicity expected (>3000 μmol/g_{OC}). The TOC-normalized SEM-AVS for the WETSED-1 sediment was 518 μmol/g_{OC}, falling in the category of metals potentially being the cause of observed toxic effects (Table 26).

4.4.2 Whole Sediment TIE Toxicity Testing

To confirm the role of metals in the toxicity predicted by the SEM/AVS model, amphipod toxicity tests were conducted with WETSED-1 sediment treated with SIR-300 cation-resin beads. The SIR-300 resin preferentially binds cationic metals, reducing their bioavailability and resulting toxicity. Mean percentage survival in the treated sediment was then compared to the untreated sample.

A significant decrease in toxicity was observed in the SIR-300 treated sediment, with 32% mortality in the SIR-300 treatment compared to 100% mortality in the untreated WETSED-1 sediment (Figure 4). Furthermore, amphipod survival in the SIR-300 treated sample met the CSL criteria for the amphipod test.

The WETSED-1 sediment was also treated with powdered coconut charcoal to confirm that site-related organics are not associated with toxicity in the WETSED-1 sediment. PCC binds non-ionic organic contaminants. Toxicity was not altered in the PCC treatment with 100% mortality, indicating that toxicity was not associated with organics (removal of organics present did not alter toxicity). However, the PCC control (PCC in control sediment) also showed toxicity, with 95% mortality. PCC has been shown to elicit a toxic response in some invertebrates, with the fine powder adhering to the gills and other external surfaces. While PCC was added at concentrations below toxicity thresholds, effects were clearly present, making it difficult to distinguish between toxicity associated with PCC and that of the original sample.

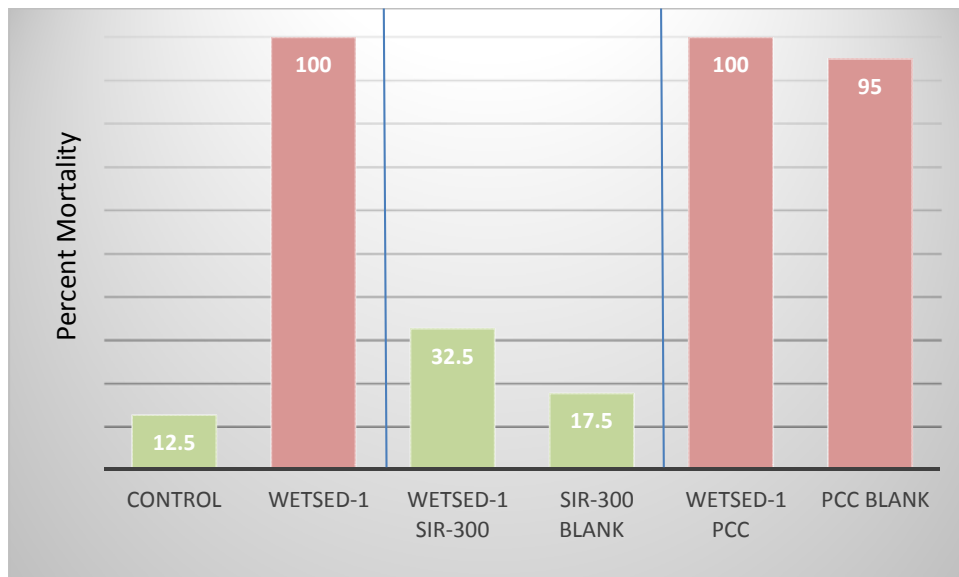


Figure 4. TIE Test Results for the Whole Sediment Test with *Hyaella azteca*.

4.4.3 Porewater TIE Toxicity Testing

In order to further assess the role of metals in toxicity observed in the WETSED-1 sediment, TIE tests were conducted with porewater extracted from the whole sediment. Porewater tests have the advantage of focusing toxicity estimates on the more bioavailable form of contaminants of potential concern. Toxicity evaluations were conducted with the two species that showed toxicity in the baseline tests, *Hyalella azteca* (96-h endpoint) and Microtox®. Analytical chemistry was conducted on untreated and treated porewater to directly measure changes in metals concentrations before and after treatment.

4.4.3.1 Porewater TIEs

The porewater TIE study included six treatments (Table 27), including the following:

- untreated WETSED-1 porewater;
- treatments to reduce metals availability (cation-exchange resin, EDTA Low and High);
- a treatment to reduce organics availability (solid-phase extraction (SPE) C18 column); and,
- a treatment to reduce particulate-bound metals (filtration).

Toxicity was observed in the untreated porewater in both the amphipod and Microtox® tests. Amphipod mortality was 100% and Microtox® showed a 66% reduction in light output, relative to the control.

Treatment of the WETSED-1 porewater with the cation-exchange resin resulted in a significant decrease in toxicity for both the amphipod and Microtox® tests. Control normalized mortality in the amphipod test was reduced to 44%. While there was a significant reduction in amphipod toxicity, some toxicity remained in the SIR-300 treated porewater. Toxicity removal was complete in the Microtox® test with light output exceeding that of the control for both the 5-minute and 15-minute time interval.

No significant differences were observed for the amphipod test in the C18, filtered porewater, and EDTA treatments, with 100% mortality in each treatment. The C18 solid-phase extraction test did not improve survival, a sign that organic contaminants were not a significant contributor to toxicity. Similarly, filtration had no effect, indicating the cause of toxicity was not bound to particles, i.e. free metal ions. The two concentrations of EDTA used did not reduce toxicity. However, the EDTA preparations did not appear to fully dissolve making it difficult to evaluate the binding potential of these treatments.

4.4.3.2 Porewater Chemistry

Cadmium and lead were not detected in the untreated porewater, indicating that while cadmium was observed in whole sediment at concentrations above the CSL, it was not present in the more readily available form. Both manganese and zinc were observed in the untreated WETSED-1 porewater at concentrations of 4.5 mg/L and 28.3 mg/L, respectively. These results are consistent with the AVS binding affinity of the different metals ($SEM_{Pb} > SEM_{Cd} > SEM_{Zn}$), and suggest that the AVS is sufficient to bind both lead and cadmium, but are not sufficient to completely bind zinc.

Treatment with the SIR-300 cation resin reduced manganese and zinc concentrations by two orders of magnitude, with resulting concentrations of 0.05 mg/L Mn and 0.13 mg/L Zn. EDTA treatments did not

alter the concentrations of manganese and zinc. This may be due to insufficient dissolved EDTA in an effort to avoid EDTA toxicity. There were no changes in metals concentrations with filtration, indicating that the manganese and zinc in the WETSED-1 porewater were not associated with particulates.

Table 27. Results of Porewater Chemistry and Porewater Toxicity Tests, Agri-Tech/YSF 2013.

Treatment	Cadmium (mg/L)	Lead (mg/L)	Manganese (mg/L)	Zinc (mg/L)	<i>Hyaella</i> 96-Hour Survival (%)	Microtox light output	
						5 min.	15 min.
WETSED-1	0.002 U	0.02 U	4.49	28.3	0.0	0.88	<u>0.63</u>
SIR-300	0.002 U	0.02 U	0.053	0.13	50.0	1.04	1.04
EDTA-Low	0.002 U	0.02 U	4.18	26.0	0.0	--	--
EDTA-High	0.002 U	0.02 U	4.36	26.9	0.0	--	--
C18 SPE	0.002 U	0.02 U	4.25	26.0	0.0	--	--
Filtered	0.002 U	0.02 U	4.37	25.8	0.0	--	--

U= analyte undetected at given reporting limit

Bold: Fails SCO

Underline: Fails SCO and CSL

4.4.4 The Role of Metals in Toxicity

As indicated above, cadmium and lead were not observed in porewater at concentrations above the limits of detection (Cd: 2 ppb; Pb: 20 ppb). This is well below effects levels for *Hyaella azteca*, as well as for *Chironomus dilutus*. Furthermore, the preferential binding of AVS predicted that cadmium and lead would be present as metal-sulfide precipitates and would not be in the more readily available dissolved form. The potential for toxicity associated with particulate cadmium and lead was ruled out in the tests with filtered porewater samples, with no change in toxicity with the removal of particulates.

Zinc and manganese were predicted to be available in the freely dissolved phase and were present in the porewater samples that were associated with toxicity. A toxic-unit approach was used to further evaluate the role of zinc and manganese in porewater toxicity and to better understand the toxicity remaining following SIR-300 treatment. The toxic unit (TU) approach compares the chemical concentration in a sample to a standard measure of toxicity. Typically the toxic unit is defined as the median-lethal concentration, or LC₅₀. For the purpose of this study, the zinc and manganese toxic units were defined as the respective LC₅₀ values based toxicity data for *Hyaella azteca* available in the literature.

For zinc, previous laboratory studies with *Hyaella azteca* have found the zinc LC₅₀ to be between 0.049 mg/L and 0.245mg/L Zn (Phipps et al 1995, Borgmann et al 2005). These studies were performed using differing water characteristics (e.g. hardness) as well as varying exposure durations (7-10 days), providing a good approximation for the sensitivity of *H. azteca* to zinc. The average LC₅₀ was 0.147mg/L and was used as the TU_{Zn} for this analysis.

The untreated porewater had a zinc concentration equivalent to 192 toxic units. This indicated that the untreated porewater had concentrations of zinc that were nearly 200 times higher than the LC₅₀ and would be expected to cause the observed amphipod toxicity. The SIR-300 treated porewater had a zinc concentration equivalent to 0.9 toxic units, or a concentration of zinc that was very near to the median lethal concentration. Indeed, the 96-hour control-normalized mean percent mortality in the treated porewater was 44%. This analysis indicated that the concentrations of zinc in the WETSED-1 porewater effectively predicted the level of toxicity observed for both the untreated and treated porewater, indicating that zinc was a driver of toxicity in the WETSED-1 porewater. For manganese, previous laboratory studies with *Hyalella azteca* reported a mean LC₅₀ of 2.77 mg/L Mn (Borgmann et al 2005) which was used as the TU_{Mn} for this analysis. The untreated porewater had a manganese concentration equivalent to 1.6 toxic units. This indicated that the untreated porewater had concentrations of manganese that were similar to the LC₅₀. While manganese cannot be ruled out as a contributor to toxicity, it would not be expected to cause the level of amphipod toxicity observed in the untreated sample. The SIR-300 treated porewater had a manganese concentration equivalent to 0.02 toxic units, or a concentration of zinc that was two one-hundredths of the LC₅₀. This analysis indicated that the concentrations of manganese in the WETSED-1 porewater were not sufficient to predict toxicity in either the untreated and treated porewater.

As discussed in this section, sediment processes act to sequester cationic metal either through precipitation as metal sulfide phases or through adsorption onto organic carbon, greatly reducing their bioavailability and toxicity (Gambrell 1994). However, the extent to which cationic metal elements are bound and made unavailable are affected by environmental conditions.

AVS concentrations vary seasonally, but are generally considered to decrease in the cold winter months, presumably due to a decrease in the generation of sulfide by sulfide-reducing bacteria at cooler temperatures (Ankley et al. 1996). Conversely higher AVS and an increased binding capacity may occur during warmer months due to increased production of organic matter and increased activity of sulfate-reducing bacterial (Herlihy and Mills 1985). Decreases in AVS would predict an increase freely dissolved cationic metals. Based on the preferential binding of sulfides, zinc would continue to be the driver in toxicity prior to cadmium and lead.

Hydrogen ion activity (pH) is also an important factor in determining metals availability. As surface sediments become oxidized in the spring and summer months, pH decreases resulting in the release of adsorbed metal ions into the dissolved phase (John and Leventhal 1995). This release of metal ions can occur for Zn at moderately low pHs and may result in an increase in toxicity. These two seasonal influences did not appear to alter the presence of toxicity in WETSED-1 or the relatively low toxicity in sediment from WETSED-2, with similar results being observed in 2011 and 2013 for the benthic tests with *Hyalella* and *Chironomus*. The Microtox® test results in 2011 appear to have been influenced by extended holding times. Differences in *Chironomus* toxicity tests for WETSED-3 in 2011 and 2013 may be due to refinements in test methods or seasonal influences.

5. Summary of Findings

As part of the remedial investigation of the Agri-Tech/Yakima Steel Fabricators site in Yakima, Washington, ENVIRON conducted a supplemental investigation of sediments from a small wetland located at the south end of the site. The purpose of this investigation were as follows:

- Verify toxicity in the WETSED samples from each of the three stations;
- If toxicity is confirmed, determine whether cadmium or other metals present in the wetland site are the likely cause;
- If toxicity is confirmed and related to metals, determine whether a site-specific clean-up level would be appropriate.

Physical and Chemical Characteristics of Wetland Sediments:

The physical characteristics of the sediments collected in 2013 were similar to those collected in 2011. Sediment at two stations, WETSED-2 and WETSED-3 was predominantly fine-grained, with approximately 4% TOC. Sediment from Station WETSED-1 was sandier in nature, with approximately 50% fines and 5% TOC. The area sampled was a cattail marsh, with a high amount of fine and coarse plant material present in the sediments. Organic carbon was likely influenced by the presence of the plant material, creating elevated levels relative to grain size.

Sediment pH based on porewater samples collected from homogenized sediment samples ranged from 7.14 to 7.28. However, after sediments had been held in anaerobic conditions, pH in the WETSED -1, 2, and 3 treatments dropped to pH 5.6, 7.0, and 6.8, respectively. This may provide an indication that the organically enriched sediments at WETSED-1 may alter pH and thereby affect availability of metals in this portion of the wetland.

Concentrations of total metals were similar in sediment from the three stations and were similar to values observed during previous investigation. Concentrations of cadmium ranged from 6.6 to 9.9 mg/kg, exceeding the CSL of 5.4 mg/kg for cadmium. As in the initial investigation, concentrations of lead and zinc were below CSL levels. The concentration of zinc at WETSED-3 (3,810 mg/kg Zn) was above the SCO (3,200 mg/kg Zn).

Whole-Sediment Toxicity:

WETSED-1 was the only test treatment that exceeded the CSL thresholds for benthic toxicity, based on the responses in the *Hyalella azteca* and Microtox® tests conducted in 2013. Both WETSED-2 and WETSED-3 exceeded the SCO threshold for mortality in the *Chironomus* test. However, the level of response observed in WETSED-2 and WETSED-3 was near the SCO threshold, was similar to that of the reference sediment, and was within the control performance criteria for this test. The findings from the whole-sediment toxicity tests were as follows:

- For the amphipod test with *Hyalella azteca*, acute toxicity was observed in sediment from Station WETSED-1, with 100% mortality; no toxicity was observed in the WETSED-2 or 3 test treatments. These results were similar to those observed during the 2011 investigation.

- For the *Chironomus* test, all test sediment met the CSL criteria for mortality and growth; all test treatments also met the SCO criteria for the more sensitive growth endpoint. The SCO criteria for *Chironomus* mortality was exceeded by 2% and 5% in sediment from WETSED-2 and WETSED-3, respectively. The mortality observed in both treatments was similar to or less than the mortality observed in the reference sediment used in the dilution series test and was within the control performance criteria for mortality (>68% survival). With the exception of WETSED-3, the responses observed in the *Chironomus* test in 2013 were generally similar to those of 2011. Mortality and growth responses were greater in the 2011 tests for WETSED-3. This may be due to the control of sources of test variability or seasonal differences in sediment characteristics.
- For the Microtox® test, no toxicity was observed in the WETSED-2 and WETSED-3 test treatments. Toxicity exceeding the CSL screening level was observed for the WETSED-1 treatment. Tests conducted in 2011 showed toxicity in all Microtox® tests; however, this was likely due to longer holding times prior to analysis, which have been shown to correlate with increased false-positive results (NewFields 2009). Tests conducted in 2013 were initiated less than two days from sample collection in order to avoid this source of variability.
- Total metals concentrations were not predictive to toxicity responses observed in 2013. The responses did not correspond to whole sediment total metals concentrations in the three WETSED treatments or in the dilution series test.

Sources of Toxicity:

Toxicity identification evaluations conducted with treatment WETSED-1 indicated that metals, specifically freely dissolved cationic metals, were associated with the observed toxicity. The primary findings of the TIE evaluations were as follows:

- The AVS:SEM and organic carbon normalized SEM-AVS indicated that simultaneously extractable metals were present at concentrations exceeding the AVS binding capacity of the sediment and predicted that freely-dissolved cationic metals in the sample were a potential cause of toxicity.
- WETSED-1 sediment treated with the cation exchange resin SIR-300, showed a significant decrease in amphipod mortality and Microtox® response, suggesting that cationic metals were associated with the observed toxicity. Relative to the control, the SIR-300-treated sediment passed CSL criteria. Sediment treated with PCC did not show a change in toxicity, suggesting that organic COPCs were not associated with toxicity.
- Porewater from WETSED-1 sediment treated with the cation exchange resin SIR-300, showed a significant decrease in amphipod mortality and Microtox® response, further suggesting that dissolved cationic metals were associated with the observed toxicity.
- Porewater from WETSED-1 sediment treated with filtration and with C-18 solid-phase extraction showed no change in amphipod mortality, indicating that particulates and organic COPCs, respectively were not related to toxicity. EDTA-treated porewater also showed no change in amphipod mortality. However, the analytical chemistry demonstrated that metals concentrations were unaffected by the EDTA treatment; therefore, this TIE manipulation could not be used to formulate conclusions regarding porewater toxicity.

The Role of Metals in Observed Toxicity

Toxicity observed during the 2013 tests was primarily due to zinc and potentially manganese. Cadmium and lead did not appear to be related to the observed toxicity. The primary findings related to the role of metals in the observed toxicity were as follows:

- TIE results indicated that freely dissolved metals were mostly likely associated with toxicity (as stated above).
- The AVS:SEM preferential binding affinities of the cationic metals predicted that cadmium and lead would be entirely bound to AVS and would not be present in the more toxic dissolved form. Both zinc and manganese were predicted to be present in the more bioavailable, dissolved phase.
- Cadmium and lead were not detected in the porewater samples; zinc and manganese were detected in porewater samples.
- Treatment of the porewater with the cation resin SIR-300 effectively removed both zinc and manganese, decreasing the concentrations by two orders of magnitude. Toxicity was also reduced in the SIR-300 treated porewater as a direct result of the SIR-300.
- The concentration of zinc in the SIR-300 treated porewater predicted the magnitude of toxicity observed in the treated porewater (0.9 TU). Zinc is likely to be a primary driver in toxicity.
- Manganese concentrations were also decreased with SIR-300 treatment, but remaining Mn concentrations were well below those that would predict biological effects (0.02 TU). Manganese was not likely to have been primary driver in toxicity.
- Seasonal site conditions may alter the concentrations of dissolved cationic metals. However, zinc is the most likely driver of toxicity based on the corresponding binding affinities and the SEM concentrations of zinc.

Based on the findings of the investigation work herein, no CSL exceedances for biological criteria were observed at Stations WETSED-2 and WETSED-3. Acute toxicity exceeding the CSL criteria was observed in sediment from Station WETSED-1. TIE evaluations of both sediment and porewater indicate that metals, specifically cationic metals were associated with the observed responses. Concentrations of metals observed in the WETSED-1 porewater and correlation analysis using a toxic unit approach indicate that zinc is the likely contributor to toxicity. The adjacent Bay Chemical Site is a known source of zinc in soil and groundwater resulting from former operations at that site. A source of a release of zinc has not been identified on the Agri-Tech/Yakima Steel Fabricators site.

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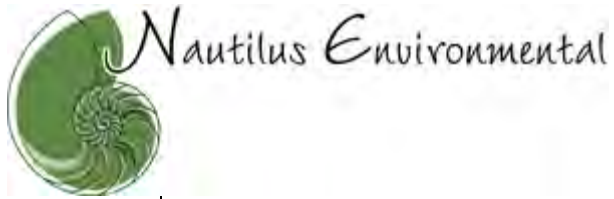
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Agri-Tech/Yakima Steel Wetland Sediment Evaluation

Appendix A

2011 Toxicity Report



**Test America
Sediment Characterization – Toxicological Results**

Draft Report

Report date: July 12, 2011

Submitted to:

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

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424

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SIGNATURE PAGE

A handwritten signature in black ink that reads "Cat Curran". The signature is written in a cursive style with a large initial "C".

Cat Curran, M.S.

Washington Laboratory Manager

This report has been prepared based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party.

1.0 INTRODUCTION

On May 23rd, 2011 Test America collected freshwater sediments for biological testing. Test America contracted with Nautilus Environmental to provide toxicity-testing services for the project. The three sediment samples selected for testing included samples E-WetSed-1-052311 (WETSED-1), E-WetSed-2-052311 (WETSED-2), and E-WetSed-3-052311 (WETSED-3). No reference sample was collected in conjunction with this project. The freshwater sediment samples were tested for toxicity using the *Chironomus dilutus* (aka *tentans*) 20-day survival and growth bioassay (USEPA 2000 and ASTM 2000), the *Hyalella azteca* 10-day survival bioassay (USEPA 2000 and ASTM 2000), and the 15-minute 100 percent porewater Microtox[®] bacteria bioluminescence test. All tests met negative and positive control criteria.

Results were evaluated by comparing test data to the criteria in the Sediment Evaluation Framework for the Pacific Northwest (RSET 2009) guidance document. *C. dilutus*, *H. azteca*, and Microtox results were compared to control results, and examined for statistically significant effects ($\alpha = 0.05$). Acceptability criteria from the literature are summarized in Table 1.

Table 1 Acceptability criteria for bioassays

Test Type	<i>C. dilutus</i> 20-Day	<i>H. azteca</i> 10-Day	Microtox
Endpoint	Survival and Growth	Survival	Luminescence
Source	RSET 2009	RSET 2009	RSET 2009
Test Criteria	One-hit failure is mortality > control mortality + 25% <u>and/or</u> biomass <60% of control biomass <u>and</u> significant difference Two-hit failure is mortality > control mortality + 15% <u>and/or</u> biomass <75% of control biomass <u>and</u> significant difference	One-hit failure is mortality > control mortality + 25% <u>and</u> significant difference Two-hit failure is mortality > control mortality + 10% <u>and</u> significant difference	One-hit failure is Luminescence <75% of control luminescence <u>and</u> significant difference Two-hit failure is Luminescence <85% of control luminescence <u>and</u> significant difference
Control Criteria	Negative control $\leq 32\%$ mortality and growth ≥ 0.48 mg/ind. ash-free dry weight	Negative control $\leq 20\%$ mortality	Negative control final light output > 72% of initial output

2.0 SAMPLES

Upon receipt of samples from Test America, samples were matched with the chain-of-custody form and inspected. Samples were stored at $4 \pm 2^\circ\text{C}$ in the dark prior to test initiation. Toxicity tests were initiated within 2 weeks of collection (Table 2). Total ammonia levels in the porewater ranged from <1.0 to 2.7 milligrams per liter (mg/L). Both overlying ammonia and sulfides were also measured during testing, and the results are reported in the QA/QC sections for each test.

Table 2 Summary of sample collection and test initiation dates

Sample ID	Collection Date	Microtox Test Initiation Date	<i>H. azteca</i> Test Initiation Date	<i>C. dilutus</i> Test Initiation Date
E-WetSed-1-052311	May 23, 2011	June 6, 2011	June 7, 2011	June 9, 2011
E-WetSed-2-052311				
E-WetSed-3-052311				

3.0 CHIRONOMUS DILUTUS TEST

3.1 Methods

C. dilutus were exposed to test sediments for 20 days to determine the effects of site sediment on survival and growth. These tests were conducted according to methods presented in USEPA (2000) and ASTM (2000), and are summarized in Table 3.

C. dilutus egg cases were obtained from Aquatic BioSystems (Fort Collins, Colorado) and arrived at the laboratory on June 8, 2011. The egg cases were transported in insulated containers in oxygen-saturated water contained in 500-mL plastic bottles. Upon arrival at the laboratory, water quality parameters were measured and observations of organism condition were made. The egg cases were 20°C at receipt, and were cultured at 23°C . The organisms emerged from the egg cases on June 9th and tests were initiated the same day.

One day prior to test initiation (Day -1), the sediment samples were homogenized, 100-ml of sediment was distributed to each of eight labeled test chambers for each of the samples, and

175-ml diluted mineral water (prepared by diluting two parts Perrier® into eight parts deionized water) was added to each container. Control sediment consisted of clean, rinsed silica sand (50/50 mix of #30 and #70) mixed with peat moss (1/2 Tbsp) that was rinsed overnight in diluted mineral water. Eight test chambers were also prepared for the control sediment. An additional replicate was included for each sediment sample and the control sediment as a sacrificial test chamber for routine water quality measurements.

The test chambers were randomized and the sediments were left to settle overnight. On Day 0, overlying ammonia, sulfide, hardness, alkalinity, dissolved oxygen (DO), pH, conductivity, and temperature were measured. Twelve organisms were directly added to each test chamber, in random order.

Each test chamber was provided 1.5 mL of food daily (after the second renewal) starting on Day -1. The food consisted of a mixture of 4 g ground Tetrafin® flakes mixed with 1 L diluted mineral water. The feeding regime was reduced if the presence of excess food was observed on the sediment surface in several test chambers, which occurred on Day 8 only. Abnormal conditions or unusual animal behavior, if observed, were noted daily.

Temperature, DO, pH, and conductivity were monitored daily in the water quality replicate for each sample, while alkalinity, hardness, ammonia and sulfides were measured on Days 5, 10, and 15. Water was renewed twice daily.

At test termination, subsamples of overlying water were collected from each water quality replicate for ammonia, hardness, alkalinity, and sulfide analyses. The contents of each test chamber were gently mixed to suspend the sediment and poured through a 0.5-mm Nitex screen. The sediment was rinsed through the screen using dechlorinated tap water. Animals were removed from the screen and the number of survivors counted and recorded. Presence of pupae, flies, or exuviae (molts) were noted. The larvae were rinsed with deionized water and placed into pre-ashed, pre-weighed weigh boats. The weigh boats were placed in an oven at 60°C for at least 24-hours, then placed in a dessicator until dry weight could be measured. The weigh boats were then placed in a muffle furnace at 550°C for two hours, placed in a dessicator to cool, then weighed again to determine the ash weight. The ash weight was subtracted from the dry weight to determine the ash-free dry weight (AFDW). The number and AFDW of surviving chironomids were evaluated statistically by one-tailed t-test, or one-tailed Mann-Whitney U-test, as appropriate, to determine whether the samples exhibited a significant

decrease in survival or growth relative to the control ($p < 0.05$). Survival data were arcsine transformed, while growth data was either square root or log transformed as needed to stabilize the variances and improve normality of the data prior to performing the t-test. Data that failed to meet parametric assumptions even after transformations were analyzed with the non-parametric Mann-Whitney U-test. Site performance was evaluated against the sediment acceptability criteria outlined in RSET 2009 (Table 1). The criteria for acceptable test performance were an average of ≤ 32 percent mortality of control organisms, and an average of at least 0.48 mg/individual AFDW per surviving control organism.

A 96-hour reference toxicant test using copper chloride (CuCl_2) was conducted concurrently with the tests on the sediments to determine whether the sensitivity of the test organisms was appropriate. This test was run with four replicates, ten animals per replicate, in diluted mineral water at 23°C , with a small amount of clean control sand as a substrate. Tetrafin[®] slurry (1.25 mL of 4 g/L Tetrafin) was added to each chamber on days 0 and 2.

Table 3 Summary of methods for the 20-day test with *Chironomus dilutus*

Test initiation date	June 9, 2011
Test termination date	June 29, 2011
Test organism source	Aquatic BioSystems; Fort Collins, Colorado
Organism age at test initiation	< 4 hours post-emergence from egg case
Feeding	1.5 mL of 4.0 g/L Tetrafin mixture every day; frequency reduced if excess food observed
Test chamber	475-mL glass beaker
Test sediment volume	100 mL
Dilution water type & volume	175 mL diluted mineral water
Water renewal	Twice daily
Control sediment	Sand mixed with peat (1/2 Tbsp)
Number of organisms/replicate	12
Number of replicates/sample	8 plus water quality surrogates
Test temperature	$23 \pm 1^\circ\text{C}$
Illumination	16 hours light : 8 hours dark
Aeration	Started on Day 13
Reference toxicant	Copper chloride
Acceptability Criteria	$\leq 32\%$ mortality, 0.48 mg/individual AFDW

3.2 Results

The results of toxicity tests conducted using *C. dilutus* are provided in Table 4. Statistics were conducted using Biostat software, which follows the flowchart recommended by RSET. Comparisons are shown to the control. A detailed summary of results is provided in Appendix A. Summary and detailed statistical analyses for endpoint measurements are provided in Appendix B. Summaries of water quality data are provided in Appendix C. Benchsheets are provided in Appendix D.

Table 4 Results of *Chironomus dilutus* tests. Samples with statistically reduced survival or growth are underlined, and values failing two-hit RSET criteria are shaded gray, while samples failing one-hit RSET criteria are bold.^{1, 2}

Sample	Percent Mortality (Mean ± SD)	Mortality Percent Difference From	Ash-Free Dry Weight per Org (mg)	Ash-Free Dry Weight Percent of Control
Control	6.3 ± 7.4	--	0.91 ± 0.11	--
WETSED-1	20.8 ± 21.4	14.6	1.11 ± 0.46	123
WETSED-2	<u>24.0 ± 12.9</u>	17.7	0.87 ± 0.22	96
WETSED-3	63.5 ± 31.2	57.3	0.60 ± 0.57	66

¹Criteria for one-hit failure is significant decrease in mortality (p<0.05), **and** mortality greater than 25% of control (RSET 2009), ²Criteria for two-hit failure is significant decrease in mortality (p<0.05), **and** mortality greater than 15% of control (RSET 2009)

3.3 QA/QC

The *C. dilutus* were received in good condition for the June 9, 2011 test. All water quality parameters remained within acceptable ranges throughout the tests. A summary of the water quality parameters is presented in Table 5. Dissolved oxygen levels were decreased to a level on concern on day 13, and all replicates were aerated from that point forward. There were no deviations from the protocols. The toxicity test for mortality with this species met the control acceptability criterion (<32 percent mortality; >0.48 mg/ind AFDW).

Table 5 Summary of water quality parameters for *C. dilutus* tests (means and ranges). Required values are shown in brackets.

Analyte	Control	WETSED-1	WETSED-2	WETSED-3
	Mean (Min-Max)			
Temp. (°C) [23 ± 1°C]	22.0 (21.7-22.2)	22.0 (21.8-22.2)	21.9 (21.7-22.1)	21.9 (21.7-22.1)
DO (mg/L) [>2.5 mg/L]	6.7 (3.3-9.0)	6.7 (3.5-9.0)	7.1 (5.2-9.1)	7.0 (5.2-9.0)
pH [6-9]	7.34 (6.58-7.99)	7.18 (6.43-7.89)	7.13 (6.46-7.80)	7.35 (6.80-7.99)
Cond. (µS/cm) [NA]	208 (127-296)	180 (149-227)	249 (158-413)	251 (192-382)
Alkalinity (mg/L CaCO ₃) [<50% variable]	58 (48-72)	65 (60-68)	69 (64-72)	85 (80-88)
Hardness (mg/L CaCO ₃) [<50% variable]	83 (80-88)	98 (80-108)	195 (84-228)	122 (100-140)
Total Overlying NH ₃ (mg/L) [<50% variable]	1.6 (1.1-1.7)	1.2 ^a (<1.0-1.3)	1.3 ^a (<1.0-1.3)	<1.0 (<1.0-<1.0)
Total Overlying Sulfides (mg/L) [NA]	0.035 ^a (<0.010-0.058)	0.028 ^a (<0.010-0.054)	0.044 ^a (<0.010-0.044)	0.020 ^a (<0.010-0.021)

^a estimated value

The result of the reference toxicant test conducted in conjunction with this testing program is provided in Table 6. Bench sheets and control charts are provided in Appendix E. This test was run with the same batch of organisms used in the testing program. The result of this test fell within the range of mean ± two standard deviations of historical results, indicating that the sensitivity of the test organisms was appropriate.

Table 6 *C. dilutus* reference toxicant test results.

Species	Test date	Toxicant	LC50	Acceptable Range	CV (%)
<i>Chironomus dilutus</i>	June 23, 2011	Cu	571 µg/L	401 - 1070 µg/L	22.7

3.4 Discussion

Mortality in the samples ranged from 20.8 to 63.5 percent, compared with 6.3 percent in the control. Sediment samples WETSED-2 and WETSED-3 were significantly different from control and were more than 15 percent higher than the control, failing the two-hit criterion for survival. WETSED-3 was also more than 25 percent higher than the control, failing the one-hit criterion for survival. Survival in WETSED-1 was not significantly different from the control, due to high

variability in the sample. Growth in the samples ranged from 0.60 to 1.11 mg/individual AFDW, compared with 0.91 mg/individual AFDW in the control. Growth in sample WETSED-1 was greater than the control. Growth in WETSED-2 and WETSED-3 was not significantly different from the control. Therefore none of the sites fail either the one- or two-hit failure requirements.

The total ammonia level reached 1.3 mg/L in the test sediments, which was well below the reported 4-day lethal concentration for 50% of test organisms (LC₅₀) range for *C. dilutus* of 82 to 370 mg/L (USEPA 2000). While sulfide toxicity thresholds are not available for this species, they were measured as part of the Ecology reference site study (Nautilus 2008), and samples with porewater sulfide values similar (0.226 to >0.600 mg/L) to the values found in the current study (0.010 to 0.054 mg/L) did not result in measurable effects. Therefore, it is unlikely that ammonia or sulfide levels caused the observed increases in mortality in the test sediments.

4.0 HYALELLA AZTECA TEST

4.1 Methods

H. azteca were exposed to test sediments for 10 days to determine the effects of site sediments on survival. These tests were conducted according to methods presented in USEPA (2000) and ASTM (2000), and are summarized in Table 7.

H. azteca were obtained from Aquatic Indicators (St. Augustine, Florida) and arrived at the laboratory on June 2, 2011. The organisms were transported in insulated boxes in oxygen-saturated water contained in plastic bags with fine screens as a substrate. Upon arrival at the laboratory, water quality parameters were measured and observations of animal condition were made. The organisms were acclimated to test conditions prior to test initiation over a 96-hour time period. During the acclimation period, the animals were observed for any indication of stress or significant mortality and any observations were recorded.

One day prior to test initiation (Day -1), the sediment samples were homogenized, 100-ml sediment was distributed to each of eight labeled test chambers for each of the samples, and 175-ml diluted mineral water (prepared by diluting two parts Perrier® into eight parts deionized water) was added to each container. Control sediment consisted of clean, rinsed silica sand (50/50 mix of #30 and #70) mixed with peat moss (1/2 Tbsp) that was rinsed

overnight in diluted mineral water. Eight test chambers were also prepared for the control sediment. An additional replicate was included for each sediment sample and the control sediment as a sacrificial test chamber for routine water quality measurements.

The test chambers were randomized and the sediments were left to settle overnight. On Day 0, overlying ammonia, sulfide, hardness, alkalinity, dissolved oxygen (DO), pH, conductivity, and temperature were measured. Organisms were carefully separated into groups of 10 amphipods in 30 mL cups containing diluted mineral water. The number of organisms was then recounted and any animals exhibiting signs of stress were replaced. The organisms were then gently added to the test chambers, two cups for each test chamber for a total of 20 organisms per chamber.

Temperature, DO, pH, and conductivity were monitored daily in the water quality replicate for each sample, while overlying ammonia, sulfide, hardness, and alkalinity were monitored on Day 5. Water was renewed twice daily in all chambers. Abnormal conditions or unusual animal behavior, if observed, were also noted daily. Each test chamber was fed 1 ml of Yeast Trout Chow (YTC) daily after the second renewal.

At test termination, subsamples of overlying water were collected for ammonia, hardness, alkalinity, and sulfides analyses, from each water quality replicate. The contents of each test chamber were gently mixed to suspend the sediment and poured through a 0.5-mm Nitex screen. The sediment was rinsed through the screen using dechlorinated tap water. The screen was then placed in diluted mineral water and the number of survivors counted and recorded. The number of surviving amphipods was evaluated statistically by one-tailed t-test, or one-tailed Mann-Whitey U-test, as appropriate, to determine whether the samples exhibited a significant decrease in survival relative to the control ($p < 0.05$). Survival data was arcsin transformed as needed to stabilize the variances and improve normality of the data. Site performance was evaluated against sediment acceptability criteria outlined by the Northwest Regional Sediment Evaluation Framework (RSET 2009), as presented in Table 1.

A 96-hour reference toxicant test using copper chloride (CuCl_2) was conducted concurrently with the sediment tests to determine whether the sensitivity of the test organisms was within the range typically observed. The test was run with four replicates, ten animals per replicate, in diluted mineral water with a square of nitex screen as a substrate.

Table 7 Summary of methods for the 10-day test with *Hyalella azteca*.

Test initiation date	June 7, 2011
Test termination date	June 17, 2011
Test organism source	Aquatic Indicators, St. Augustine, Florida
Organism age at test initiation	8 days
Feeding	1 ml of YTC daily
Test chamber	475-ml glass beaker
Test sediment volume	100 ml
Dilution water type & volume	175 ml diluted mineral water
Water renewal	Twice daily
Control sediment	Sand mixed with peat (1/2 Tbsp)
Number of organisms/replicate	10
Number of replicates/sample	8 plus water quality surrogate
Test temperature	23 ± 1°C
Illumination	16 hours light: 8 hours dark
Aeration	None
Reference toxicant	Copper chloride
Acceptability criterion for control	≥80% survival

4.2 Results

The results of toxicity tests conducted using *H. azteca* are provided in Table 8. Statistics were conducted using Biostat software, which follows the flowchart recommended by RSET. Comparisons are shown to the control. A detailed summary of results is provided in Appendix A. Summary and detailed statistical analyses for endpoint measurements are provided in Appendix B. Summaries of water quality data are provided in Appendix C. Benchsheets are provided in Appendix D.

Table 8 Results of *Hyaella azteca* tests. Samples with statistically reduced survival or are underlined, and values failing two-hit RSET criteria are shaded gray, while samples failing one-hit RSET criteria are bold.^{1,2}

Sample	Percent Mortality (Mean ± SD)	Mortality Percent Difference from Control
Control	1.3 ± 2.3	--
WETSED-1	<u>100 ± 0.0</u>	98.7
WETSED-2	<u>13.8 ± 11.6</u>	12.5
WETSED-3	3.8 ± 4.4	2.5

¹Criteria for one-hit failure is significant decrease in mortality (p<0.05), **and** mortality greater than 25% of control (RSET 2009), ²Criteria for two-hit failure is significant decrease in mortality (p<0.05), **and** mortality greater than 10% of control (RSET 2009)

4.3 QA/QC

The *H. azteca* were received in good condition and the toxicity tests with this species met the control acceptability criterion (<20 percent mortality). A summary of the water quality parameters is provided in Table 10. All water quality parameters remained within acceptable ranges throughout the tests. Instead of the 10 animals per replicate required by the protocol, 20 animals were added to each replicate. As the controls still met acceptability criteria and water quality stayed within ranges for the test, this deviation is not expected to have affected the results. There were no other deviations from the protocol.

Table 9 Summary of water quality parameters for *H. azteca* analyses (means and ranges). Required values are shown in brackets.

Analyte	Control	WETSED-1	WETSED-2	WETSED-3
		Mean (Min-Max)		
Temp. (°C)	22.3	22.2	22.2	22.2
[23 ± 1°C]	(21.9-23.4)	(21.9-23.3)	(21.9-23.3)	(21.8-23.2)
DO (mg/L)	7.0	6.3	6.4	6.5
[>2.5 mg/L]	(5.8-8.4)	(5.4-7.3)	(5.4-7.2)	(5.6-7.3)
pH	7.26	6.83	6.83	7.01
[6-9]	(6.50-7.79)	(6.22-7.20)	(6.35-7.18)	(6.63-7.37)
Cond. (µS/cm)	172	188	283	223
[NA]	(145-189)	(164-262)	(190-418)	(159-343)
Alkalinity (mg/L CaCO ₃)	52	67	75	72
[<50% variable]	(44-60)	(60-72)	(64-80)	(68-76)
Hardness (mg/L CaCO ₃)	69	129	199	180
[<50% variable]	(60-76)	(124-132)	(192-204)	(172-188)
Total Overlying NH ₃	1.0 ^a	1.0 ^a	1.0 ^a	1.0 ^a
(mg/L) [<50% variable]	(<1.0-<1.0)	(<1.0-<1.0)	(<1.0-<1.0)	(<1.0-<1.0)
Total Overlying Sulfides	0.091 ^a	0.114	0.058	0.091 ^a
(mg/L) [<50% variable]	(<0.010-0.125)	(0.014-0.293)	(0.012-0.126)	(<0.010-0.107)

^aestimated value

The result of the reference toxicant test conducted in conjunction with this testing program is provided in Table 10. Bench sheets and control charts are provided in Appendix E. This test was run with the same batch of organisms used in the testing program. The result of this test fell within the range of mean \pm two standard deviations of historical results, indicating that the sensitivity of the test organisms was appropriate.

Table 10 H. Azteca reference toxicant test results.

Species	Test date	Toxicant	LC50	Acceptable Range	CV (%)
<i>Hyalella azteca</i>	June 2, 2011	Cu	188 $\mu\text{g/L}$	0 - 1360 $\mu\text{g/L}$	74.6

4.4 Discussion

Mortality in the samples ranged from 3.8 to 100 percent, compared with 1.3 percent in the control. Sediment samples WETSED-1 and WETSED-2 were significantly different from control and were more than 10 percent higher than the control, failing the two-hit criterion for survival. WETSED-1 was more than 25 percent higher than the control, failing the one-hit criterion for survival.

5.0 MICROTOX® TEST

5.1 Methods

The luminescent marine bacterium *Vibrio fischeri* was used as the test organism for the Microtox test. The bacteria were exposed to porewater extracted from sediment samples and light readings were measured after 5 and 15 minutes of exposure. Test equipment included the Microtox Model 500 Analyzer, which measures light output and is equipped with a 15°C chamber to maintain test temperature in the samples and a 4°C chamber to keep the rehydrated bacteria chilled.

Vials of freeze-dried bacteria (Microtox® Acute Reagent Lot #s 10K1032, expiration date 10/2012) were obtained from Strategic Diagnostics, Inc. and stored at -20°C until use. On the day of the test, a vial was rehydrated with 1.0 ml of Microtox Reconstitution Solution, mixed thoroughly, and allowed to equilibrate for 30 minutes at 4°C. The bacteria were used within 2 hours of rehydration.

The tests were conducted in accordance with Ecology (2008) test protocol; these methods are summarized in Table 11. Approximately 50 ml of porewater was extracted from each sample by centrifuging for 30 minutes at 4500 G. Each porewater extract was adjusted to a salinity of 20 parts per thousand (ppt) with Crystal Sea Marine Mix artificial seasalt. The DO ranged from 7.2 to 8.2 mg/L in the adjusted samples. Since the DO in each sample was between 50 and 100 percent saturation (5.0 to 10.2 mg/L), the samples did not require aeration. The pH was adjusted to 7.8 to 8.2 using NaOH or HCl. None of the porewater samples were diluted below 90 percent. The control was deionized water adjusted to 20 ppt with artificial seasalt. Each porewater was tested within 3 hours of extraction.

Tests were conducted using five replicates. Disposable glass cuvettes were placed in the Microtox test wells and 1 ml of salinity-adjusted porewater was added. The rehydrated bacteria (reagent) were thoroughly mixed and 10 μ l was added to each test cuvette, with mixing after each addition. After an initial incubation period of 5 minutes, the control cuvette was placed in the read chamber of the Microtox Analyzer to set the instrument. Initial light readings (I_0) were then taken by placing each cuvette in the read chamber of the Microtox Analyzer and measurements were recorded on a data sheet. Light output was measured at 5 minutes (I_5) and 15 minutes (I_{15}) of exposure after the initial light reading (I_0).

Test acceptability criteria were final mean control light output greater than or equal to 72 percent of initial control mean output, and test mean output not greater than 110 percent of control mean output. The data were evaluated statistically by conducting one-tailed t-tests or Mann-Whitney U-tests on the change in output over time for test sediment porewaters compared to the control porewater (where light output was lower than the control). Sediment performance was evaluated against sediment acceptability criteria outlined by the Northwest Regional Sediment Evaluation Framework (RSET 2009), as presented in Table 1.

A reference toxicant test using phenol was conducted in conjunction with the sediment tests to ensure that the sensitivity of the test was within the acceptable range of historical values determined in this laboratory.

Table 11 Summary of methods for the Microtox test.

Test dates	June 6, 2011
Test organism source	Strategic Diagnostics
Batch number and expiration date	Lot#10K1032, Expiration 10/2012
Control	Saltwater (20 ppt) prepared with Crystal Sea artificial seasalt
Sample preparation	Centrifugation at 4500 G for 30 minutes; salinity adjustment to 20 ppt using Crystal Sea salt; pH adjustment to 7.8-8.2 ppt; DO 5.0 to 10.2 mg/L
Test chamber	Glass cuvette
Test volume	1 mL
Volume of inoculum/replicate	10 µL
Number of replicates/sample	5
Test temperature	15 ± 1°C
Aeration	None
Reference toxicant	Phenol
Acceptability criteria	Final control light output ≥72% initial; test output ≤110% control

5.2 Results

The results of toxicity tests conducted using Microtox are provided in Table 12. Statistics were conducted using Biostat software, which follows the flowchart recommended by RSET. Comparisons are shown to the control. A detailed summary of results is provided in Appendix A. Summary and detailed statistical analyses for endpoint measurements are provided in Appendix B. Summaries of water quality data are provided in Appendix C. Benchsheets are provided in Appendix D.

Table 12 Results of Microtox tests. Samples with statistically reduced luminescence are underlined, and values failing two-hit RSET criteria are shaded gray, while samples failing one-hit RSET criteria are bold.^{1,2}

Sample	5 minute reading		15 minute reading	
	Mean % of initial light output	Significantly different relative to the control	Mean % of initial light output	Significantly different relative to the control
Control	96 ± 3	--	84 ± 3	--
WETSED-1	<u>68 ± 4</u>	Yes	<u>17 ± 1</u>	Yes
WETSED-2	<u>72 ± 1</u>	Yes	<u>25 ± 1</u>	Yes
WETSED-3	<u>81 ± 1</u>	Yes	<u>35 ± 2</u>	Yes

¹Criteria for one-hit failure is luminescence less than 75% of control luminescence **and** significant difference (RSET 2009); ²Criteria for two-hit failure is luminescence less than 85% of control luminescence **and** significant difference (RSET 2009)

5.3 QA/QC

A summary of the water quality parameters for the Microtox tests is provided in Table 13. The Microtox tests met control acceptance criteria and there were no deviations from protocol.

Table 13 Summary of sites water quality parameters for Microtox analyses

Analyte	Mean (st.dev)	Minimum	Maximum	Number of Readings	Met Requirements
Initial Salinity (ppt)	1.1 (0.3)	0.8	1.3	3	N/A
Final Salinity (ppt)	19.9 (0.4)	19.5	20.2	3	Y
Initial DO (mg/L)	7.3 (0.2)	7.2	7.5	3	N/A
Final DO (mg/L)	7.3 (0.2)	7.2	7.5	3	Y
Initial pH	7.5 (0.4)	7.2	7.9	3	N/A
Final pH	7.9 (0.02)	7.9	7.9	3	Y
Final Concentration (%)	99.9 (0.0)	99.0	100	3	Y
Total NH3 (mg/L)	2.0 (1.0) ¹	<1.0	2.7	3	N/A

¹estimated value

Results of the reference toxicant test conducted in conjunction with this testing program are provided in Table 14. Bench sheets and control charts are provided in Appendix E. The test was run with the same batch of organisms used in the testing program. The results of this test fell within the range of mean ± two standard deviations of historical results, indicating that the sensitivity of the test organisms was appropriate.

Table 14 Microtox reference toxicant test results.

Species	Test date	Toxicant	EC50	Acceptable Range (mean \pm 2 S.D.)	CV (%)
Microtox	June 6, 2011	Phenol	5 min: 19.6 mg/L 15 min: 40.9 mg/L	5 min: 24.2 – 55.1 15 min: 31.0 – 92.2	19.5 24.8

5.4 Discussion

Change in light output in the samples at 15 minutes ranged from 17 to 35 percent, compared with 84 percent in the controls. Samples WETSED1, WETSED2, and WETSED3 were all significantly different from the controls and had luminescence less than 75% of controls, failing the one-hit criteria for luminescence.

6.0 CONCLUSIONS

WETSED-1 failed the one-hit criterion for *H. azteca* survival and the one-hit criterion for Microtox luminescence, but did not have a hit in the *C. dilutus* survival or growth criterion (RSET 2009). WETSED-2 failed the two-hit criterion for *C. dilutus* and *H. azteca* survival, and failed the one-hit criterion for Microtox luminescence (RSET 2009). WETSED-3 failed the one-hit criterion for *C. dilutus* survival and Microtox luminescence (RSET 2009).

Table 15 One-hit/Two-hit criteria summary results table

Site	<i>C. dilutus</i> Survival	<i>C. dilutus</i> Growth	<i>H. azteca</i> Survival	Microtox Luminescence
WETSED-1	None	None	One-hit	One-hit
WETSED-2	Two-hit	None	Two-hit	One-hit
WETSED-3	One-hit	None	None	One-hit

7.0 REFERENCES

- American Society of Testing and Materials (ASTM). 2000. Test Method for Measuring the Toxicity of Sediment-Associated Contaminants with Freshwater Invertebrates. ASTM Designation E 1706-00.
- Nautilus Environmental. 2008. Evaluation of Candidate Freshwater Sediment Reference Sites-Toxicological Results. Final Report.
- Regional Sediment Evaluation Team (RSET). 2009. Sediment Evaluation Framework for the Pacific Northwest. May 2009.
- U.S. Environmental Protection Agency (USEPA). 2000. Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates. EPA/600/R-99/064.
- Washington Department of Ecology. 2008. Sediment Sampling and Analysis Plan Appendix: Guidance on the Development of Sediment Sampling and Analysis Plans Meeting the Requirements of the Sediment Management Standards Publication No. 03-09-043. Revised February 2008.
- Washington Department of Ecology. 2009. Baseline Characterization of Nine Proposed Freshwater Sediment Reference Sites, 2008. Publication Number 09-03-032.

APPENDIX A - Results Summaries

Agri-Tech/Yakima Steel Wetland Sediment Evaluation

Appendix B

Microtox Report Baseline and Dilution Series



Toxicological Evaluation of Freshwater Sediments

Microtox

Report date: March 28, 2013

Submitted to:

NEWFIELDS NORTHWEST

P.O. Box 216

Port Gamble, WA 98364

5013 Pacific Hwy East
Suite 20
Tacoma, WA 98424

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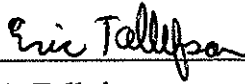
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SIGNATURE PAGE



Eric Tollefson
Project Manager

This report has been prepared based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party.

1.0 INTRODUCTION

Freshwater sediment samples were collected and evaluated for toxicity as part of a project being conducted by NewFields Northwest. Freshwater sediment samples were tested for toxicity using Microtox® tests.

2.0 METHODS

2.1 Sample Collection and Transportation

NewFields personnel collected three freshwater sediment porewater subsamples on March 18, 2014. Samples were shipped by Fed Ex and received by Rainier Environmental on March 19, 2014. Sample containers were inspected upon receipt and the contents verified against information on the chain-of-custody form. The samples were stored at 4°C in the dark until used for testing.

2.2 Test Procedures

The luminescent marine bacterium *Vibrio fischeri* was used as the test organism for the Microtox® tests. The bacteria were exposed to porewater extracted from the sediment samples and light readings were measured after a 5 minute incubation period and then after an additional 5 minutes and 10 minutes of exposure. Testing was performed using the Microtox® Model 500 Analyzer which measures light output and is equipped with a 15°C chamber to maintain test temperature in the samples and a 4°C chamber to keep the rehydrated bacteria chilled.

Vials of freeze-dried bacteria (Microtox® Acute Reagent Lot # 12B4010, Expiration date 2/15) were obtained from Strategic Diagnostics, Inc. and stored at -20°C until use. On the day of the test, a vial was rehydrated with 1.0 ml of Microtox® Reconstitution Solution, mixed thoroughly, and allowed to equilibrate for 30 minutes at 4°C. The bacteria were used within 2 hours of rehydration.

The tests were conducted in accordance with Washington Department of Ecology (WDOE, 2008) test protocol, which are summarized in Table 1. Approximately 25 milliliters (mL) of porewater was extracted from each sample by centrifugation for 30 minutes at 4500 G (Porewater extracted at Newfields). Each porewater extract was adjusted to a salinity of 20 parts per thousand (ppt) with Crystal Sea artificial sea salt. The dissolved oxygen (DO) in each sample was between 50 and 100 percent saturation (5.0 to 10.2 mg/L) and did not require aeration. The pH was adjusted to 7.9 to 8.2, as necessary, using NaOH or HCl. The laboratory control consisted of deionized water adjusted to 20 ppt with artificial seasalt.

Tests were conducted using five replicates. Disposable glass cuvettes were placed in the Microtox® test wells and 1 mL of salinity-adjusted porewater was added. The rehydrated bacteria (reagent) were thoroughly mixed and 10 microliters (µL) were added to each test cuvette. After an initial incubation period of 5 minutes, the first control cuvette was placed in the read chamber of the Microtox® Analyzer to set the instrument. Initial light readings (I_0) were then taken by placing each cuvette in the read chamber of the Microtox® Analyzer and measurements were recorded on a data sheet. Light output was measured in each cuvette after an additional 5 minutes (I_5) and 10 minutes (I_{15}) of exposure. Test acceptability criteria is a mean control final light output greater than 72 percent of initial output and a test mean output not greater than 110 percent of the control mean output.

The data were evaluated statistically by conducting one-tailed t-tests on the change in light output over time for the test sediment porewaters compared to the control

A reference toxicant test using copper chloride was conducted in conjunction with the sediment porewater test to ensure that the sensitivity of the test was within the acceptable range of historical values determined in this laboratory.

Table 1. Summary of methods for the Microtox test.

Test date	March 19, 2014
Test organism source	Strategic Diagnostics
Batch number and expiration date	Lot#12B4010, Expiry 2/15
Control	Saltwater (20 ppt) prepared with Crystal Sea Marine Mix
Sample preparation	Centrifugation at 4500 G for 30 minutes; salinity adjustment to 20 ppt using Crystal Sea Marine Mix; pH adjustment to 7.9-8.2
Test chamber	Glass cuvette
Test volume	1 mL
Volume of inoculum/replicate	10 µL
Number of replicates/sample	5
Test temperature	15 ± 1°C
Aeration	None
Reference toxicant	Copper Chloride

3.0 RESULTS

The results of toxicity tests conducted using Microtox® are provided in Tables 2 and 3. Sample WETSED 1 had a test mean output of less than 75 percent of the control mean output, at 15 minutes, indicating a Washington State Department of Ecology Sediment Quality Standard (SQS) failure and a Cleanup Screening Level (CSL) failure for freshwater Sediments. The other samples did not exceed sediment quality standards for the State of Washington (WDOE 2008).

Table 2. Results of Microtox® tests.

Sample ID	Change in light output as a % of Control (5 minutes)	Change in light output as a % of Control (15 minutes)
WETSED-1	88	63
SIR-300	104	104
SIR-300 Control	109	111

Table 3. Statistical analyses of Microtox results.

Sample ID	<u>5-minute reading</u>		<u>15 minute reading</u>	
	Mean % change in light output	Significantly different relative to the control	Mean % change in light output	Significantly different relative to the control
Control	85 ± 2	---	77 ± 3	---
WETSED-1	75 ± 2	No	49 ± 3	Yes
SIR-300	89 ± 3	No	81 ± 3	No
SIR-300 Control	93 ± 4	No	86 ± 3	No

4.0 QA/QC

The Microtox tests met control acceptance criteria and there were no deviations from protocol.

Results of reference toxicant test used to monitor laboratory performance and test organism sensitivity are provided in Table 4. The results for the reference toxicant test fell within the range of mean ± two standard deviations of historical results, indicating that test organisms were of an appropriate degree of sensitivity.

Table 4. Reference toxicant test results.

Exposure Duration	Test date	Toxicant	EC50	Acceptable Range	CV (%)
5 Minutes	March 19, 2014	Copper	1352 µg/L	978-1614	12.3
15 Minutes			414 µg/L	375-615	12.1

5.0 REFERENCES

- American Society of Testing and Materials (ASTM). 2000. Test Method for Measuring the Toxicity of Sediment-Associated Contaminants with Freshwater Invertebrates. ASTM Designation E 1706-00.
- U.S. Environmental Protection Agency (USEPA). 2000. Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates. EPA/600/R-99/064.
- Washington Department of Ecology (WDOE). 2008. Sediment Sampling and Analysis Plan Appendix: Guidance on the Development of Sediment Sampling and Analysis Plans Meeting the Requirements of the Sediment Management Standards Publication No. 03-09-043. Revised February 2008.

APPENDIX A – Results Summaries

Appendix Table A. Microtox 100 Percent Sediment Porewater Test
Sites WESTSED1, SIR-300, SIR-300 Con
Client NewFields
Test Date: 3/19/2014

Site	Light Reading								T _(mean) / C _(mean)	Quality Control Steps Change in control light readings compared to initial control F _(mean) /I _(mean)	Evaluation of initial light output in site sediments (0)T _(mean) /I _{(0)C_(mean)}
	Reading	Replicate					Mean	St.Dev.			
		1	2	3	4	5					
CON	I ₍₀₎	91	96	108	104	107	101				
	I ₍₅₎	77	81	90	88	94	86			0.85	
	I ₍₁₅₎	70	77	78	81	85	78			0.77	
	C ₍₅₎	0.85	0.84	0.83	0.85	0.88	0.85	0.02			
	C ₍₁₅₎	0.77	0.80	0.72	0.78	0.79	0.77	0.03			
WESTSED1	I ₍₀₎	81	76	78	80	79	79				0.78
	I ₍₅₎	60	56	59	62	59	59				
	I ₍₁₅₎	39	35	37	42	40	39				
	T ₍₅₎	0.74	0.74	0.76	0.78	0.75	0.75	0.02	0.88		
	T ₍₁₅₎	0.48	0.46	0.47	0.53	0.51	0.49	0.03	0.63		
SIR-300	I ₍₀₎	92	94	90	93	93	92				0.91
	I ₍₅₎	79	86	83	81	80	82				
	I ₍₁₅₎	71	77	75	76	73	74				
	T ₍₅₎	0.86	0.91	0.92	0.87	0.86	0.89	0.03	1.04		
	T ₍₁₅₎	0.77	0.82	0.83	0.82	0.78	0.81	0.03	1.04		
SIR-300 Con	I ₍₀₎	93	105	103	92	93	97				0.96
	I ₍₅₎	88	90	98	85	90	90				
	I ₍₁₅₎	81	85	92	78	80	83				
	T ₍₅₎	0.95	0.86	0.95	0.92	0.97	0.93	0.04	1.09		
	T ₍₁₅₎	0.87	0.81	0.89	0.85	0.86	0.86	0.03	1.11		
	I ₍₀₎						#DIV/0!				#DIV/0!
	I ₍₅₎						#DIV/0!				
	I ₍₁₅₎						#DIV/0!				
	T ₍₅₎	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
	T ₍₁₅₎	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
	I ₍₀₎						#DIV/0!				#DIV/0!
	I ₍₅₎						#DIV/0!				
	I ₍₁₅₎						#DIV/0!				
	T ₍₅₎	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
	T ₍₁₅₎	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	

I₍₀₎ is the light reading after the initial five minute incubation period

I₍₅₎ is the light reading five minutes after I₍₀₎

I₍₁₅₎ is the light reading fifteen minutes after I₍₀₎

C₍₀₎, R₍₀₎, and T₍₀₎ are the changes in light readings from the initial reading in each sample container for the control, reference sediment

Quality Control Steps:

1. Is control final mean output greater than or equal to 72% control initial mean output?

I₍₅₎: F_(mean)/I_(mean): **85% YES**

I₍₁₅₎: F_(mean)/I_(mean): **77% YES**

YES: Control results are acceptable and can be used for statistical analyses.

NO: Control results are unacceptable (use reference sediment for statistical analysis if available).

2. Are test initial mean values greater than or equal to 80% of control initial mean values?

S1 I_{T(mean)}/I_{C(mean)}: **78% NO**

S2 I_{T(mean)}/I_{C(mean)}: **91% YES**

S3 I_{T(mean)}/I_{C(mean)}: **96% YES**

S4 I_{T(mean)}/I_{C(mean)}: **#DIV/0! #DIV/0!**

S5 I_{T(mean)}/I_{C(mean)}: **#DIV/0! #DIV/0!**

INVALID: If the test sediment is greater than 110%, the results in uninterpretable

YES: If test sediment is reference, reference is acceptable

APPENDIX B - Laboratory Bench Sheets

Rainier Environmental
 5013 Pacific Hwy. E., Suite 20
 Tacoma, WA 98424

Raw Data Sheet
 Microtox
 100% Sediment Porewater Toxicity

Client Name: NEW FIELDS Test Date: 3/19/2014

Sample ID: WET SED-1, SIR-300, SIR-300 CONTROL Test No.: 1403-029, 1403-030, 1403-031

Site	Light Reading	Time	Replicate				
			1	2	3	4	5
CON	I ₍₀₎	5 min	91	96	108	104	107
	I ₍₅₎	10min	77	81	90	88	94
	I ₍₁₅₎	20 min	70	77	78	81	85
WET SED-1	I ₍₀₎	5 min	81	76	78	80	79
	I ₍₅₎	10min	60	56	59	62	59
	I ₍₁₅₎	20 min	39	35	37	42	40
SIR-300	I ₍₀₎	5 min	92	94	90	93	93
	I ₍₅₎	10min	79	86	83	81	80
	I ₍₁₅₎	20 min	71	77	75	76	73
SIR-300 CON	I ₍₀₎	5 min	93	105	103	92	93
	I ₍₅₎	10min	88	90	98	85	90
	I ₍₁₅₎	20 min	81	85	92	78	80
	I ₍₀₎	5 min					
	I ₍₅₎	10min					
	I ₍₁₅₎	20 min					
	I ₍₀₎	5 min					
	I ₍₅₎	10min					
	I ₍₁₅₎	20 min					

Comments: _____

APPENDIX C - Water Quality Results

Nautilus Environmental
 Washington Laboratory
 5009 Pacific Hwy. E., Suite 2
 Tacoma, WA 98424

Physical and Chemical
 Measurements of Porewaters
 Sediment Bioassays

Analyst: ET

Client: NEWFIELDS

Test Date: 3/19/14

Test Type: Microtox 100% Porewater Toxicity Test

Test No: 1403-029, 1403-030, 1403-031 Test Species: Vibrio fischeri

Site	Initial Salinity (ppt)	Final Salinity (ppt)	Initial D.O. (mg/L)	Final D.O. (mg/L)	Initial pH	Adjusted pH	NaOH or HCl Vol. Used	Final Porewater Conc.	Ammonia
CON	19.3	19.3	8.1	—	7.53	8.13	20µL 0.1N NaOH	99.9%	<1.0
WETSEB)	1.3	20.6	7.8	—	7.21	8.03	1100µL 0.1N NaOH	95.6% 99.6%	<1.0
SIR-300	1.4	19.4	7.8	—	8.28	8.17	110µL 0.1N NaOH	99.6	<1.0
SIR-300 CON	0.1	20.5	8.0	—	8.04	—	—	100%	<1.0

Sample Description: _____

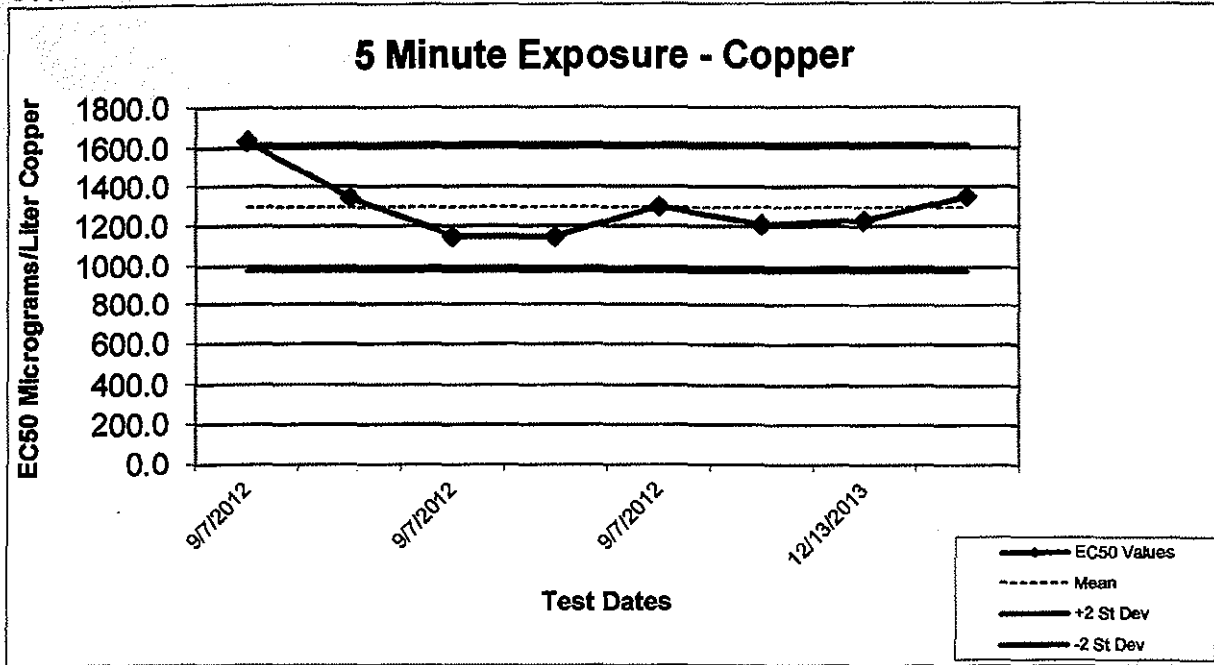
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QA Check: ET

APPENDIX D - Reference Toxicant Tests

Reference Toxicant Control Chart Microtox 5-Minute Exposure

CV% = 12.3

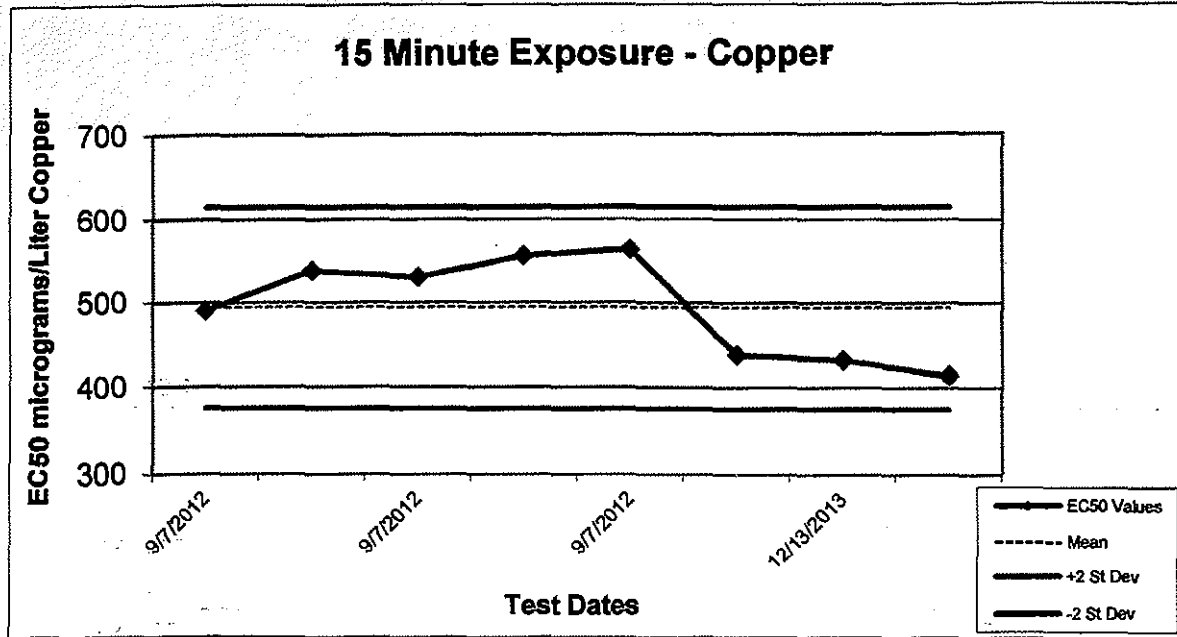


Date	Time	EC50 %	EC50 µ/L Copper ^a	Mean	StDev	-2 SD	+2 SD
9/7/2012	8:53	81.8	1636.0	1295.6	159.1	977.5	1613.7
9/7/2012	9:36	67.2	1344.0	1295.6	159.1	977.5	1613.7
9/7/2012	10:00	57.4	1148.0	1295.6	159.1	977.5	1613.7
9/7/2012	10:28	57.4	1148.0	1295.6	159.1	977.5	1613.7
9/7/2012	10:54	65.0	1300.0	1295.6	159.1	977.5	1613.7
12/5/2013	17:17	60.4	1208.8	1295.6	159.1	977.5	1613.7
12/13/2013	13:22	61.4	1228.0	1295.6	159.1	977.5	1613.7
3/19/2014	13:15	67.6	1352.0	1295.6	159.1	977.5	1613.7

a - Highest concentration of Copper is 2000 micro grams/Liter

Reference Toxicant Control Chart Microtox 15-Minute Exposure

CV% = 12.1



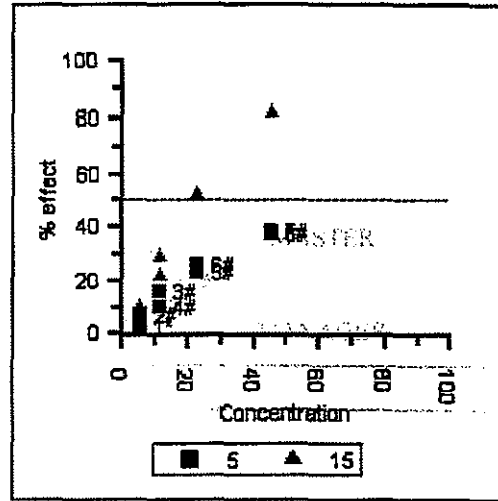
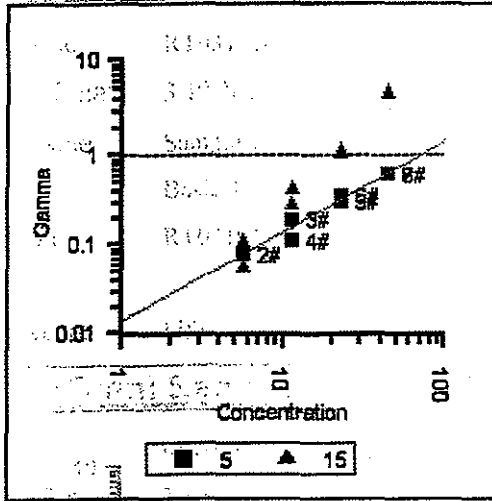
Date	Time	EC50 %	EC50 µg/L Copper ^a	Mean	StDev	-2 SD	+2 SD
9/7/2012	853	24.6	491.0	495.2	59.9	375.3	615.0
9/7/2012	937	26.9	537.8	495.2	59.9	375.3	615.0
9/7/2012	1001	26.5	530.2	495.2	59.9	375.3	615.0
9/7/2012	1028	27.8	555.4	495.2	59.9	375.3	615.0
9/7/2012	1055	28.2	563.0	495.2	59.9	375.3	615.0
12/5/2013	1717	21.9	438.0	495.2	59.9	375.3	615.0
12/13/2013	1322	21.6	432.0	495.2	59.9	375.3	615.0
3/19/2014	1315	20.7	414.0	495.2	59.9	375.3	615.0

a - Highest concentration of copper is 2000 micro grams/Liter

MicrotoxOmni Sample Results Report

Result Name: RT031914VF
 Test Date/Time: 3/19/2014 1:15:00PM
 Sample Name: Sample 1
 Test Name: Basic Test
 Description: RT031914VF
 Toxicant:
 Test Location: Fife

Instrument ID: _MASTER
 Reagent Lot #:
 User ID: MANAGER



Time	Sample	Conc	ID	It	Gamma	%Effect
5 Mins	Control	0.00	105	{94}	0.8943#	
	Control	0.00	101	93	0.9216#	
	1	5.63	101	89	0.0266*	2.59%
	2	5.63	103	87	0.0797#	7.38%
	3	11.25	103	79	0.1918#	16.10%
	4	11.25	100	81	0.1112#	10.01%
	5	22.50	89	62	0.3034#	23.28%
	6	22.50	106	71	0.3554#	26.22%
	7	45.00	106	59	0.6185#	38.22%
	8	45.00	113	64	0.6028#	37.61%

Result Name: RT031914VF
 Test Date/Time: 3/19/2014 1:15:00PM
 Sample Name: Sample 1
 Test Name: Basic Test
 Description: RT031914VF
 Toxicant:
 Test Location: Fife

Instrument ID: _MASTER
 Reagent Lot #:
 User ID: MANAGER

15 Mins

Control	0.00	105	72	0.6836#	
Control	0.00	101	73	0.7203#	
1	5.63	101	67	0.0546#	5.18%
2	5.63	103	65	0.1051#	9.51%
3	11.25	103	51	0.4149#	29.32%
4	11.25	100	55	0.2743#	21.52%
5	22.50	89	30	1.058#	51.42%
6	22.50	106	35	1.094#	52.24%
7	45.00	106	13	4.570#	82.05%
8	45.00	113	14	4.528#	81.91%

- included, * - invalid

Statistics:

Data: 5 Mins

EC50 Concentration: 67.63%
 (95% Confidence Range: 46.51 to 98.33)
 EC50 value was calculated from extrapolated data.
 95% Confidence Factor: 1.454
 Estimating Equation:
 $\text{LOG C} = 0.9478 \times \text{LOG G} + 1.830$
 Correction Factor: 0.9080
 Slope: 1.006
 Coeff of Determination (R²): 0.9535

Data: 15 Mins

Result Name: RT031914VF
Test Date/Time: 3/19/2014 1:15:00PM
Sample Name: Sample 1
Test Name: Basic Test
Description: RT031914VF
Toxicant:
Test Location: Fife

Instrument ID: _MASTER
Reagent Lot #:
User ID: MANAGER

EC50 Concentration: 20.69%
(95% Confidence Range: 18.52 to 23.13)
95% Confidence Factor: 1.118
Estimating Equation:
LOG C = 0.5061 x LOG G + 1.316
Correction Factor: 0.7019
Slope: 1.940
Coeff of Determination (R²): 0.9816

The contents of this report are private and confidential.

Printed: 3/20/2014 8:43:12AM

Signature:

APPENDIX E - Chain-of Custody Forms

CHAIN OF CUSTODY



Shipping: 4770 NE View Dr. Mailing: P.O. Box 216
 Port Gamble, WA. 98364
 Tel: (360) 297-6045, Fax: (360)297-6901

Destination Lab: Rainier Environmental		Sample Originator: Port Gamble Environmental Sciences			Report Results To:			Phone:			
Destination Contact: Eric Tollefson		Contact Name: Bill Gardiner			Contact Name:			Fax:			
Date: 3/18/14		Address:			Address:			Email:			
Turn-Around-Time		Phone: 360-297-6080			Analysis			Invoicing To:			
Project Name: Yakima Steel		Fax:						Comments or Special Instructions:			
Contract/PO:		E-mail			Preservation						Sample Temp Upon Receipt
No.	Sample ID	Matrix	No. & Type of Container	Date & Time	Microtox						
1	WETSED-1	FW	1 glass	3/18/14 1125		X					
2	SIR-300	FW	1 glass	3/18/14 1140		X					
3	SIR-300 Control	FW	1 glass	3/18/14 1115		X					
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

Relinquished by:		Received by:		Relinquished by:		Received by:		Matrix Codes FW = Fresh Water WW = Waste Water SB = Salt & Brackish Water SS = Soil & Sediment TS = plant & Animal Tissue OT = Other	
Print Name: Collin Ray	Print Name: ERIC TOLLEFSON	Print Name:	Print Name:	Print Name:	Print Name:				
Signature: <i>Collin Ray</i>	Signature: <i>Eric Tollefson</i>	Signature:	Signature:	Signature:	Signature:				
Affiliation: PGES	Affiliation: Rainier Environmental	Affiliation:	Affiliation:	Affiliation:	Affiliation:				
Date/Time: 12/18/14 1350	Date/Time: 3/19/14 1000	Date/Time:	Date/Time:	Date/Time:	Date/Time:				
Print Name:	Print Name:	Print Name:	Print Name:	Print Name:	Print Name:				
Signature:	Signature:	Signature:	Signature:	Signature:	Signature:				
Affiliation:	Affiliation:	Affiliation:	Affiliation:	Affiliation:	Affiliation:				
Date/Time:	Date/Time:	Date/Time:	Date/Time:	Date/Time:	Date/Time:				



Toxicological Evaluation of Freshwater Sediments

Microtox

Report date: December 28, 2013

Submitted to:

NEWFIELDS NORTHWEST

P.O. Box 216

Port Gamble, WA 98364

5013 Pacific Hwy East
Suite 20
Tacoma, WA 98424

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SIGNATURE PAGE



Eric Tollefson
Project Manager

This report has been prepared based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party.

1.0 INTRODUCTION

Freshwater sediment samples were collected and evaluated for toxicity as part of a project being conducted by NewFields Northwest. Freshwater sediment samples were tested for toxicity using Microtox® tests.

2.0 METHODS

2.1 Sample Collection and Transportation

NewFields personnel collected three freshwater sediment subsamples on December 4, 2013. Samples were shipped by Fed Ex and received by Rainier Environmental on December 5, 2013. Sample containers were inspected upon receipt and the contents verified against information on the chain-of-custody form. The samples were stored at 4°C in the dark until used for testing.

2.2 Test Procedures

The luminescent marine bacterium *Vibrio fischeri* was used as the test organism for the Microtox® tests. The bacteria were exposed to porewater extracted from the sediment samples and light readings were measured after a 5 minute incubation period and then after an additional 5 minutes and 10 minutes of exposure. Testing was performed using the Microtox® Model 500 Analyzer which measures light output and is equipped with a 15°C chamber to maintain test temperature in the samples and a 4°C chamber to keep the rehydrated bacteria chilled.

Vials of freeze-dried bacteria (Microtox® Acute Reagent Lot # 12B4010, Expiration date 2/15) were obtained from Strategic Diagnostics, Inc. and stored at -20°C until use. On the day of the test, a vial was rehydrated with 1.0 ml of Microtox® Reconstitution Solution, mixed thoroughly, and allowed to equilibrate for 30 minutes at 4°C. The bacteria were used within 2 hours of rehydration.

The tests were conducted in accordance with Washington Department of Ecology (WDOE, 2008) test protocol, which are summarized in Table 1. Approximately 25 milliliters (mL) of porewater was extracted from each sample by centrifugation for 30 minutes at 4500 G. Each porewater extract was adjusted to a salinity of 20 parts per thousand (ppt) with Crystal Sea artificial sea salt. The dissolved oxygen (DO) in each sample was between 50 and 100 percent saturation (5.0 to 10.2 mg/L) and did not require aeration. The pH was adjusted to 7.9 to 8.2, as necessary, using NaOH or HCl. The laboratory control consisted of deionized water adjusted to 20 ppt with artificial seasalt. Each porewater was tested within 3 hours of extraction.

Tests were conducted using five replicates. Disposable glass cuvettes were placed in the Microtox® test wells and 1 mL of salinity-adjusted porewater was added. The rehydrated bacteria (reagent) were thoroughly mixed and 10 microliters (µL) were added to each test cuvette. After an initial incubation period of 5 minutes, the first control cuvette was placed in the read chamber of the Microtox® Analyzer to set the instrument. Initial light readings (I_0) were then taken by placing each cuvette in the read chamber of the Microtox® Analyzer and measurements were recorded on a data sheet. Light output was measured in each cuvette after an additional 5 minutes (I_5) and 10 minutes (I_{15}) of exposure. Test acceptability criteria is a mean control final light output greater than 72 percent of initial output and a test mean output not greater than 110 percent of the control mean output.

The data were evaluated statistically by conducting one-tailed t-tests on the change in light output over time for the test sediment porewaters compared to the control

A reference toxicant test using copper chloride was conducted in conjunction with the sediment porewater test to ensure that the sensitivity of the test was within the acceptable range of historical values determined in this laboratory.

Table 1. Summary of methods for the Microtox test.

Test date	December 5, 2013
Test organism source	Strategic Diagnostics
Batch number and expiration date	Lot#12B4010, Expiry 2/15
Control	Saltwater (20 ppt) prepared with Crystal Sea Marine Mix
Sample preparation	Centrifugation at 4500 G for 30 minutes; salinity adjustment to 20 ppt using Crystal Sea Marine Mix; pH adjustment to 7.9-8.2
Test chamber	Glass cuvette
Test volume	1 mL
Volume of inoculum/replicate	10 µL
Number of replicates/sample	5
Test temperature	15 ± 1°C
Aeration	None
Reference toxicant	Copper Chloride

3.0 RESULTS

The results of toxicity tests conducted using Microtox® are provided in Tables 2 and 3. Sample WETSED 1 had a test mean output of less than 75 percent of the control mean output indicating a Washington State Department of Ecology Sediment Quality Standard (SQS) failure and a Cleanup Screening Level (CSL) failure for freshwater Sediments. The other samples did not exceed sediment quality standards for the State of Washington (WDOE 2008).

Table 2. Results of Microtox® tests.

Sample ID	Change in light output as a % of	
	Control (5 minutes)	Control (15 minutes)
WETSED 1	65	14
WETSED 2	103	98
WETSED 3	107	100

Table 3. Statistical analyses of Microtox results.

Sample ID	<u>5-minute reading</u>		<u>15 minute reading</u>	
	Mean % change in light output	Significantly different relative to the control	Mean % change in light output	Significantly different relative to the control
Control	91 ± 4	---	80 ± 4	---
WETSED 1	59 ± 3	Yes	11 ± 1	Yes
WETSED 2	94 ± 3	No	78 ± 4	No
WETSED 3	97 ± 2	No	80 ± 2	No

4.0 QA/QC

The Microtox tests met control acceptance criteria and there were no deviations from protocol.

Results of reference toxicant test used to monitor laboratory performance and test organism sensitivity are provided in Table 4. The results for the reference toxicant test fell within the range of mean ± two standard deviations of historical results, indicating that test organisms were of an appropriate degree of sensitivity.

Table 4. Reference toxicant test results.

Exposure Duration	Test date	Toxicant	EC50	Acceptable Range	CV (%)
5 Minutes	December 5, 2013	Copper	1209 µg/L	929-1666	14.2
15 Minutes			438 µg/L	425-613	9.1

5.0 REFERENCES

- American Society of Testing and Materials (ASTM). 2000. Test Method for Measuring the Toxicity of Sediment-Associated Contaminants with Freshwater Invertebrates. ASTM Designation E 1706-00.
- U.S. Environmental Protection Agency (USEPA). 2000. Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates. EPA/600/R-99/064.
- Washington Department of Ecology (WDOE). 2008. Sediment Sampling and Analysis Plan Appendix: Guidance on the Development of Sediment Sampling and Analysis Plans Meeting the Requirements of the Sediment Management Standards Publication No. 03-09-043. Revised February 2008.

APPENDIX A - Results Summaries

**Appendix Table A. Microtox 100 Percent Sediment Porewater Test
 Sites WESTSED1, WETSED2, WETSED3
 Client NewFields
 Test Date: 12/5/13**

Site	Light Reading								T _(mean) / C _(mean)	Quality Control Steps	
	Reading	Replicate					Mean	St.Dev.		F _{c(mean)/I_{c(mean)}}	I _{(0)T_{(mean)/I_{(0)C_(mean)}}}
		1	2	3	4	5					
CON	I ₍₀₎	91	92	87	79	90	88				
	I ₍₅₎	87	82	77	75	78	80		0.91		
	I ₍₁₅₎	76	75	66	66	67	70		0.80		
	C ₍₅₎	0.96	0.89	0.89	0.95	0.87	0.91	0.04			
	C ₍₁₅₎	0.84	0.82	0.76	0.84	0.74	0.80	0.04			
WETSED1	I ₍₀₎	63	62	63	66	59	63				0.71
	I ₍₅₎	36	35	38	40	37	37				
	I ₍₁₅₎	7	6	7	8	7	7				
	T ₍₅₎	0.57	0.56	0.60	0.61	0.63	0.59	0.03	0.65		
	T ₍₁₅₎	0.11	0.10	0.11	0.12	0.12	0.11	0.01	0.14		
WETSED2	I ₍₀₎	80	86	77	75	67	77				0.88
	I ₍₅₎	72	81	71	71	66	72				
	I ₍₁₅₎	62	66	58	57	57	60				
	T ₍₅₎	0.90	0.94	0.92	0.95	0.99	0.94	0.03	1.03		
	T ₍₁₅₎	0.78	0.77	0.75	0.76	0.85	0.78	0.04	0.98		
WETSED3	I ₍₀₎	77	78	70	68	67	72				0.82
	I ₍₅₎	73	73	68	69	67	70				
	I ₍₁₅₎	60	61	56	56	55	58				
	T ₍₅₎	0.95	0.94	0.97	1.01	1.00	0.97	0.03	1.07		
	T ₍₁₅₎	0.78	0.78	0.80	0.82	0.82	0.80	0.02	1.00		
	I ₍₀₎						#DIV/0!				#DIV/0!
	I ₍₅₎						#DIV/0!				
	I ₍₁₅₎						#DIV/0!				
	T ₍₅₎	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
	T ₍₁₅₎	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
	I ₍₀₎						#DIV/0!				#DIV/0!
	I ₍₅₎						#DIV/0!				
	I ₍₁₅₎						#DIV/0!				
	T ₍₅₎	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
	T ₍₁₅₎	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	

I₍₀₎ is the light reading after the initial five minute incubation period

I₍₅₎ is the light reading five minutes after I₍₀₎

I₍₁₅₎ is the light reading fifteen minutes after I₍₀₎

C₍₀₎, R₍₀₎, and T₍₀₎ are the changes in light readings from the initial reading in each sample container for the control, reference sediment

Quality Control Steps:

1. Is control final mean output greater than or equal to 72% control initial mean output?

I₍₅₎:F_{c(mean)/I_{c(mean)}}: 91% YES

I₍₁₅₎:F_{c(mean)/I_{c(mean)}}: 80% YES

YES: Control results are acceptable and can be used for statistical analyses.

NO: Control results are unacceptable (use reference sediment for statistical analysis if available).

2. Are test initial mean values greater than or equal to 80% of control initial mean values?

S1 I_{T(mean)/I_{C(mean)}}: 71% NO

S2 I_{T(mean)/I_{C(mean)}}: 88% YES

S3 I_{T(mean)/I_{C(mean)}}: 82% YES

S4 I_{T(mean)/I_{C(mean)}}: #DIV/0! #DIV/0!

S5 I_{T(mean)/I_{C(mean)}}: #DIV/0! #DIV/0!

INVALID: If the test sediment is greater than 110%, the results in uninterpretable

YES: If test sediment is reference, reference is acceptable

APPENDIX B - Laboratory Bench Sheets

Rainier Environmental
 5013 Pacific Hwy. E., Suite 20
 Tacoma, WA 98424

Raw Data Sheet
 Microtox
 100% Sediment Porewater Toxicity

Client Name:

New Fields

Test Date:

12/5/13

Sample ID:

WETSED1, WETSED2, WETSED3

Test No.:

1312-027, 1312-028, 1312-029

Site	Light Reading	Time	Replicate				
			1	2	3	4	5
CON	I ₍₀₎	5 min	91	92	87	79	90
	I ₍₅₎	10min	87	82	77	75	78
	I ₍₁₅₎	20 min	76	75	66	66	67
WET SED1	I ₍₀₎	5 min	63	62	63	66	59
	I ₍₅₎	10min	36	35	38	40	37
	I ₍₁₅₎	20 min	07	06	07	08	07
WET SED2	I ₍₀₎	5 min	90	86	77	75	67
	I ₍₅₎	10min	72	81	71	71	66
	I ₍₁₅₎	20 min	62	66	58	57	57
WET SED3	I ₍₀₎	5 min	77	78	70	58	67
	I ₍₅₎	10min	73	73	68	69	67
	I ₍₁₅₎	20 min	60	61	56	56	55
	I ₍₀₎	5 min					
	I ₍₅₎	10min					
	I ₍₁₅₎	20 min					
	I ₍₀₎	5 min					
	I ₍₅₎	10min					
	I ₍₁₅₎	20 min					

Comments:

APPENDIX C - Water Quality Results

Rainier Environmental
 5013 Pacific Hwy. E. Suite 20
 Tacoma, WA 98424

Physical and Chemical
 Measurements of Porewaters
 Sediment Bioassays

Analyst: gt

Client: NewFields

Test Date: 12/5/13

Test Type: Microtox 100% Porewater Toxicity Test

Test No: 1312-027, 1312-028
1312-029

Test Species: Vibrio fischeri

Site	Initial Salinity (ppt)	Final Salinity (ppt)	Initial D.O. (mg/L)	Final D.O. (mg/L)	Initial pH	Adjusted pH	NaOH or HCl Vol. Used	Final Porewater Conc.	Ammonia
CON	20.3	20.3	6.7	6.7	8.07	—	—	100%	0.0
WETSED1	0.7	19.7	6.2	6.2	7.14	7.93	120µl NaOH	99.5%	<1.0
WETSED2	0.2	20.3	6.3	6.3	7.25	7.97	80µl NaOH	99.7%	<1.0
WETSED3	0.2	19.5	6.3	6.3	7.28	8.01	100µl NaOH	99.6	1.7

Sample Description: _____

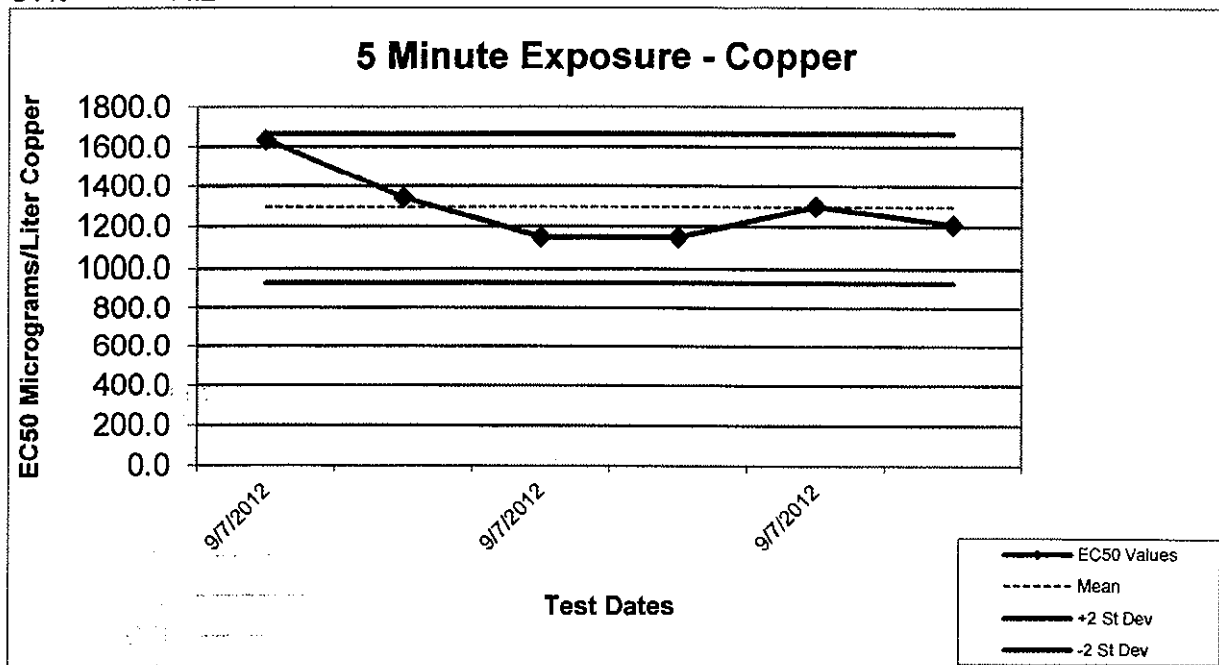
Comments: _____

QA Check: gt

APPENDIX D - Reference Toxicant Tests

Reference Toxicant Control Chart Microtox 5-Minute Exposure

CV% = 14.2

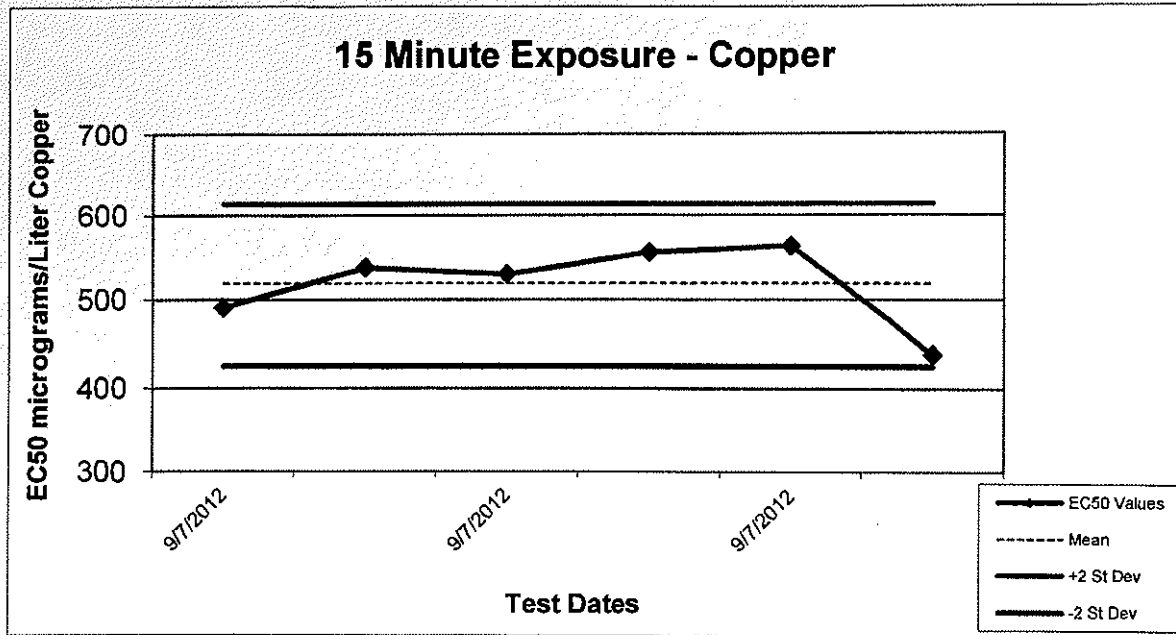


Date	Time	EC50 %	EC50 mg/L Copper ^a	Mean	StDev	-2 SD	+2 SD
9/7/2012	8:53	81.8	1636.0	1297.5	184.0	929.4	1665.5
9/7/2012	9:36	67.2	1344.0	1297.5	184.0	929.4	1665.5
9/7/2012	10:00	57.4	1148.0	1297.5	184.0	929.4	1665.5
9/7/2012	10:28	57.4	1148.0	1297.5	184.0	929.4	1665.5
9/7/2012	10:54	65.0	1300.0	1297.5	184.0	929.4	1665.5
12/5/2013	17:17	60.4	1208.8	1297.5	184.0	929.4	1665.5

a - Highest concentration of Copper is 2000 micro grams/Liter

Reference Toxicant Control Chart Microtox 15-Minute Exposure

CV% = 9.1



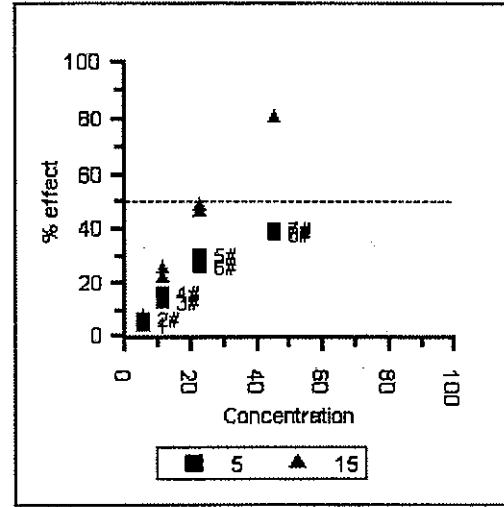
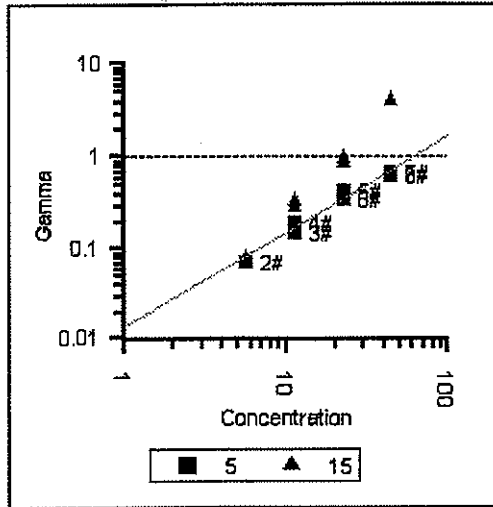
Date	Time	EC50 %	EC50 mg/L Copper ^a	Mean	StDev	-2 SD	+2 SD
9/7/2012	853	24.6	491.0	519.2	47.1	425.1	613.4
9/7/2012	937	26.9	537.8	519.2	47.1	425.1	613.4
9/7/2012	1001	26.5	530.2	519.2	47.1	425.1	613.4
9/7/2012	1028	27.8	555.4	519.2	47.1	425.1	613.4
9/7/2012	1055	28.2	563.0	519.2	47.1	425.1	613.4
12/5/2013	1717	21.9	438.0	519.2	47.1	425.1	613.4

a - Highest concentration of copper is 2000 micro grams/Liter

MicrotoxOmni Sample Results Report

Result Name: RT120513VF
 Test Date/Time: 12/5/2013 5:17:11PM
 Sample Name: Sample 1
 Test Name: Basic Test
 Description:
 Toxicant:
 Test Location: rainier

Instrument ID: _MASTER
 Reagent Lot #:
 User ID: MANAGER



Time	Sample	Conc	IO	It	Gamma	%Effect
<i>5 Mins</i>						
	Control	0.00	92	110	1.187#	
	Control	0.00	98	110	1.130#	
	1	5.63	101	112	0.0490*	4.67%
	2	5.63	101	109	0.0722#	6.73%
	3	11.25	105	105	0.1504#	13.07%
	4	11.25	102	99	0.1921#	16.12%
	5	22.50	101	82	0.4342#	30.28%
	6	22.50	102	88	0.3524#	26.06%
	7	45.00	105	74	0.6583#	39.70%
	8	45.00	96	68	0.6318#	38.72%

Result Name: RT120513VF
 Test Date/Time: 12/5/2013 5:17:11PM
 Sample Name: Sample 1
 Test Name: Basic Test
 Description:
 Toxicant:
 Test Location: rainier

Instrument ID: _MASTER
 Reagent Lot #:
 User ID: MANAGER

<i>15 Mins</i>					
Control	0.00	92	82	0.8903#	
Control	0.00	98	84	0.8608#	
1	5.63	101	82	0.0797#	7.38%
2	5.63	101	82	0.0777#	7.21%
3	11.25	105	71	0.2811#	21.94%
4	11.25	102	67	0.3382#	25.27%
5	22.50	101	45	0.9571#	48.90%
6	22.50	102	48	0.8749#	46.66%
7	45.00	105	18	4.128#	80.50%
8	45.00	96	17	4.069#	80.27%

- included, * - invalid

Statistics:

Data: 5 Mins

EC50 Concentration: 60.44%
 (95% Confidence Range: 45.87 to 79.63)
 EC50 value was calculated from extrapolated data.
 95% Confidence Factor: 1.318
 Estimating Equation:
 $LOG C = 0.9300 \times LOG G + 1.781$
 Correction Factor: 1.159
 Slope: 1.044
 Coeff of Determination (R²): 0.9706

Data: 15 Mins

Result Name: RT120513VF
Test Date/Time: 12/5/2013 5:17:11PM
Sample Name: Sample 1
Test Name: Basic Test
Description:
Toxicant:
Test Location: rainier

Instrument ID: _MASTER
Reagent Lot #:
User ID: MANAGER

EC50 Concentration: 21.90%
(95% Confidence Range: 20.68 to 23.18)
95% Confidence Factor: 1.059
Estimating Equation:
LOG C = 0.5329 x LOG G + 1.340
Correction Factor: 0.8756
Slope: 1.868
Coeff of Determination (R²): 0.9954

The contents of this report are private and confidential.

Printed: 12/30/2013 9:12:29AM

Signature:

APPENDIX E - Chain-of Custody Forms

NEW FIELDS

NewFields Northwest, LLC.

Shipping: 4729 NE View Dr.

Mailing: P.O. Box 216

Port Gamble, WA. 98364

Tel: (360) 297-6040, Fax: (360) 297-7268

CHAIN OF CUSTODY

13998

Destination Lab: Rainier Environmental		Sample Originator: NewFields		Report Results To:		Phone:	
Destination Contact: Eric Tollefson		Contact Name: Bill Gardiner		Contact Name:		Fax:	
Date: 12/4/13		Address: See Above		Address:		Email:	
Turn-Around-Time: Standard		Phone: ↓		Analysis		Involving To:	
Project Name: AT/YS		Fax:				Comments or Special Instructions:	
Contract/PO:		E-mail: bgardiner@newfields.com		Preservation			
						LAB ID	

No.	Sample ID	Matrix	No. & Type of Container	Date & Time	Microtox	Preservation	Sample Temp Upon Receipt	LAB ID
1	WETSED 1	SS	1 glass	12/4/13 1420	X		4.9	13-149
2	WETSED 2	↓	↓	↓	X		4.2	13-150
3	WETSED 3	↓	↓	↓	X		4.5	13-151
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

Relinquished by:		Received by:		Relinquished by:		Received by:		Matrix Codes FW = Fresh Water WW = Waste Water SB = Salt & Brackish Water SS = Soil & Sediment TS = plant & Animal Tissue OT = Other
Print Name: Collin Ray		Print Name: Eric Tollefson		Print Name:		Print Name:		
Signature: Collin Ray		Signature: ERIC TOLLEFSON		Signature:		Signature:		
Affiliation: NewFields		Affiliation: RAINIER		Affiliation:		Affiliation:		
Date/Time: 12/4/13 1425		Date/Time: 12/5/13 935		Date/Time:		Date/Time:		

Agri-Tech/Yakima Steel Wetland Sediment Evaluation

Appendix C

*Amphipod and Chironomus Data Sheets
Baseline and Dilution Series*

Appendix C.1

*10-Day Solid-Phase Test with *Hyalella azteca**

CLIENT Farallon	PROJECT Yakima Steel	JOB NUMBER	PROJECT MAN. Bill Gardiner	LABORATORY Port Gamble, WA	PROTOCOL	SPECIES Hyallolela	ACCLM.#ORT.
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ENDPOINT DATA & OBSERVATIONS

CLIENT/NEWFIELDS ID	REP	JAR #	INITIAL #	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	NUMBER REMAINING	WEIGH BOAT NUMBER	TARE WEIGHT (mg)	TOTAL WEIGHT (mg)	ASH FREE DRY WEIGHT (mg)
				12/14	12/15	12/16	12/17	12/18	12/19	12/20	12/21	12/22					
Control /	1			JL	JL	MMB	JL	MMB	MMB	JL	JL	GR	9	1	209.33	209.67	
	2												10 ^①	2	207.22	207.50	
	3												10	3	208.51	208.93	
	4												10	4	206.81	207.23	
	5												9	5	210.62	211.00	
	6												8	6	206.59	206.86	206.86
	7												9	7	209.67	208.28	210.04
	8												8	8	207.83	207.40	208.26
TNWR /	1												10	9	209.21	209.80	
	2												10	10	207.21	207.98	
	3												10	11	209.06	208.77	
	4												10	12	208.44	209.16	
	5												8	13	207.26	207.86	
	6												10	14	204.58	205.29	
	7												10	15	206.50	207.08	
	8												10	16	210.31	211.01	
WETSEDI /	1												8	17	201.23		
	2												8	18	207.43		
	3												8	19	210.55		
	4												8	20	210.54		
	5												8	21	209.62		
	6												8	22	210.00		
	7												8	23	207.88		
	8												8	24	206.98		

Zero times
 1 Tare wt. 206.82 mg Dry wt. 206.72 mg
 2 206.74 mg 206.92 mg
 3 207.71 mg 207.89 mg

① 6 in boat
 ② ~~16. JL 1/02/13~~ 1E. JL 1/02/14.

CLIENT Farallon	PROJECT Yakima Steel	JOB NUMBER	PROJECT MAN. Bill Gardiner	LABORATORY Port Gamble, WA	PROTOCOL MMSA 1000 - 10/10/00 - 10/00	SPECIES Hyalalela	ACCLM.MORT.
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ENDPOINT DATA & OBSERVATIONS

CLIENT/ NEWFIELDS ID		REP	JAR #	INITIAL #	DATE 12/14	DATE 12/15	DATE 12/16	DATE 12/17	DATE 12/18	DATE 12/19	DATE 12/20	DATE 12/21	DATE 12/22	DATE 12/23	NUMBER REMAINING	WEIGH BOAT NUMBER	TARE WEIGHT (mg)	TOTAL WEIGHT (mg)	ASH FREE DRY WEIGHT (mg)
					TECHNICIAN JL	TECHNICIAN JL	TECHNICIAN MMS	TECHNICIAN JL	TECHNICIAN MMS	TECHNICIAN MMS	TECHNICIAN JL	TECHNICIAN JL	TECHNICIAN JL	TECHNICIAN MMS					
					OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.					
WETSED2 / .	1				N	N	N	N	N	N	N	N	N	N	9	25	208.82	209.16	
	2				N	N	N	N	N	N	N	N	N	N	9	26	205.46	206.05	
	3				N	N	N	N	N	N	N	N	N	N	10	27	209.05	209.77	
	4				N	N	N	N	N	N	N	N	N	N	10	28	212.97	213.55	
	5				N	N	N	N	N	N	N	N	N	N	10	29	209.52	210.00	
	6				N	N	N	N	N	N	N	N	N	N	9	30	208.66	209.17	
	7				N	N	N	N	N	N	N	N	N	N	10	31	207.83	208.51	
	8				N	N	N	N	N	N	N	N	N	N	9	32	204.77	205.25	
9 ppm Cd / .	1				N	N	N	N	N	N	N	N	N	N	8	33	203.81	204.37	
	2				N	N	N	N	N	N	N	N	N	N	10	34	207.52	208.06	
	3				N	N	N	N	N	N	N	N	N	N	9	35	207.61	208.15	
	4				N	N	N	N	N	N	N	N	N	N	10	36	205.87	206.50	
	5				N	N	N	N	N	N	N	N	N	N	10	37	208.79	209.40	
	6				N	N	N	N	N	N	N	N	N	N	9	38	207.33	207.86	
	7				N	N	N	N	N	N	N	N	N	N	10	39	209.61	210.08	
	8				N	N	N	N	N	N	N	N	N	N	10	40	206.91	207.35	
6 ppm Cd / .	1				N	N	N	N	N	N	N	N	N	N	10	41	205.73	206.33	
	2				N	N	N	N	N	N	N	N	N	N	9	42	208.79	209.30	
	3				N	N	N	N	N	N	N	N	N	N	10	43	207.94	208.55	
	4				N	N	N	N	N	N	N	N	N	N	10	44	210.04	210.73	
	5				N	N	N	N	N	N	N	N	N	N	10	45	209.03	209.44	
	6				N	N	N	N	N	N	N	N	N	N	10	46	207.09	207.67	
	7				N	N	N	N	N	N	N	N	N	N	9	47	207.71	208.22	
	8				N	N	N	N	N	N	N	N	N	N	9	48	203.59	204.13	

① 8 in weighboat

CLIENT Farallon	PROJECT Yakima Steel	JOB NUMBER	PROJECT MAN. Bill Gardiner	LABORATORY Port Gamble, WA	PROTOCOL	SPECIES Hyallolela	ACCLM.MORT.
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ENDPOINT DATA & OBSERVATIONS

CLIENT/ NEWFIELDS ID	REP	JAR #	INITIAL #	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	NUMBER REMAINING	WEIGH BOAT NUMBER	TARE WEIGHT (mg)	TOTAL WEIGHT (mg)	ASH FREE DRY WEIGHT (mg)	
				TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN						TECHNICIAN
3 ppm Cd / .	1			12/14	12/15	12/16	12/17	12/18	12/19	12/20	12/21	12/22	12/23	8	49	207.75	208.44	
	2			JL	JL	MMS	JL	MMS	MMS	HE	JL	JL	CR	9	50	209.64	210.56	
	3													9	51	210.17	210.89	
	4													9	52	206.89	207.56	
	5													8	53	208.08	208.76	
	6													9	54	207.47	208.00	
	7													9	55	211.05	211.60	
	8													10	56	206.42	207.17	
1 ppm Cd / .	1													9	57	209.24	209.77	
	2													9	58	204.10	204.52	
	3													10	59	208.34	209.05	
	4													8	60	208.18	208.71	
	5													9	61	207.67	208.26	
	6													10	62	207.62	208.90	
	7													10	63	207.31	207.99	
	8													10	64	208.40	209.06	

NewFields 10 DAY SOLID PHASE TEST DATA SHEET - FRESHWATER

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyalaleia	LABORATORY Port Gamble, WA	PROTOCOL
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 13Dec13	TIME 1445	TEST END DATE 23Dec13

WATER QUALITY DATA #1																	
				DO (mg/L) > 2.5	TEMP (C) 23±1	COND.(µS/cm) vary < 50%	pH 7.8-8.2	DILUTION WATER BATCH 0			TEMP.RECDR./HOBO# 0						
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
Control / .	0	WQ	22	7	8.6	7	22.5	2	183	5		5	8.1	MMMS	MMMS	X	JL
Control / .	1	WQ	22	7	7.7	7	22.3	2	184			5	7.3	JL	JL		→
Control / .	2	WQ	22	7	7.2	7	22.4	2	186			5	7.4	JL	JL		→
Control / .	3	WQ	22	7	7.0	7	22.6	2	202			5	7.3	JL	JL	HE	MMB
Control / .	4	WQ	22	7	6.2	7	22.4	2	202			5	7.3	JL	JL	HE	HE
Control / .	5	WQ	22	7	8.5 ²	7	22.2	2	202			5	8.0	HE	HE		→
Control / .	6	WQ	22	7	6.5	7	22.3	2	202			5	7.4	MMMS	MMMS	CR	CR
Control / .	7	WQ	22	7	5.6	7	22.3	2	201			5	7.3	HE			→
Control / .	8	WQ	22	7	6.4	7	22.8	2	200			5	7.3	JL	JL		→
Control / .	9	WQ	22	7	6.1	7	22.8	2	201			5	7.4	JL	JL		→
Control / .	10	WQ	22	7	5.4	7	20.3	2	203			5	7.3	CR			
TNWR / .	0	WQ	5	7	6.6	7	23.7	2	202			5	7.3	CR	MMMS	X	JL
TNWR / .	1	WQ	5	7	5.9	7	22.0	2	221			5	7.3	JL	JL		→
TNWR / .	2	WQ	5	7	5.8	7	22.1	2	214			5	7.4	JL	JL		→
TNWR / .	3	WQ	5	7	5.8	7	22.0	2	225			5	7.3	JL	JL	HE	MMB
TNWR / .	4	WQ	5	7	4.9	7	22.0	2	219			5	7.2	JL	JL	HE	HE
TNWR / .	5	WQ	5	7	4.6	7	21.0	2	223			5	7.3	HE	HE		→
TNWR / .	6	WQ	5	7	4.7	7	21.7	2	216			5	7.4	MMMS	MMMS	CR	CR
TNWR / .	7	WQ	5	7	5.3	7	21.0 ²	2	212			5	7.4 ²	HE			→
TNWR / .	8	WQ	5	7	8.5	7	22.5	2	208			5	8.1	JL	JL		→
TNWR / .	9	WQ	5	7	8.5	7	22.2	2	212			5	8.0	JL	JL		→
TNWR / .	10	WQ	5	7	8.1	7	20.1	2	219			5	7.9				

① meter on salt water settings ② 21.8 HE APR 12/20 ③ MR HE 12/20

NewFields 10 DAY SOLID PHASE TEST DATA SHEET - FRESHWATER

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallela	LABORATORY Port Gamble, WA	PROTOCOL
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 13Dec13	TIME	TEST END DATE 23Dec13

WATER QUALITY DATA #1																	
				DO (mg/L)	TEMP (C)	COND. (µS/cm)	pH	DILUTION WATER BATCH			TEMP. RECDR./HOB#						
				> 2.5	23±1	vary < 50%	7.8-8.2	0			0						
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
WETSED1 / .	0	WQ	19	7	7.5	7	22.7	2	277	5	7.1	MMS	MMS	X	JL		
WETSED1 / .	1	WQ	19	7	6.7	7	22.3	2	320	5	7.3	JL	JL				
WETSED1 / .	2	WQ	19	7	6.0	7	22.9	2	256	5	6.8	JL	JL				
WETSED1 / .	3	WQ	19	7	6.7	7	22.8	2	244	5	6.9	JL	JL				
WETSED1 / .	4	WQ	19	7	5.7	7	22.9	2	228	5	7.2	JL	JL				
WETSED1 / .	5	WQ	19	7	5.8	7	22.6	2	220	5	7.3	JL	JL				
WETSED1 / .	6	WQ	19	7	5.8	7	22.3	2	213	5	7.1	MMS	MMS	CR	CR		
WETSED1 / .	7	WQ	19	7	4.5	7	22.2	2	205	5	7.0	JL	JL				
WETSED1 / .	8	WQ	19	7	4.7	7	22.8	2	201	5	7.1	JL	JL				
WETSED1 / .	9	WQ	19	7	5.2	7	23.2	2	199	5	7.2	JL	JL				
WETSED1 / .	10	WQ	19	7	4.8	7	20.4	2	201	5	7.1	CR	JL				
WETSED2 / .	0	WQ	46	7	7.2	7	22.5	2	259	5	7.4	MMS	MMS	X	JL		
WETSED2 / .	1	WQ	46	7	6.5	7	22.4	2	307	5	7.4	JL	JL				
WETSED2 / .	2	WQ	46	7	6.3	7	22.3	2	265	5	7.4	JL	JL				
WETSED2 / .	3	WQ	46	7	5.7	7	22.6	2	261	5	7.3	JL	JL				
WETSED2 / .	4	WQ	46	7	5.4	7	22.4	2	277	5	7.5	JL	JL				
WETSED2 / .	5	WQ	46	7	5.4	7	22.3	2	258	5	7.3	JL	JL				
WETSED2 / .	6	WQ	46	7	6.2	7	22.8	2	246	5	7.5	MMS	MMS	CR	CR		
WETSED2 / .	7	WQ	46	7	5.1	7	22.6	2	235	5	7.5	JL	JL				
WETSED2 / .	8	WQ	46	7	5.9	7	23.2	2	235	5	7.5	JL	JL				
WETSED2 / .	9	WQ	46	7	5.2	7	22.8	2	231	5	7.5	JL	JL				
WETSED2 / .	10	WQ	46	7	4.7	7	20.3	2	231	5	7.4	CR	JL				

① MMS JL 12/14/13.

② 206 JL 12/20

NewFields 10 DAY SOLID PHASE TEST DATA SHEET - FRESHWATER

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallela	LABORATORY Port Gamble, WA	PROTOCOL
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 13Dec13	TIME	TEST END DATE 23Dec13

WATER QUALITY DATA #1

				DO (mg/L)		TEMP (C)		COND.(µS/cm)		pH		DILUTION WATER BATCH		TEMP.RECDR./HOBO#			
				> 2.5		23±1		vary < 50%		7.8-8.2		0		0			
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
9 ppm Cd / .	0	WQ	66	7	7.9	7	23.9	2	284	5		5	7.7	CR	MMS	X	JL
9 ppm Cd / .	1	WQ	66	7	6.7	7	22.5	2	354			5	7.5	JL	JL		
9 ppm Cd / .	2	WQ	66	7	6.2	7	22.5	2	290			5	7.4	JL	JL		
9 ppm Cd / .	3	WQ	66	7	6.1	7	22.7	2	280			5	7.3	JL	JL	HE	MMS
9 ppm Cd / .	4	WQ	66	7	5.4	7	22.4	2	267			5	7.5	JL	JL	HE	HE
9 ppm Cd / .	5	WQ	66	7	5.3	7	22.5	2	259			5	7.4	HE	HE	HE	
9 ppm Cd / .	6	WQ	66	7	5.3	7	22.2	2	254			5	7.7	MMS	MMS	CR	CR
9 ppm Cd / .	7	WQ	66	7	5.9	7	22.7	2	250			5	7.5	HE	HE		
9 ppm Cd / .	8	WQ	66	7	5.8	7	22.9	2	240			5	7.4	JL	JL		
9 ppm Cd / .	9	WQ	66	7	6.1	7	22.6	2	229			5	7.5	JL	JL		
9 ppm Cd / .	10	WQ	66	7	5.2	7	20.4	2	236			5	7.8	CR			
6 ppm Cd / .	0	WQ	61	7	6.9	7	22.5	2	291			5	7.6	MMS	MMS	X	JL
6 ppm Cd / .	1	WQ	61	7	6.2	7	22.4	2	343			5	7.4	JL	JL		
6 ppm Cd / .	2	WQ	61	7	6.2	7	22.2	2	282			5	7.3	JL	JL		
6 ppm Cd / .	3	WQ	61	7	6.1	7	22.4	2	274			5	7.3	JL	JL	HE	MMS
6 ppm Cd / .	4	WQ	61	7	5.6	7	22.3	2	271			5	7.4	JL	JL	HE	HE
6 ppm Cd / .	5	WQ	61	7	5.1	7	22.3	2	258			5	7.3	HE	HE	HE	
6 ppm Cd / .	6	WQ	61	7	5.3	7	22.3	2	248			5	7.3	MMS	MMS	CR	CR
6 ppm Cd / .	7	WQ	61	7	5.8	7	22.4	2	237			5	7.4	HE	HE		
6 ppm Cd / .	8	WQ	61	7	5.2	7	22.9	2	229			5	7.3	JL	JL		
6 ppm Cd / .	9	WQ	61	7	5.3	7	23.5	2	234			5	7.4	JL	JL		
6 ppm Cd / .	10	WQ	61	7	3.8	7	20.2	2	229			5	7.3	CR			

① Illegible HE 12/13

NewFields 10 DAY SOLID PHASE TEST DATA SHEET - FRESHWATER

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallela	LABORATORY Port Gamble, WA	PROTOCOL
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 13Dec13	TIME	TEST END DATE 23Dec13

WATER QUALITY DATA #1																	
				DO (mg/L)	TEMP (C)		COND. (µS/cm)		pH		DILUTION WATER BATCH		TEMP. RECDR./HOBO#				
				> 2.5	23±1		vary < 50%		7.8-8.2		0		0				
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
3 ppm Cd / .	0	WQ	40	7	6.9	7	22.7	2	241			5	7.6	MMSB	MMSB	X	J
3 ppm Cd / .	1	WQ	40	7	6.3	7	22.5	2	233			5	7.4	JL	JL	→	→
3 ppm Cd / .	2	WQ	40	7	6.4	7	22.4	2	253			5	7.3	JL	JL	→	→
3 ppm Cd / .	3	WQ	40	7	5.8	7	22.7	2	249			5	7.1	JL	JL	HE	MMSB
3 ppm Cd / .	4	WQ	40	7	4.8	7	22.7	2	257			5	7.4	JL	JL	HE	HE
3 ppm Cd / .	5	WQ	40	7	5.1	7	22.5	2	236			5	7.2	HE	→	HE	→
3 ppm Cd / .	6	WQ	40	7	5.6	7	22.3	2	231			5	7.4	MMSB	MMSB	CR	CR
3 ppm Cd / .	7	WQ	40	7	4.8	7	22.8	2	224				7.3	HE	→	→	→
3 ppm Cd / .	8	WQ	40	7	5.7	7	23.4	2	222			5	7.3	JL	JL	→	→
3 ppm Cd / .	9	WQ	40	7	6.1	7	23.0	2	217	5		5	7.4	JL	JL	→	→
3 ppm Cd / .	10	WQ	40	7	4.1	7	20.4	2	221			5	7.4	CR			
1 ppm Cd / .	0	WQ	60	7	6.6	7	22.5	2	232			5	7.5	MMSB	MMSB	X	JL
1 ppm Cd / .	1	WQ	60	7	5.1	7	22.3	2	269			5	7.3	JL	JL	→	→
1 ppm Cd / .	2	WQ	60	7	5.2	7	22.2	2	245			5	7.3	JL	JL	→	→
1 ppm Cd / .	3	WQ	60	7	4.4	7	22.5	2	241			5	7.0	JL	JL	HE	MMSB
1 ppm Cd / .	4	WQ	60	7	3.9	7	22.5	2	237			5	7.2	JL	JL	HE	HE
1 ppm Cd / .	5	WQ	60	7	3.6	7	22.3	2	228			5	7.3	HE	→	HE	→
1 ppm Cd / .	6	WQ	60	7	2.9	7	22.3	2	230			5	7.2	MMSB	MMSB	CR	CR
1 ppm Cd / .	7	WQ	60	7	3.0	7	22.6	2	218			5	7.1	HE	→	→	→
1 ppm Cd / .	8	WQ	60	7	7.9	7	22.7	2	204			5	7.7	JL	JL	→	→
1 ppm Cd / .	9	WQ	60	7	8.0	7	22.1	2	216			5	7.8	JL	JL	→	→
1 ppm Cd / .	10	WQ	60	7	8.0	7	20.3	2	222			5	8.0	CR			

Ammonia and Sulfide Analysis Record

Client/Project: Farallon/Yakima Steel	Organism: Hyalella	Test Duration (days): 10
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PRETEST / INITIAL / FINAL / OTHER (circle one) DAY of TEST: 0
OVERLYING (OV) / POREWATER (PW) (circle one)

Comments: _____

Calibration Standards Temperature		Sample temperature should be within $\pm 1^\circ\text{C}$ of standards temperature at time and date of analysis.
Date: 12/13/13	Temperature: 20.1 °C	

Sample ID or Description	Conc. or Rep	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	pH	Cond. (µS/cm)	Hardness	Alkalinity
aw	Control	Surr	12/13/13 MMB	0.158	20.6	12/13/13 JE		88	72
	TNWR	Surr	↓	0.141	↓	↓		90	84
	WETSED1	Surr	↓	0.179	↓	↓		106	68
	WETSED2	Surr	↓	0.146	↓	↓		110	86
	WETSED3	Surr	↓	0.163	↓	↓		110	77
	6 ppm Cd	Surr	↓	0.193	↓	↓		104	86
	3 ppm Cd	Surr	↓	0.144	↓	↓		86	74
	1 ppm Cd	Surr	↓	0.164	↓	↓		88	7.6
pw	Control	Surr.	①						
	TNWR		12/13/13 MMB	1.15	20.1	12/13/13 MMB	6.9	522	
	WETSED1		↓	0.903	↓	↓	6.1	1011	
	WETSED2		↓	0.362	↓	↓	7.0	734	
	WETSED3		↓	1.14	↓	↓	6.8	880	
	6 ppm Cd		↓	1.02	↓	↓	6.8	744	
	3 ppm Cd		↓	0.967	↓	↓	6.9	675	
	1 ppm Cd		↓	1.42	↓	↓	6.9	524	

① Insufficient PW collected for analysis, MMB 12/13/13

Ammonia and Sulfide Analysis Record

Client/Project: <i>Favallon / Yakima Steel</i>	Organism: <i>Hyabella</i>	Test Duration (days): <i>10</i>
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PRETEST / INITIAL / FINAL / OTHER (circle one) DAY of TEST: 10
OVERLYING (OV) / POREWATER (PW) (circle one)

Comments: _____

Calibration Standards Temperature		Sample temperature should be within $\pm 1^\circ\text{C}$ of standards temperature at time and date of analysis.
Date: <i>1/02/14</i> <i>JL</i>	Temperature: <i>22.8 °C</i>	

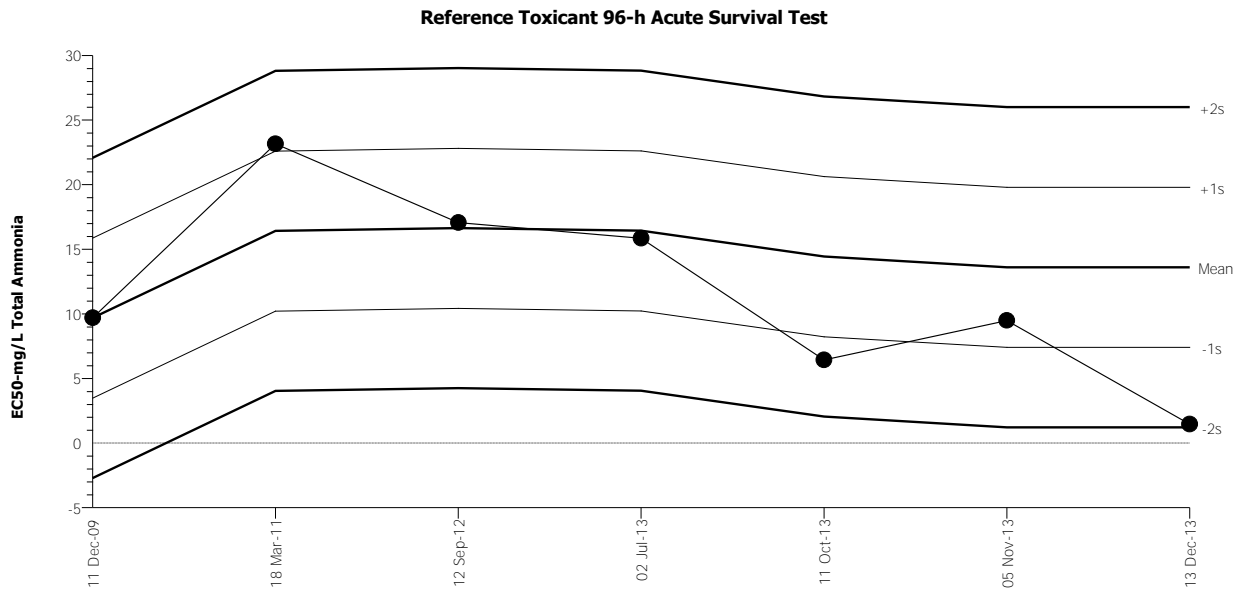
	Sample ID or Description	Conc. or Rep	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	pH	Cond. (µS/cm)	Hardness	Alkalinity
OV	Control	Surr	<i>12/23/13 BH</i>	<i>0.598</i>	<i>22.0</i>	<i>1/02/14 JL</i>	X	X	<i>83</i>	<i>88</i>
	TNWR	Surr	↓	<i>0.197</i>	↓	↓			<i>89</i>	<i>89</i>
	WETSED1	Surr		<i>0.323</i>					<i>81</i>	<i>73</i>
	WETSED2	Surr		<i>0.452</i>					<i>101</i>	<i>100</i>
	WETSED3	Surr		<i>0.937</i>					<i>106</i>	<i>98-99</i>
	6 ppm Cd	Surr		<i>0.361</i>					<i>96</i>	<i>98-99</i>
	3 ppm Cd	Surr		<i>0.406</i>					<i>94</i>	<i>91</i>
	1 ppm Cd	Surr		<i>0.603</i>					<i>90</i>	<i>89</i>
PW	Control	Surr.	<i>12/23/13 BH</i>	<i>1.09</i>	<i>22.2</i>	<i>1/02/14 JL</i>	X	X		
	TNWR		↓	<i>0.974</i>	↓	↓				
	WETSED 1			<i>0.382</i>						
	WETSED2			<i>0.246</i>						
	WETSED3			<i>0.459</i>						
	6 ppm Cd			<i>0.554</i>						
	3 ppm Cd			<i>0.443</i>						
	1 ppm Cd			<i>0.668</i>						

① WC. JL 1/02/14.

Reference Toxicant 96-h Acute Survival Test

All Matching Labs

Test Type: Survival Organism: Hyalella azteca (Freshwater Amphip) Material: Total Ammonia
 Protocol: EPA/600/R-99/064 (2000) Endpoint: Proportion Survived Source: Reference Toxicant-REF



Mean: 13.61 Count: 6 -1s Warning Limit: 7.417 -2s Action Limit: 1.222
 Sigma: 6.195 CV: 45.50% +1s Warning Limit: 19.81 +2s Action Limit: 26

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2009	Dec	11	16:05	9.69	-3.92	-0.6328			06-0392-7981	04-0353-3462	NewFields
2	2011	Mar	18	17:40	23.15	9.544	1.541	(+)		14-6934-6989	08-7287-0236	NewFields
3	2012	Sep	12	15:30	17.06	3.451	0.5571			15-6980-0340	09-8032-3348	NewFields
4	2013	Jul	2	16:54	15.85	2.238	0.3612			14-0245-1637	17-3940-1363	NewFields
5		Oct	11	16:30	6.435	-7.175	-1.158	(-)		02-6747-8290	14-5731-2244	NewFields
6		Nov	5	14:15	9.487	-4.123	-0.6656			00-2973-8704	14-7798-0524	NewFields
7		Dec	13	16:00	1.461	-12.15	-1.961	(-)		18-8979-3951	13-5696-3347	NewFields

CETIS Analytical Report

Report Date: 05 Aug-14 09:54 (p 1 of 2)
 Test Code: 70A3F79F | 18-8979-3951

Reference Toxicant 96-h Acute Survival Test

NewFields

Analysis ID: 01-5892-6385	Endpoint: Proportion Survived	CETIS Version: CETISv1.8.6
Analyzed: 03 Jan-14 10:59	Analysis: Parametric-Multiple Comparison	Official Results: Yes
Batch ID: 09-4030-4577	Test Type: Survival	Analyst:
Start Date: 13 Dec-13 16:00	Protocol: EPA/600/R-99/064 (2000)	Diluent: Diluted Mineral Water
Ending Date: 17 Dec-13 14:05	Species: Hyalella azteca	Brine: Not Applicable
Duration: 94h	Source: Aquatic Biosystems, CO	Age:
Sample ID: 17-4447-7814	Code: 67FA9E76	Client: Internal Lab
Sample Date: 27 Sep-11	Material: Total Ammonia	Project: Reference Toxicant
Receive Date: 27 Sep-11	Source: Reference Toxicant	
Sample Age: 808d 16h	Station: p110927.179	

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Angular (Corrected)	NA	C > T	NA	NA	18.8%	Fails proportion survived

Dunnett T3 Multiple Comparison Test

Control	vs	C-mg/L	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Dilution Water		4.35*	9.523	2.335	0.269	3	0.0011	CDF	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	1.806068	1.806068	1	90.68	0.0007	Significant Effect
Error	0.07966898	0.01991724	4			
Total	1.885737		5			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	3.499	199	0.4445	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.836	0.43	0.1207	Normal Distribution

Proportion Survived Summary

C-mg/L	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Dilution Water	3	0.9667	0.8232	1	1	0.9	1	0.03333	5.97%	0.0%
4.35		3	0.06667	0	0.3535	0	0	0.2	0.06667	173.2%	93.1%
9.36		3	0	0	0	0	0	0	0		100.0%
19.4		3	0	0	0	0	0	0	0		100.0%
38.2		3	0	0	0	0	0	0	0		100.0%
76.8		3	0	0	0	0	0	0	0		100.0%

Angular (Corrected) Transformed Summary

C-mg/L	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Dilution Water	3	1.358	1.124	1.591	1.412	1.249	1.412	0.05432	6.93%	0.0%
4.35		3	0.2604	-0.1768	0.6976	0.1588	0.1588	0.4636	0.1016	67.59%	80.82%
9.36		3	0.1588	0.1588	0.1588	0.1588	0.1588	0.1588	0	0.0%	88.31%
19.4		3	0.1588	0.1588	0.1588	0.1588	0.1588	0.1588	0	0.0%	88.31%
38.2		3	0.1588	0.1588	0.1588	0.1588	0.1588	0.1588	0	0.0%	88.31%
76.8		3	0.1588	0.1588	0.1588	0.1588	0.1588	0.1588	0	0.0%	88.31%

Proportion Survived Detail

C-mg/L	Control Type	Rep 1	Rep 2	Rep 3
0	Dilution Water	1	0.9	1
4.35		0.2	0	0
9.36		0	0	0
19.4		0	0	0
38.2		0	0	0
76.8		0	0	0

CETIS Analytical Report

Report Date: 05 Aug-14 09:54 (p 2 of 2)
 Test Code: 70A3F79F | 18-8979-3951

Reference Toxicant 96-h Acute Survival Test

NewFields

Analysis ID: 01-5892-6385 Endpoint: Proportion Survived CETIS Version: CETISv1.8.6
 Analyzed: 03 Jan-14 10:59 Analysis: Parametric-Multiple Comparison Official Results: Yes

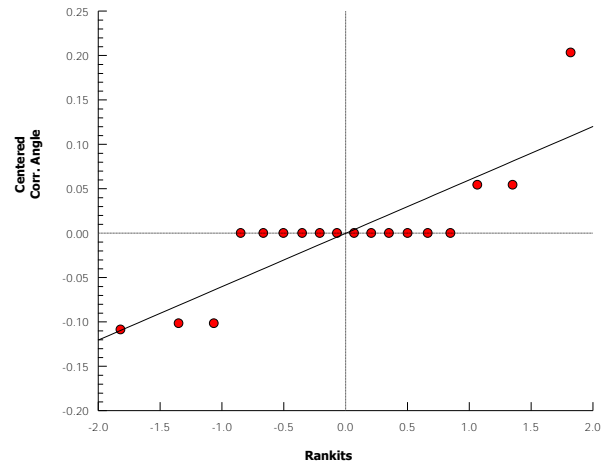
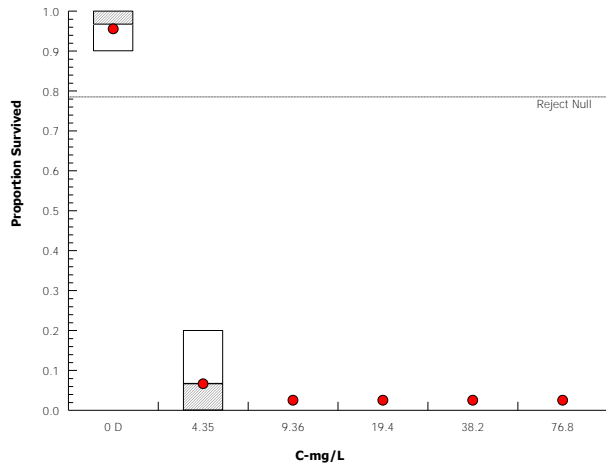
Angular (Corrected) Transformed Detail

C-mg/L	Control Type	Rep 1	Rep 2	Rep 3
0	Dilution Water	1.412	1.249	1.412
4.35		0.4636	0.1588	0.1588
9.36		0.1588	0.1588	0.1588
19.4		0.1588	0.1588	0.1588
38.2		0.1588	0.1588	0.1588
76.8		0.1588	0.1588	0.1588

Proportion Survived Binomials

C-mg/L	Control Type	Rep 1	Rep 2	Rep 3
0	Dilution Water	10/10	9/10	10/10
4.35		2/10	0/10	0/10
9.36		0/10	0/10	0/10
19.4		0/10	0/10	0/10
38.2		0/10	0/10	0/10
76.8		0/10	0/10	0/10

Graphics



CETIS Summary Report

Report Date: 05 Aug-14 09:55 (p 1 of 1)
 Test Code: 70A3F79F | 18-8979-3951

Reference Toxicant 96-h Acute Survival Test

NewFields

Batch ID: 09-4030-4577	Test Type: Survival	Analyst:
Start Date: 13 Dec-13 16:00	Protocol: EPA/600/R-99/064 (2000)	Diluent: Diluted Mineral Water
Ending Date: 17 Dec-13 14:05	Species: Hyalella azteca	Brine: Not Applicable
Duration: 94h	Source: Aquatic Biosystems, CO	Age:
Sample ID: 17-4447-7814	Code: 67FA9E76	Client: Internal Lab
Sample Date: 27 Sep-11	Material: Total Ammonia	Project: Reference Toxicant
Receive Date: 27 Sep-11	Source: Reference Toxicant	
Sample Age: 808d 16h	Station: p110927.179	

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
01-5892-6385	Proportion Survived	<4.35	4.35	NA	18.8%		Dunnett T3 Multiple Comparison Test

Point Estimate Summary

Analysis ID	Endpoint	Level	mg/L	95% LCL	95% UCL	TU	Method
13-5696-3347	Proportion Survived	EC5	0.09425	0.08002	0.1305		Linear Interpolation (ICPIN)
		EC10	0.1974	0.1663	0.2774		
		EC15	0.3102	0.2594	0.4426		
		EC20	0.4337	0.3598	0.6284		
		EC25	0.5688	0.4681	0.8372		
		EC40	1.056	0.8463	1.632		
		EC50	1.461	1.15	2.338		

Proportion Survived Summary

C-mg/L	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	3	0.9667	0.8232	1	0.9	1	0.03333	0.05774	5.97%	0.0%
4.35		3	0.06667	0	0.3535	0	0.2	0.06667	0.1155	173.2%	93.1%
9.36		3	0	0	0	0	0	0	0		100.0%
19.4		3	0	0	0	0	0	0	0		100.0%
38.2		3	0	0	0	0	0	0	0		100.0%
76.8		3	0	0	0	0	0	0	0		100.0%

Proportion Survived Detail

C-mg/L	Control Type	Rep 1	Rep 2	Rep 3
0	Dilution Water	1	0.9	1
4.35		0.2	0	0
9.36		0	0	0
19.4		0	0	0
38.2		0	0	0
76.8		0	0	0

Proportion Survived Binomials

C-mg/L	Control Type	Rep 1	Rep 2	Rep 3
0	Dilution Water	10/10	9/10	10/10
4.35		2/10	0/10	0/10
9.36		0/10	0/10	0/10
19.4		0/10	0/10	0/10
38.2		0/10	0/10	0/10
76.8		0/10	0/10	0/10

Appendix C.2

10-Day Solid-Phase Test with Chironomus dilutus

CLIENT Farallon	PROJECT Yakima Steel	NEWFIELDS JOB NO. 0	PROJECT MAN. Bill Gardiner	NEWFIELDS LABORATOR Port Gamble Bath 4	PROTOCOL SAR / 2007 Methods Table 2004	SPECIES <i>Chironomus tentans</i>
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ENDPOINT DATA & OBSERVATIONS

OBSERVATIONS KEY				DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
N = normal		L = anoxic surface		12/14	12/15	12/16	12/17	12/18	12/19	12/20	12/21	12/22	12/23
B = no burrows		F = fungal patches		TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN
M = dead on surface		D = no air flow (DO?)		JL	JL	MMS	JL	MMS	MMS	KE	JL	JL	KE
A = avoidance		U = excess food		REP	REP	REP	REP	REP	REP	REP	REP	REP	REP
CLIENT/ NEWFIELDS ID	REP	JAR #	INITIAL #	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.
Sand Control /	1			N	N	N	N	N	N	N	P	N	N
	2												
	3												
	4												
	5												
	6												
	7												
	8												
TNWR /	1												
	2												
	3												
	4												
	5												
	6												
	7												
	8												
WETSEDI /	1												
	2												
	3												
	4												
	5												
	6												
	7												
	8												

CLIENT Farallon	PROJECT Yakima Steel	NEWFIELDS JOB NO. 0	PROJECT MAN. Bill Gardiner	NEWFIELDS LABORATOR Port Gamble Bath 4	PROTOCOL EPA 2000 Method 150.1 Rev3	SPECIES <i>Chironomus tentans</i>
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ENDPOINT DATA & OBSERVATIONS

OBSERVATIONS KEY				DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
N = normal		L = anoxic surface		12/14	12/15	12/16	12/17	12/18	12/19	12/20	12/21	12/22	12/23
B = no burrows		F = fungal patches		TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN
M = dead on surface		D = no air flow (DO?)		JL	JL	MMS	JL	MMS	MMS	JL	JL	JL	JL
A = avoidance		U = excess food		OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.
CLIENT/NEWFIELDS ID	REP	JAR #	INITIAL #	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
WETSED2 / .	1			N	N	N	N	N	N	N	N	N	N
	2												
	3												
	4												
	5												
	6												
	7												
	8												
WETSED3 / .	1												
	2												
	3												
	4												
	5												
	6												
	7												
	8												
6 ppm Cd / .	1												
	2												
	3												
	4												
	5												
	6												
	7												
	8												

CLIENT Farallon	PROJECT Yakima Steel	NEWFIELDS JOB NO. 0	PROJECT MAN. Bill Gardiner	NEWFIELDS LABORATOR Port Gamble Bath 4	PROTOCOL BPA 2004 Method 100.1 20.0	SPECIES <i>Chironomus tentans</i>
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ENDPOINT DATA & OBSERVATIONS

OBSERVATIONS KEY				DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
N = normal		L = anoxic surface		12/14	12/15	12/16	12/17	12/18	12/19	12/20	12/21	12/22
B = no burrows		F = fungal patches		TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN
M = dead on surface		D = no air flow (DO?)		JL	JL	MMS	JL	MMS	MMS	HZ	JL	JL
A = avoidance		U = excess food		OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.
CLIENT/ NEWFIELDS ID	REP	JAR #	INITIAL #	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
3 ppm Cd / .	1			N	N	N	N	N	N	N	N	N
	2			N	N	N	N	N	N	N	N	N
	3			N	N	N	N	N	N	N	N	N
	4			N	N	N	N	N	N	N	N	N
	5			N	N	N	N	N	N	N	N	N
	6			N	N	N	N	N	N	N	N	N
	7			N	N	N	N	N	N	N	N	N
	8			N	N	N	N	N	N	N	N	N
1 ppm Cd / .	1			N	N	N	N	N	N	N	N	N
	2			N	N	N	N	N	N	N	N	N
	3			N	N	N	N	N	N	N	N	N
	4			N	N	N	N	N	N	N	N	N
	5			N	N	N	N	N	N	N	N	N
	6			N	N	N	N	N	N	N	N	N
	7			N	N	N	N	N	N	N	N	N
	8			N	N	N	N	N	N	N	N	N

CLIENT Farallon	PROJECT Yakima Steel	NEWFIELDS JOB NO. 0	PROJECT MAN. Bill Gardiner	NEWFIELDS LABORATOR Port Gamble Bath 4	PROTOCOL SVA 1009 Method 100.4 Mod	SPECIES <i>Chironomus tentans</i>	ACCLM.MORT.
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ENDPOINT DATA & OBSERVATIONS

OBSERVATIONS KEY				DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE				
N = normal		L = anoxic surface		12/24	12/25	12/26	12/27	12/28	12/29	12/30	12/31	1/1/14					
B = no burrows		F = fungal patches		TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN					
M = dead on surface		D = no air flow (DO?)															
A = avoidance		U = excess food															
S = on sediment surface																	
CLIENT/NEWFIELDS ID	REP	JAR #	INITIAL #	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	OBSRVNS.	NUMBER REMAINING	Tare Weight	Dry Weight	AFDW
Sand Control /	1			N	N	N	IS	IS	N	IS	N	N		1	51.44		
	2														51.65		
	3						IS	IS	IS	IS					51.47		
	4						N	N	N	N					51.60		
	5														51.38		
	6														50.88		
	7														51.43		
	8														51.42		
TNWR /	1						2	2	2	2	2	2			51.77		
	2														51.37		
	3														51.62		
	4														50.91		
	5														50.84		
	6														51.28		
	7														51.63		
	8														51.46		
WETSED1 /	1														51.49		
	2														51.49		
	3														51.49		
	4														51.49		
	5														51.49		
	6														51.49		
	7														51.58		
	8														51.42		

P = pupal

Weight	Tare Wt. (mg)
17	51.59
18	51.60
19	51.44
20	51.62
21	51.44

1 - weigh boat
 2 -
 3 -
 4 -
 5 -
 6 -
 7 -
 8 -
 9 -
 10 -
 11 -
 12 -
 13 -
 14 -
 15 -
 16 -
 17 -
 18 -
 19 -
 20 -
 21 -
 22 -
 23 -
 24 -

CLIENT Farallon	PROJECT Yakima Steel	NEWFIELDS JOB NO. 0	PROJECT MAN. Bill Gardiner	NEWFIELDS LABORATOR Port Gamble Bath 4	PROTOCOL EPA 8095 Method 109.1 (SW)	SPECIES Chironomus tentans	ACCLM.MORT.
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ENDPOINT DATA & OBSERVATIONS

OBSERVATIONS KEY				DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	NUMBER	Tare Weight	Dry Weight	AFDW	Weight out
N = normal B = no burrows M = dead on surface A = avoidance				L = anoxic surface F = fungal patches D = no air flow (DO?) E = excess food	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	REMAINING				
CLIENT/NEWFIELDS ID	REP	JAR #	INITIAL #	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.						
WETSED2 /	1			N	N	N	N	N	N	N	N	N	N	N		51.47			25	
	2			N	N	N	N	N	N	N	N	N	N	N		51.58			26	
	3			N	N	N	N	N	N	N	N	N	N	N		51.33			27	
	4			N	N	N	N	N	N	N	N	N	N	N		51.69			28	
	5			N	N	N	N	N	N	N	N	N	N	N		51.10			29	
	6			N	N	N	N	N	N	N	N	N	N	N		51.36			30	
	7			N	N	N	N	N	N	N	N	N	N	N		51.64			31	
	8			N	N	N	N	N	N	N	N	N	N	N		51.30			32	
WETSED3 /	1			N	N	N	N	N	N	N	N	N	N	N		51.44			33	
	2			N	N	N	N	N	N	N	N	N	N	N		51.34			34	
	3			N	N	N	N	N	N	N	N	N	N	N		51.44			35	
	4			N	N	N	N	N	N	N	N	N	N	N		51.44			36	
	5			N	N	N	N	N	N	N	N	N	N	N		51.44			37	
	6			N	N	N	N	N	N	N	N	N	N	N		51.50			38	
	7			N	N	N	N	N	N	N	N	N	N	N		51.56			39	
	8			N	N	N	N	N	N	N	N	N	N	N		51.37			40	
6 ppm Cd /	1			N	N	N	N	N	N	N	N	N	N	N		51.21			41	
	2			N	N	N	N	N	N	N	N	N	N	N		51.58			42	
	3			N	N	N	N	N	N	N	N	N	N	N		51.21			43	
	4			N	N	N	N	N	N	N	N	N	N	N		51.01			44	
	5			N	N	N	N	N	N	N	N	N	N	N		51.65			45	
	6			N	N	N	N	N	N	N	N	N	N	N		51.62			46	
	7			N	N	N	N	N	N	N	N	N	N	N		51.59			47	
	8			N	N	N	N	N	N	N	N	N	N	N		51.46			48	

CLIENT Farallon	PROJECT Yakima Steel	NEWFIELDS JOB NO. 0	PROJECT MAN. Bill Gardiner	NEWFIELDS LABORATOR Port Gamble Bath 4	PROTOCOL AFA 2000 - Method 100.1 Mod.	SPECIES Chironomus tentans	ACCLM.MORT.
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ENDPOINT DATA & OBSERVATIONS

OBSERVATIONS KEY				DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	NUMBER	Tare Weight	Dry Weight	AFDW
N = normal		L = anoxic surface		12/24	12/25	12/26	12/27	12/28	12/29	12/30	12/31	1/1/14							
B = no burrows		F = fungal patches		TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN							
M = dead on surface		D = no air flow (DO?)																	
A = avoidance		U = excess food																	
SW: surface of water																			
CLIENT/NEWFIELDS ID	REP #	JAR #	INITIAL #	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.					
3 ppm Cd / .	1			N	N	N	N	N	N	N	N	N				51.26		59	
	2			N	N	N	N	N	N	N	N	N				51.36		58	
	3			N	N	N	N	N	N	N	N	N				51.53		57	
	4			N	N	N	N	N	N	N	N	N				51.51		52	
	5			N	N	N	N	N	N	N	N	N				51.75		53	
	6			N	N	N	N	N	N	N	N	N				51.50		54	
	7			N	N	N	N	N	N	N	N	N				51.14		55	
	8			N	N	N	N	N	N	N	N	N				51.04		56	
1 ppm Cd / .	1			N	N	N	N	N	N	N	N	N				51.52		57	
	2			N	N	N	N	N	N	N	N	N				51.46		58	
	3			N	N	N	N	N	N	N	N	N				51.45		59	
	4			N	N	N	N	N	N	N	N	N				51.03		60	
	5			N	N	N	N	N	N	N	N	N				50.95		61	
	6			N	N	N	N	N	N	N	N	N				51.57		62	
	7			N	N	N	N	N	N	N	N	N				51.09		63	
	8			N	N	N	N	N	N	N	N	N				51.94		64	

weigh boat

Yakima Steel
Endpoint Summary for the 20-Day SP Test with *C. dilutus*.

Sample	Rep	Initial Number	# Larvae Remaining	# of Pupae	Total # of Survivors	Percent Survival (%)	Mean Survival TOTAL (%)	SD	# of Adult Flies	Total # of Survivors (with fly/s)	Percent Survival (%) (with fly/s)	Mean Survival TOTAL (%) (with fly/s)	Tare Weight (mg)	Total Dry Weight (mg)	Total Ashed Weight (mg)	AFDW (mg)	AFDW per Survivor (mg)	Mean AFDW per Survivor (mg)	SD	AFDW per Original Number (ON) (mg)	Mean AFDW per ON (mg)	SD	
Sand Control	1	12	9	0	9				0				51.44	73.61	51.52								
	2	12	8	3	11				0				51.65	66.52	53.17								
	3	12	10	0	10				0				51.47	73.97	56.14								
	4	12	9	3	12				0				51.60	71.88	56.67								
	5	12	6	5	11				0				51.38	66.52	54.46								
	6	12	10	2	12				0				50.85	74.44	55.52								
	7	12	10	2	12				0				51.43	70.32	53.80								
	8	12	12	0	12				0				51.42	79.45	58.08								
TNWR	1	12	3	1					0				51.47	64.64	54.06								
	2	12	5	3					0				51.57	65.85	54.95								
	3	12	6	1					0				51.62	71.48	56.03								
	4	12	3	2					0				50.91	61.36	53.22								
	5	12	0	0	0				0				50.84	69.28	54.85								
	6	12	1	5					0				51.28	55.49	52.30								
	7	12	4	3					0				51.63	66.07	55.18								
	8	12	2	2					2				51.46	61.01	53.83								
WETSED1	1	12	7	0					0				51.59	67.11	54.77								
	2	12	12	0					0				51.60	74.38	57.24								
	3	12	12	0					0				51.44	71.32	56.02								
	4	12	6	0					0				51.62	61.30	53.30								
	5	12	10	0					0				51.44	77.24	57.83								
	6	12	11	0					0				51.53	73.00	57.79								
	7	12	8	0					0				51.58	71.00	55.11								
	8	12	8	0					0				51.42	69.96	55.71								
WETSED2	1	12	6	2					1				51.47	72.81	57.03								
	2	12	8	3					0				51.53	72.59	57.08								
	3	12	6	3					0				51.33	63.54	53.59								
	4	12	4	4					0				51.69	63.73	54.93								
	5	12	6	3					1				51.10	69.44	56.16								
	6	12	6	1					1				51.36	70.94	56.50								
	7	12	4	3					2				51.64	67.01	55.01								
	8	12	4	2					1				51.70	66.43	54.26								

① DWC,
② no "x" on jar - possibly no animals added at initiation; # larvae = 6, # pupae = 2, # flies = 0 in Surv.,
weighboat 13. mmB

Endpoint Summary for the 20-Day SP Test with *C. dilutus*.

Sample	Rep	Initial Number	# Larvae Remaining	# of Pupae	Total # of Survivors	Percent Survival (%)	Mean Survival TOTAL (%)	SD	# of Adult Flies	Total # of Survivors (with flies)	Percent Survival (%) (with flies)	Mean Survival TOTAL (%) (with flies)	Tare Weight (mg)	Total Dry Weight (mg)	Total Ashed Weight (mg)	AFDW (mg)	AFDW per Survivor (mg)	Mean AFDW per Survivor (mg)	SD	AFDW per Original Number (ON) (mg)	Mean AFDW per ON (mg)	SD		
WETSED3	1	12	6	3					0				51.41	65.14	55.01									
	2	12	4	0					0				51.34	67.18	55.16									
	3	12	0	0					1				51.44	69.90	57.29									
	4	12	0	0					0				51.44	74.32	58.54									
	5	12	5	1					0				51.64	62.76	54.03									
	6	12	10	0					0				51.50	77.30	59.83									
	7	12	8	0					1				51.56	74.38	57.17									
	8	12	6	1					0				51.37	68.22	55.25									
6 ppm Cd	1	12	3	2					0				51.71	63.30	54.58									
	2	12	8	2					1				51.68	71.16	56.46									
	3	12	11	0					1				51.71	84.08	63.10									
	4	12	10	0					0				51.54	76.09	57.96									
	5	12	7	2					1				51.65	73.15	56.97									
	6	12	5	4					0				51.62	68.88	56.59									
	7	12	3	3					0				51.57	63.35	53.14									
	8	12	6	0					1				51.40	69.39	54.24									
3 ppm Cd	1	12	9	2					0				51.26	73.59	56.06									
	2	12	7	1					1				51.36	67.88	55.12									
	3	12	5	2					1				51.53	69.02	56.49									
	4	12	5	3					2				51.51	66.98	55.46									
	5	12	0	0					1				51.75	59.55	53.23									
	6	12	13	0					0				51.50	82.15	60.90									
	7	12	11	1					0				51.14	81.12	60.01									
	8	12	6	2					0				51.04	67.86	54.58									
1 ppm Cd	1	12	7	0					0				51.32	70.56	54.94									
	2	12	7	3					0				51.40	71.89	57.45									
	3	12	1	2					3				51.45											
	4	12	1	2					1				51.07	55.70	51.80									
	5	12	1	4					0				50.95	54.70	51.11									
	6	12	6	1					4				51.57	64.81	55.52									
	7	12	8	2					2				51.09	68.16	55.77									
	8	12	2	3					0				51.54	58.40	52.23									

① sum. = # larvae: 3, # pupae: 3, # flies: 0 in weighboat 58.

② NL 1.2.14 BH 0 larvae, 0 pupae, 4 exuvae

③ 1E GR 1/2/14

CLIENT Farallon	PROJECT Yakima Steel	SPECIES <i>Chironomus tentans</i>	NEWFIELDS LABORATORY Port Gamble Bath 4	PROTOCOL L18 - 1000 30 0000 100.1 001
NEWFIELDS JOB NUMBER 0	PROJECT MANAGER Bill Gardiner	TEST START DATE 13Dec13	TIME 1340	TEST END DATE 02Jan14

WATER QUALITY DATA

CLIENT/NEWFIELDS ID	DAY	REP	JAR #	DO (mg/L)		TEMP (C)		COND (mS/cm)		pH		NH3 (mg/L)		DILUTION WATER BATCH				TEMP. RECDR./HOB#				
				> 2.5 mg/L	> 2.5 mg/L	meter	mg/L	meter	°C	meter	mS/cm	meter	unit	< 4.0	< 4.0	0		NA				
				meter	mg/L	meter	°C	meter	mS/cm	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L	TECH	Date	RENEWAL AM PM	Feeding	
Sand Control /	0	WQ	22	7	8.6	7	23.9	2	178	5	7.3							CR	12/13	M	X	CR
Sand Control /	1	WQ	22	7	7.2	7	22.5	2	170	5	7.2							JL	12/14	JL		→
Sand Control /	2	WQ	22	7	6.7	7	22.5	2	190	5	7.2							JL	12/15	JL		→
Sand Control /	3	WQ	22	7	6.1	7	22.7	2	204	5	7.2							JL	12/16	JL	HE	MMB
Sand Control /	4	WQ	22	7	6.0	7	22.6	2	204	5	7.4							JL	12/17	JL	HE	HE
Sand Control /	5	WQ	22	7	5.5	7	22.3	2	204	5	7.4							HE	12/18	HE		→
Sand Control /	6	WQ	22	7	5.2	7	22.5	2	207	5	7.4							MMB	12/19	MMB		→
Sand Control /	7	WQ	22	7	4.5	7	23.0	2	202	5	7.4							HE	12/20	HE		→
Sand Control /	8	WQ	22	7	5.2	7	22.9	2	203	5	7.2							JL	12/21	JL		→
Sand Control /	9	WQ	22	7	4.8	7	22.9	2	203	5	7.2							JL	12/22	JL		→
Sand Control /	10	WQ	22	7	3.7	7	20.0	2	206	5	7.3							HE	12/23	HE		→
Sand Control /	11	WQ	22	7	4.0	7	23.2	2	209	5	7.1							HE	12/24	HE		→
Sand Control /	12	WQ	22	7	3.5	7	23.2	2	213	5	7.1							JL	12/25	JL		→
Sand Control /	13	WQ	22	7	4.3	7	23.0	2	210	5	7.5							JL	12/26	JL	→	CR
Sand Control /	14	WQ	22	7	4.5	7	22.5	2	203	5	7.5							HE	12/27	JL	HE	JL
Sand Control /	15	WQ	22	7	5.5	7	23.2	2	203	5	7.1							JL	12/28	JL		→
Sand Control /	16	WQ	22	7	5.7	7	23.3	2	205	5	7.0							JL	12/29	JL		→
Sand Control /	17	WQ	22	7	5.2	7	23.5	2	203	5	7.6							HE	12/30	HE	CR	CR
Sand Control /	18	WQ	22	7	5.1	7	23.3	2	202	5	7.3							MMB	12/31	M	HE	HE
Sand Control /	19	WQ	22	7	2.3	7	22.2	2	204	5	7.2							BH	1/1	BH		→
Sand Control /	20	WQ	22	7	8.7	7	21.3	2	205	5	7.8							GR	1/2			

QWC CR 12/13 (1) Illegible 1/1 12/18 (3) Aeration initiated

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Chironomus tentans	NEWFIELDS LABORATORY Port Gamble Bath 4	PROTOCOL NA
NEWFIELDS JOB NUMBER 0	PROJECT MANAGER Bill Gardiner	TEST START DATE 13Dec13	TEST END DATE 02Jan14	TIME

WATER QUALITY DATA

CLIENT/NEWFIELDS ID	DAY	REP	JAR #	DO (mg/L)		TEMP (C)		COND (mS/cm)		pH		NH3 (mg/L)		DILUTION WATER BATCH				TEMP. RECDR./HOB#					
				meter	mg/L	meter	°C	meter	mS/cm	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L	TECH	Date	RENEWAL AM PM	Feeding		
TNWR / .	0	WQ	5	7	7.3	7	24.0	2	183	5	7.5								CR	12/13	M	X	CR
TNWR / .	1	WQ	5	7	5.6	7	22.2	2	220	5	7.3								JL	12/14	JL		→
TNWR / .	2	WQ	5	7	5.3	7	22.2	2	207	5	7.2								JL	12/15	JL		→
TNWR / .	3	WQ	5	7	5.4	7	22.3	2	215	5	7.3								JL	12/16	JL	HE	MMS
TNWR / .	4	WQ	5	7	5.1	7	22.3	2	213	5	7.4								JL	12/17	JL	HE	HE
TNWR / .	5	WQ	5	7	4.7	7	22.1	2	215	5	7.4								HE	12/18	HE		→
TNWR / .	6	WQ	5	7	4.1	7	22.3	2	218	5	7.5								MMS	12/19	MMS		
TNWR / .	7	WQ	5	7	3.6	7	22.4	2	219	5	7.2								HE	12/20	HE		→
TNWR / .	8	WQ	5	7	7.7	7	22.9	2	222	5	7.7								JL	12/21	JL		→
TNWR / .	9	WQ	5	7	8.1	7	22.6	2	226	5	7.9								JL	12/22	JL		→
TNWR / .	10	WQ	5	7	8.3	7	23.0	2	233	5	8.0								HE	12/23	HE		→
TNWR / .	11	WQ	5	7	2.7	7	23.1	2	242	5	7.3								HE	12/24	HE		→
TNWR / .	12	WQ	5	7	8.8	7	22.0	2	238	5	8.0								JL	12/25	JL		→
TNWR / .	13	WQ	5	7	8.8	7	21.7	2	230	5	8.3								JL	12/26	JL		CR
TNWR / .	14	WQ	5	7	9.3	7	21.1	2	230	5	8.5								HE	12/27	JL	HE	JL
TNWR / .	15	WQ	5	7	8.8	7	22.1	2	226	5	8.0								JL	12/28	JL		→
TNWR / .	16	WQ	5	7	8.6	7	22.3	2	219	5	7.8								JL	12/29	JL		→
TNWR / .	17	WQ	5	7	8.8	7	21.9	2	212	5	8.4								HE	12/30	HE	CR	CR
TNWR / .	18	WQ	5	7	8.4	7	22.2	2	211	5	7.9								MMS	12/31	M	HE	HE
TNWR / .	19	WQ	5	7	9.1	7	22.0	2	210	5	8.0								AM	1/1	AM		→
TNWR / .	20	WQ	5	7	8.8	7	21.4	2	207	5	7.9								CR	1/2			

(3) Aeration inhibited

(1) Flow restored to bath controlling temperature
 (2) air flow restored to chamber

12/29

CLIENT Farallon	PROJECT Yakima Steel
NEWFIELDS JOB NUMBER 0	PROJECT MANAGER Bill Gardiner

SPECIES Chironomus tentans	NEWFIELDS LABORATORY Port Gamble Bath 4	PROTOCOL EPA 8200-10-1004 100.1 100.2
TEST START DATE 13Dec13	TIME	TEST END DATE 02Jan14

WATER QUALITY DATA

CLIENT/NEWFIELDS ID	DAY	REP	JAR #	DO (mg/L)		TEMP (C)		COND (mS/cm)		pH		NH3 (mg/L)		DILUTION WATER BATCH				TEMP. RECDR./HOB#				
				> 2.5 mg/L		22.23±1		N/A		6-9		< 4.0		0				N/A				
				D.O.		TEMP		CONDUCTIVITY		pH		Hardness		Alkalinity		INTER. Ammonia		TECH	Date	RENEWAL		Feeding
				meter	mg/L	meter	°C	meter	mS/cm	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L			AM	PM	
WETSED1 / .	0	WQ	19	7	8.0	7	24.0	2	274	5	7.2							CR	12/13	M	X	CR
WETSED1 / .	1	WQ	19	7	6.1	7	22.6	2	318	5	6.9							JL	12/14	JL		→
WETSED1 / .	2	WQ	19	7	5.8	7	22.4	2	236	5	6.9							JL	12/15	JL		→
WETSED1 / .	3	WQ	19	7	5.6	7	22.6	2	230	5	7.0							JL	12/16	JL	HE	MMB
WETSED1 / .	4	WQ	19	7	5.6	7	22.4	2	218	5	7.2							JL	12/17	JL	HE	HE
WETSED1 / .	5	WQ	19	7	5.8	7	22.3	2	208	5	7.3							HE	12/18	HE		→
WETSED1 / .	6	WQ	19	7	5.8	7	22.4	2	206	5	7.2							MMB	12/19	MMB		
WETSED1 / .	7	WQ	19	7	5.4	7	22.9	2	199	5	7.2							HE	12/20	HE		←
WETSED1 / .	8	WQ	19	7	4.8	7	23.3	2	199	5	7.0							JL	12/21	JL		→
WETSED1 / .	9	WQ	19	7	5.2	7	22.9	2	196	5	7.1							JL	12/22	JL		→
WETSED1 / .	10	WQ	19	7	5.0	7	20.0	2	202	5	7.2							HE	12/23	HE		→
WETSED1 / .	11	WQ	19	7	5.1	7	23.0	2	204	5	7.0							HE	12/24	HE		→
WETSED1 / .	12	WQ	19	7	4.6	7	23.0	2	212	5	7.1							JL	12/25	JL		→
WETSED1 / .	13	WQ	19	7	4.5	7	22.5	2	209	5	7.4							JL	12/26	JL	HE	CR
WETSED1 / .	14	WQ	19	7	5.3	7	22.2	2	212	5	7.4							HE	12/27	JL	HE	α
WETSED1 / .	15	WQ	19	7	4.2	7	23.0	2	203	5	6.9							JL	12/28	JL		→
WETSED1 / .	16	WQ	19	7	3.9	7	23.1	2	196	5	6.8							JL	12/29	JL		→
WETSED1 / .	17	WQ	19	7	3.5	7	23.4	2	192	5	7.3							HE	12/30	HE	CR	CR
WETSED1 / .	18	WQ	19	7	3.2	7	23.3	2	188	5	7.0							MMB	12/31	MMB	HE	HE
WETSED1 / .	19	WQ	19	7	2.8	7	22.0	2	189	5	7.1							BL	1/1	BL		→
WETSED1 / .	20	WQ	19	7	8.6	7	21.1	2	183	5	7.8							CR	1/2			

(Dissolved in water)

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Chironomus tentans	NEWFIELDS LABORATORY Port Gamble Bath 4	PROTOCOL 132-0000-0000-1-0001
NEWFIELDS JOB NUMBER 0	PROJECT MANAGER Bill Gardiner	TEST START DATE 13Dec13	TEST END DATE 02Jan14	TIME

WATER QUALITY DATA

CLIENT/NEWFIELDS ID	DAY	REP	JAR #	DO (mg/L)		TEMP (C)		COND (mS/cm)		pH		NH3 (mg/L)		DILUTION WATER BATCH				TEMP.RECDR./HOBOP#		
				> 2.5 mg/L		22.5 ± 1		N/A		6-9		< 4.0		0				NA		
				meter	mg/L	meter	°C	meter	mS/cm	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L	TECH	Date	RENEWAL AM PM
WETSED2 / .	0	WQ	46	7	7.6	7	23.0	2	250	5	7.6						CR	12/13	M X	CR
WETSED2 / .	1	WQ	46	7	6.6	7	22.3	2	306	5	7.4						JL	12/14	JL	→
WETSED2 / .	2	WQ	46	7	6.2	7	22.4	2	272	5	7.4						JL	12/15	JL	→
WETSED2 / .	3	WQ	46	7	6.2	7	22.2	2	271	5	7.4						JL	12/16	JL	HE MMB
WETSED2 / .	4	WQ	46	7	6.0	7	22.0	2	259	5	7.5						JL	12/17	JL	HE
WETSED2 / .	5	WQ	46	7	5.8	7	22.0	2	251	5	7.4						JL	12/18	JL	→
WETSED2 / .	6	WQ	46	7	5.5	7	22.0	2	248	5	7.4						MMB	12/19	MMB	
WETSED2 / .	7	WQ	46	7	5.4	7	22.3	2	241	5	7.4						JL	12/20	JL	→
WETSED2 / .	8	WQ	46	7	5.8	7	22.4	2	240	5	7.5						JL	12/21	JL	→
WETSED2 / .	9	WQ	46	7	5.0	7	22.5	2	239	5	7.3						JL	12/22	JL	→
WETSED2 / .	10	WQ	46	7	4.2	7	20.1	2	236	5	7.4						JL	12/23	JL	→
WETSED2 / .	11	WQ	46	7	4.2	7	22.4	2	234	5	7.4						JL	12/24	JL	→
WETSED2 / .	12	WQ	46	7	3.0	7	22.5	2	242	5	7.2						JL	12/25	JL	→
WETSED2 / .	13	WQ	46	7	3.1	7	22.3	2	237	5	7.4						JL	12/26	JL	CR
WETSED2 / .	14	WQ	46	7	3.8	7	22.0	2	237	5	7.6						JL	12/27	JL	HE JL
WETSED2 / .	15	WQ	46	7	4.5	7	22.7	2	239	5	7.3						JL	12/28	JL	→
WETSED2 / .	16	WQ	46	7	4.1	7	22.8	2	239	5	7.1						JL	12/29	JL	→
WETSED2 / .	17	WQ	46	7	3.8	7	22.9	2	235	5	7.6						JL	12/30	JL	CR CR
WETSED2 / .	18	WQ	46	7	3.8	7	22.8	2	236	5	7.3						MMB	12/31	MMB	HE
WETSED2 / .	19	WQ	46	7	3.3	7	22.6	2	219	5	7.6						JL	1/1	JL	→
WETSED2 / .	20	WQ	46	7	1.8	7	21.6	2	231	5	7.1						CR	1/2		

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Chironomus tentans	NEWFIELDS LABORATORY Port Gamble Bath 4	PROTOCOL
NEWFIELDS JOB NUMBER 0	PROJECT MANAGER Bill Gardiner	TEST START DATE 13Dec13	TEST END DATE 02Jan14	TIME

WATER QUALITY DATA

CLIENT/NEWFIELDS ID	DAY	REP	JAR #	DO (mg/L)		TEMP (C)		COND (mS/cm)		pH		NH3 (mg/L)		DILUTION WATER BATCH				TEMP.RECDR./HOBOW		
				> 2.5 mg/L		22.1		N/A		6-9		< 4.0		0				NA		
				meter	mg/L	meter	°C	meter	mS/cm	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L	TECH	Date	RENEWAL AM PM
WETSED3 / .	0	WQ	66	7	7.8	7	23.6	2	256	5	7.6						CR	12/13	M X	CR
WETSED3 / .	1	WQ	66	7	5.9	7	22.3	2	341	5	7.5						JL	12/14	JL	→
WETSED3 / .	2	WQ	66	7	5.9	7	22.2	2	290	5	7.5						JL	12/15	JL	→
WETSED3 / .	3	WQ	66	7	5.9	7	22.2	2	279	5	7.4						JL	12/16	JL	MMB
WETSED3 / .	4	WQ	66	7	5.7	7	22.2	2	262	5	7.5						JL	12/17	JL	MMB
WETSED3 / .	5	WQ	66	7	5.5	7	22.0	2	250	5	7.5						JL	12/18	JL	→
WETSED3 / .	6	WQ	66	7	5.8	7	22.0	2	244	5	7.5						MMMB	12/19	MMMB	
WETSED3 / .	7	WQ	66	7	4.6	7	21.5	2	236	5	7.3						JL	12/20	JL	→
WETSED3 / .	8	WQ	66	7	5.3	7	22.7	2	229	5	7.5						JL	12/21	JL	→
WETSED3 / .	9	WQ	66	7	4.8	7	22.7	2	232	5	7.4						JL	12/22	JL	→
WETSED3 / .	10	WQ	66	7	3.7	7	20.0	2	231	5	7.4						JL	12/23	JL	→
WETSED3 / .	11	WQ	66	7	4.0	7	23.0	2	232	5	7.2						JL	12/24	JL	→
WETSED3 / .	12	WQ	66	7	4.0	7	23.1	2	241	5	7.4						JL	12/25	JL	→
WETSED3 / .	13	WQ	66	7	①												JL	12/27	JL	CR
WETSED3 / .	14	WQ	66	7	3.7	7	22.1	2	231	5	7.4						JL	12/27	JL	CR
WETSED3 / .	15	WQ	66	7	4.3	7	23.1	2	238	5	7.3						JL	12/29	JL	→
WETSED3 / .	16	WQ	66	7	3.7	7	23.0	2	239	5	7.2						JL	12/29	JL	→
WETSED3 / .	17	WQ	66	7	4.2	7	22.9	2	228	5	7.5						JL	12/30	JL	CR
WETSED3 / .	18	WQ	66	7	3.9	7	22.8	2	231	5	7.4						MMMB	12/31	MMMB	CR
WETSED3 / .	19	WQ	66	7	3.3	7	22.1	2	229	5	7.2						JL	1/1	JL	→
WETSED3 / .	20	WQ	66	7	2.1	7	21.5	2	236	5	7.2						CR	1/2		

① water quality not recorded. JL 12/26/13.

CLIENT Farallon	PROJECT Yakima Steel
NEWFIELDS JOB NUMBER 0	PROJECT MANAGER Bill Gardiner

SPECIES Chironomus tentans	NEWFIELDS LABORATORY Port Gamble Bath 4	PROTOCOL LTA-0902-001-003-100-1-00-0
TEST START DATE 13Dec13	TIME	TEST END DATE 02Jan14

WATER QUALITY DATA

CLIENT/NEWFIELDS ID	DAY	REP	JAR #	DO (mg/L)		TEMP (C)		COND (mS/cm)		pH		NH3 (mg/L)		DILUTION WATER BATCH				TEMP.RECDR./HOB.#						
				meter	mg/L	meter	°C	meter	mS/cm	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L	TECH	Date	RENEWAL AM PM	Feeding			
6 ppm Cd / .	0	WQ	61	7	7.7	7	23.6	2	250	5	7.7									CR	12/13	M	X	CR
6 ppm Cd / .	1	WQ	61	7	5.8	7	22.3	2	323	5	7.5									JL	12/14	JL		→
6 ppm Cd / .	2	WQ	61	7	6.1	7	22.3	2	282	5	7.5									JL	12/15	JL		→
6 ppm Cd / .	3	WQ	61	7	5.7	7	22.1	2	277	5	7.4									JL	12/16	JL	HE	MMS
6 ppm Cd / .	4	WQ	61	7	5.2	7	22.1	2	264	5	7.5									JL	12/17	JL	HE	HE
6 ppm Cd / .	5	WQ	61	7	5.6	7	22.0	2	252	5	7.4									HE	12/18	HE		→
6 ppm Cd / .	6	WQ	61	7	4.8	7	22.0	2	245	5	7.4									MMS	12/19	MMS		
6 ppm Cd / .	7	WQ	61	7	4.8	7	22.2	2	235	5	7.3									HE	12/20	HE		→
6 ppm Cd / .	8	WQ	61	7	5.0	7	22.4	2	230	5	7.4									JL	12/21	JL		→
6 ppm Cd / .	9	WQ	61	7	4.3	7	22.6	2	201	5	7.3									JL	12/22	JL		→
6 ppm Cd / .	10	WQ	61	7	3.0	7	20.4	2	230	5	7.3									HE	12/23	HE		→
6 ppm Cd / .	11	WQ	61	7	3.7	7	22.7	2	257	5	7.2									HE	12/24	HE		→
6 ppm Cd / .	12	WQ	61	7	3.5	7	22.8	2	228	5	7.3									JL	12/25	JL		→
6 ppm Cd / .	13	WQ	61	7	3.4	7	22.7	2	222	5	7.4									JL	12/26	JL	→	CR
6 ppm Cd / .	14	WQ	61	7	4.4	7	22.0	2	225	5	7.4									HE	12/27	HE	HE	JL
6 ppm Cd / .	15	WQ	61	7	4.1	7	22.9	2	230	5	7.2									JL	12/28	JL		→
6 ppm Cd / .	16	WQ	61	7	3.5	7	22.8	2	229	5	7.1									JL	12/29	JL		→
6 ppm Cd / .	17	WQ	61	7	4.3	7	23.0	2	226	5	7.4									HE	12/30	HE	CR	CR
6 ppm Cd / .	18	WQ	61	7	3.9	7	22.9	2	228	5	7.3									MMS	12/31	MMS	HE	HE
6 ppm Cd / .	19	WQ	61	7	3.3	7	22.0	2	222	5	7.5									BH	1/1	BH		→
6 ppm Cd / .	20	WQ	61	7	3.0	7	21.5	2	223	5	7.2									CR	1/2			

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Chironomus tentans	NEWFIELDS LABORATORY Port Gamble Bath 4	PROTOCOL APA 1998 (Rev. 10/14/10)
NEWFIELDS JOB NUMBER 0	PROJECT MANAGER Bill Gardiner	TEST START DATE 13Dec13	TIME	TEST END DATE 02Jan14

WATER QUALITY DATA

CLIENT/NEWFIELDS ID	DAY	REP	JAR #	DO (mg/L)		TEMP (C)		COND (mS/cm)		pH		NH3 (mg/L)		DILUTION WATER BATCH				TEMP. RECDR./HOBOS#					
				> 2.5 mg/L		22.1		N/A		6-9		< 4.0		0				NA					
				meter	mg/L	meter	°C	meter	mS/cm	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L	TECH	Date	RENEWAL AM PM	Feeding		
3 ppm Cd / .	0	WQ	40	7	7.9	7	22.4	2	243	5	7.8								CR	12/13	M	X	CR
3 ppm Cd / .	1	WQ	40	7	6.5	7	22.2	2	301	5	7.3								JL	12/14	JL		→
3 ppm Cd / .	2	WQ	40	7	6.2	7	22.2	2	254	5	7.3								JL	12/15	JL		→
3 ppm Cd / .	3	WQ	40	7	6.0	7	22.3	2	258	5	7.3								JL	12/16	JL	MS	MMS
3 ppm Cd / .	4	WQ	40	7	5.4	7	22.0	2	249	5	7.4								JL	12/17	JL	MS	MS
3 ppm Cd / .	5	WQ	40	7	4.2	7	22.2	2	240	5	7.3								JL	12/18	JL		→
3 ppm Cd / .	6	WQ	40	7	4.5	7	22.1	2	240	5	7.3								MMS	12/19	MMS		→
3 ppm Cd / .	7	WQ	40	7	4.5	7	22.5	2	230	5	7.3								JL	12/20	JL		→
3 ppm Cd / .	8	WQ	40	7	4.7	7	22.5	2	225	5	7.1								JL	12/21	JL		→
3 ppm Cd / .	9	WQ	40	7	4.3	7	22.5	2	221	5	7.2								JL	12/22	JL		→
3 ppm Cd / .	10	WQ	40	7	3.4	7	20.0	2	220	5	7.4								JL	12/23	JL		→
3 ppm Cd / .	11	WQ	40	7	3.1	7	22.9	2	221	5	7.1								JL	12/24	JL		→
3 ppm Cd / .	12	WQ	40	7	8.1	7	22.7	2	214	5	7.9								JL	12/25	JL		→
3 ppm Cd / .	13	WQ	40	7	8.4	7	22.2	2	216	5	8.1								JL	12/26	JL	→	CR
3 ppm Cd / .	14	WQ	40	7	8.3	7	22.2	2	224	5	8.2								JL	12/27	JL	MS	JL
3 ppm Cd / .	15	WQ	40	7	8.4	7	22.8	2	223	5	7.8								JL	12/28	JL		→
3 ppm Cd / .	16	WQ	40	7	8.4	7	22.8	2	228	5	7.7								JL	12/29	JL		→
3 ppm Cd / .	17	WQ	40	7	8.4	7	22.8	2	221	5	8.2								JL	12/30	JL	CR	CR
3 ppm Cd / .	18	WQ	40	7	8.3	7	22.6	2	225	5	8.0								MMS	12/31	MMS	MS	MS
3 ppm Cd / .	19	WQ	40	7	9.0	7	22.4	2	228	2	8.0								BM	1/1	BM		→
3 ppm Cd / .	20	WQ	40	7	8.7	7	21.5	2	225	5	7.9								CR	1/2			

① Aeration Initiated

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Chironomus tentans	NEWFIELDS LABORATORY Port Gamble Bath 4	PROTOCOL SLA 2004 March 2004
NEWFIELDS JOB NUMBER 0	PROJECT MANAGER Bill Gardiner	TEST START DATE 13Dec13	TIME	TEST END DATE 02Jan14

WATER QUALITY DATA

CLIENT/NEWFIELDS ID	DAY	REP	JAR #	DO (mg/L)		TEMP (C)		COND (mS/cm)		pH		NH3 (mg/L)		DILUTION WATER BATCH				TEMP. RECDR/HOBOP				
				> 2.5 mg/L		20-21	N/A	6-9	< 4.0	0				NA								
				D.O.		TEMP		CONDUCTIVITY		pH		Hardness		Alkalinity		INTER. Ammonia		TECH	Date	RENEWAL		Feeding
				meter	mg/L	meter	°C	meter	mS/cm	meter	unit	Techn.	mg/L	Techn.	mg/L	Techn.	mg/L			AM	PM	
1 ppm Cd / .	0	WQ	60	7	7.3	7	24.0	2	216	5	7.6							CR	12/13	M	X	CR
1 ppm Cd / .	1	WQ	60	7	5.4	7	22.3	2	259	5	7.4							JL	12/14	JL		→
1 ppm Cd / .	2	WQ	60	7	5.5	7	22.1	2	234	5	7.3							JL	12/15	JL		→
1 ppm Cd / .	3	WQ	60	7	5.5	7	22.4	2	237	5	7.2							JL	12/16	JL	HE	MMB
1 ppm Cd / .	4	WQ	60	7	5.1	7	22.1	2	221	5	7.4							JL	12/17	JL	HE	HE
1 ppm Cd / .	5	WQ	60	7	5.5	7	21.7	2	230	5	7.5							HE	12/18	HE		→
1 ppm Cd / .	6	WQ	60	7	3.9	7	22.0	2	220	5	7.3							MMB	12/19	MMB		
1 ppm Cd / .	7	WQ	60	7	3.4	7	22.2	2	220	5	7.2							HE	12/20	HE		→
1 ppm Cd / .	8	WQ	60	7	7.5	7	22.8	2	210	5	7.8							JL	12/21	JL		→
1 ppm Cd / .	9	WQ	60	7	7.7	7	22.4	2	219	5	7.7							JL	12/22	JL		→
1 ppm Cd / .	10	WQ	60	7	8.3	7	20.1	2	222	5	7.9							HE	12/23	HE		→
1 ppm Cd / .	11	WQ	60	7	7.6	7	22.7	2	224	5	7.7							HE	12/24	HE		→
1 ppm Cd / .	12	WQ	60	7	7.3	7	22.7	2	226	5	7.8							JL	12/25	JL		→
1 ppm Cd / .	13	WQ	60	7	7.1	7	23.0	2	225	5	7.9							JL	12/26	JL		CR
1 ppm Cd / .	14	WQ	60	7	9.1	7	22.4	2	224	5	7.8							HE	12/27	JL	HE	JL
1 ppm Cd / .	15	WQ	60	7	7.9	7	22.8	2	225	5	7.7							JL	12/28	JL		→
1 ppm Cd / .	16	WQ	60	7	8.0	7	22.7	2	224	5	7.5							JL	12/29	JL		→
1 ppm Cd / .	17	WQ	60	7	7.8	7	22.9	2	226	5	7.7							HE	12/30	HE	CR	CR
1 ppm Cd / .	18	WQ	60	7	7.5	7	22.6	2	221	5	7.8							MMB	12/31	MMB	HE	HE
1 ppm Cd / .	19	WQ	60	7	8.1	7	22.7	2	222	5	7.6							JL	1/1	JL		→
1 ppm Cd / .	20	WQ	60	7	7.8	7	21.4	2	217	5	7.6							CR	1/2	CR		

① WC HE 12/18 real data: 4.1, 22.2, 222, 7.3
 ② MR 12/20
 ③ JL HE 12/23
 ④ Aer. initiated
 ⑤ WC HE 12/24/13
 ⑥ HE 12/27
 ⑦ Wrong Page HE 12/30

Ammonia and Sulfide Analysis Record

Client/Project: <i>Favallon / Yakima Steel</i>	Organism: <i>dilutus</i> <i>Chironomus tentans</i>	Test Duration (days): <i>20</i>
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PRETEST / INITIAL / FINAL / OTHER (circle one) DAY of TEST: 0
OVERLYING (OV) / POREWATER (PW) (circle one)

Comments: _____

Calibration Standards Temperature		Sample temperature should be within $\pm 1^\circ\text{C}$ of standards temperature at time and date of analysis.
Date: <i>12/13/13</i>	Temperature: <i>20.1°C</i>	

Sample ID or Description	Conc. or Rep	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	pH	Cond. (µS/cm)	Hardness	Alkalinity
<i>Control</i>	<i>Surr</i>	<i>12/13/13 MMB</i>	<i>0.158^{0.180}</i>	<i>20.6</i>	<i>12/13/13 JE</i>			<i>73</i>	<i>62</i>
<i>TNWR</i>	<i>Surr</i>		<i>0.141</i>					<i>90</i>	<i>84</i>
<i>WETSED1</i>	<i>Surr</i>		<i>0.179</i>					<i>106</i>	<i>68</i>
<i>WETSED2</i>	<i>Surr</i>		<i>0.146</i>					<i>110</i>	<i>86</i>
<i>WETSED3</i>	<i>Surr</i>		<i>0.163</i>					<i>110</i>	<i>77</i>
<i>6 ppm Cd</i>	<i>Surr</i>		<i>0.193</i>					<i>104</i>	<i>86</i>
<i>3 ppm Cd</i>	<i>Surr</i>		<i>0.144</i>					<i>86</i>	<i>74</i>
<i>1 ppm Cd</i>	<i>Surr</i>		<i>0.164</i>					<i>88</i>	<i>76</i>
<i>Control</i>	<i>Surr.</i>	<i>②</i>							
<i>TNWR</i>		<i>12/13/13 MMB</i>	<i>1.15</i>	<i>20.1</i>	<i>12/13/13 MMB</i>	<i>6.9</i>	<i>522</i>		
<i>WETSED1</i>			<i>0.903</i>			<i>6.1</i>	<i>1011</i>		
<i>WETSED2</i>			<i>0.362</i>			<i>7.0</i>	<i>734</i>		
<i>WETSED3</i>			<i>1.14</i>			<i>6.8</i>	<i>880</i>		
<i>6 ppm Cd</i>			<i>1.02</i>			<i>6.8</i>	<i>744</i>		
<i>3 ppm Cd</i>			<i>0.967</i>			<i>6.9</i>	<i>675</i>		
<i>1 ppm Cd</i>			<i>1.42</i>			<i>6.9</i>	<i>524</i>		

① Wrong Data sheet. JL 12/13/13.
 ② Insufficient PW collected for analysis, MMB 12/13/13.

Ammonia and Sulfide Analysis Record

Client/Project: <i>Farallon Yakima Steel</i>	Organism: <i>Chironomus dilutus</i>	Test Duration (days): <i>20</i>
---	--	------------------------------------

PRETEST / INITIAL / FINAL / OTHER (circle one) DAY of TEST: 20
OVERLYING (OV) / POREWATER (PW) (circle one)

Comments: _____

Calibration Standards Temperature		Sample temperature should be within $\pm 1^\circ\text{C}$ of standards temperature at time and date of analysis.
Date: <i>1/02/14</i>	Temperature: <i>22.8°C</i>	

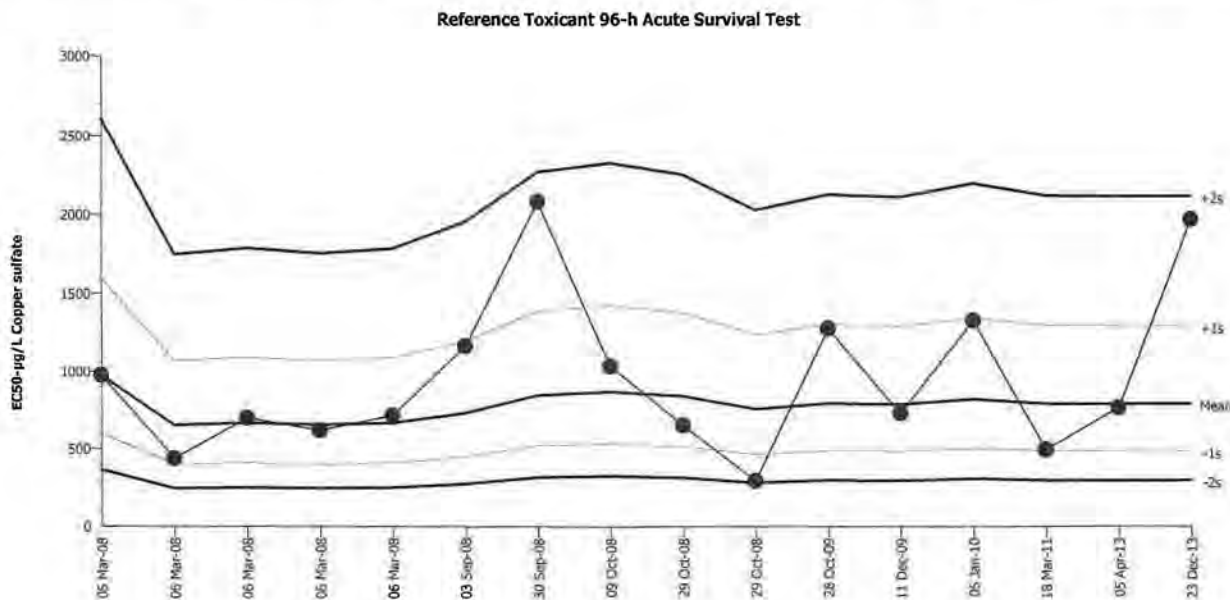
Sample ID or Description	Conc. or Rep	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	pH	Cond. (µS/cm)	Hardness	Alkalinity
<i>OV</i> Control	Surr	<i>1/02/14 JL</i>	<i>0.826</i>	<i>22.0</i>	<i>1/02/14 JL</i>			<i>83</i>	<i>80</i>
TNWR	Surr		<i>0.166</i>					<i>85</i>	<i>81</i>
WETSED1	Surr		<i>0.469</i>					<i>74</i>	<i>68</i>
WETSED2	Surr		<i>0.482</i>					<i>99</i>	<i>94</i>
WETSED3	Surr		<i>0.379</i>					<i>106</i>	<i>96</i>
6 ppm Cd	Surr		<i>0.479</i>					<i>94</i>	<i>93</i>
3 ppm Cd	Surr		<i>0.107</i>					<i>95</i>	<i>88</i>
1 ppm Cd	Surr		<i>0.0749</i>					<i>94</i>	<i>86</i>
<i>PW</i> Control	Surr.	<i>1/02/14 JL</i>	<i>0.892</i>	<i>23.1</i>	<i>1/02/14 JL</i>	<i>7.5</i>	<i>③</i>		
TNWR		<i>①</i>							
WETSED1			<i>0.984</i>			<i>6.5</i>	<i>161</i>		
WETSED2			<i>0.472</i>			<i>7.1</i>	<i>258</i>		
WETSED3			<i>0.586</i>			<i>7.1</i>	<i>284</i>		
6 ppm Cd			<i>1.31</i>			<i>7.0</i> <i>②</i>	<i>255</i> <i>②</i>		
3 ppm Cd			<i>0.330</i>			<i>7.1</i>	<i>275</i>		
1 ppm Cd			<i>0.318</i>			<i>6.9</i>	<i>269</i>		

① Surrogate broken down for test endpoints. JL 1/02/14. ② WC, JL 1/02/14.
 ③ Insufficient volume collected. JL 1/02/14.

Reference Toxicant 96-h Acute Survival Test

NewFields

Test Type: Survival Organism: Chironomus tentans (Midge) Material: Copper sulfate
 Protocol: EPA/600/R-99/064 (2000) Endpoint: Proportion Survived Source: Reference Toxicant-REF



Mean: 791.6 Count: 15 -1s Warning Limit: 484.2 -2s Action Limit: 296.1
 Sigma: NA CV: 63.50% +1s Warning Limit: 1295 +2s Action Limit: 2117

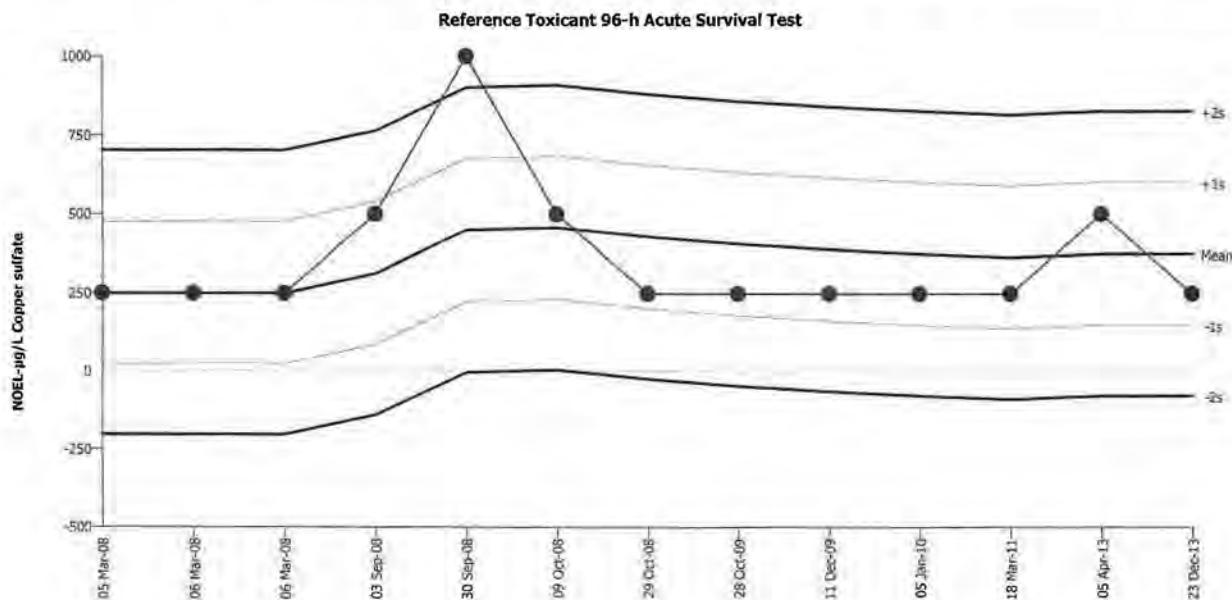
Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2008	Mar	5	16:00	974.8	183.3	0.4236			17-5088-4869	11-7430-3641
2			6	14:05	437.1	-354.4	-1.208	(-)		10-4266-7095	07-8420-5733
3			6	15:05	700.2	-91.36	-0.2494			09-6742-7330	06-0683-4966
4			6	16:00	619.4	-172.1	-0.4987			02-0080-2416	15-7152-5574
5			6	16:15	715.4	-76.15	-0.2057			12-5808-8991	12-4168-5866
6		Sep	3	16:30	1165	373.2	0.7855			01-8134-6872	13-6131-9850
7			30	18:00	2084	1292	1.968	(+)		05-7665-9837	05-0478-5679
8		Oct	9	16:45	1035	243.7	0.5459			19-1052-3253	20-8060-3660
9			29	14:15	653.3	-138.2	-0.3904			02-9367-4519	13-0089-1252
10			29	14:30	293.9	-497.6	-2.015	(-)	(-)	03-9491-8836	07-7627-7935
11	2009		28	17:30	1278	486.9	0.9749			04-4419-7321	11-1661-0546
12		Dec	11	0:00	731.4	-60.12	-0.1607			07-8382-2402	16-5362-0061
13	2010	Jan	5	15:35	1329	537.7	1.054	(+)		14-8176-7957	10-7765-4505
14	2011	Mar	18	17:55	494.5	-297.1	-0.9569			02-8320-1653	15-5071-3578
15	2013	Apr	5	15:30	767.9	-23.63	-0.06162			20-0809-1169	11-3931-6693
16		Dec	23	14:20	1968	1177	1.852	(+)		05-8986-6629	12-7746-8734

Reference Toxicant 96-h Acute Survival Test

NewFields

Test Type: Survival Organism: Chironomus tentans (Midge) Material: Copper sulfate
 Protocol: EPA/600/R-99/064 (2000) Endpoint: Proportion Survived Source: Reference Toxicant-REF



Mean: 375 Count: 12 -1s Warning Limit: 148.9 -2s Action Limit: -77.2
 Sigma: 226.1 CV: 60.30% +1s Warning Limit: 601.1 +2s Action Limit: 827.2

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2008	Mar	5	16:00	250	-125	-0.5529			17-5088-4869	07-1723-5244
2			6	16:00	250	-125	-0.5529			02-0080-2416	08-2909-0446
3			6	16:15	250	-125	-0.5529			12-5808-8991	07-2685-6747
4		Sep	3	16:30	500	125	0.5529			01-8134-6872	09-4866-9316
5			30	18:00	1000	625	2.764	(+)	(+)	05-7665-9837	13-6324-1710
6		Oct	9	16:45	500	125	0.5529			19-1052-3253	06-1542-1647
7			29	14:15	250	-125	-0.5529			02-9367-4519	04-2601-2129
8	2009		28	17:30	250	-125	-0.5529			04-4419-7321	13-1806-8962
9		Dec	11	0:00	250	-125	-0.5529			07-8382-2402	10-8260-1706
10	2010	Jan	5	15:35	250	-125	-0.5529			14-8176-7957	17-4968-8256
11	2011	Mar	18	17:55	250	-125	-0.5529			02-8320-1653	04-7138-7893
12	2013	Apr	5	15:30	500	125	0.5529			20-0809-1169	13-5361-1168
13		Dec	23	14:20	250	-125	-0.5529			05-8986-6629	20-5449-8532

CETIS Analytical Report

Report Date: 03 Jan-14 13:03 (p 1 of 2)
 Test Code: 2328A685 | 05-8986-6629

Reference Toxicant 96-h Acute Survival Test

NewFields

Analysis ID: 12-7746-8734	Endpoint: Proportion Survived	CETIS Version: CETISv1.8.6
Analyzed: 03 Jan-14 13:02	Analysis: Linear Regression (MLE)	Official Results: Yes
Batch ID: 08-4027-1305	Test Type: Survival	Analyst:
Start Date: 23 Dec-13 14:20	Protocol: EPA/600/R-99/064 (2000)	Diluent: Diluted Mineral Water
Ending Date: 27 Dec-13 14:55	Species: Chironomus tentans	Brine: Not Applicable
Duration: 4d 1h	Source: Aquatic Biosystems, CO	Age:
Sample ID: 17-8394-4451	Code: 6A54D503	Client: Internal Lab
Sample Date: 22 May-12	Material: Copper sulfate	Project: Reference Toxicant
Receive Date:	Source: Reference Toxicant	
Sample Age: 580d 14h	Station: p120522.36	

Linear Regression Options

Model Function	Threshold Option	Threshold	Optimized	Pooled	Het Corr	Weighted
Log-Normal [NED=A+B*log(X)]	Control Threshold	1E-07	Yes	No	No	Yes

Regression Summary

Iters	LL	AICc	BIC	Mu	Sigma	Adj R2	F Stat	Critical	P-Value	Decision(α:5%)
15	-96.09	199.4	201.7	3.294	0.5081	0.8051	2.36	3.16	0.1055	Non-Significant Lack of Fit

Point Estimates

Level	μg/L	95% LCL	95% UCL
EC5	287.3	146.5	430.4
EC10	439.5	259.8	611.1
EC15	585.4	379.7	779.7
EC20	735.3	509.6	953.3
EC25	894.1	650.8	1141
EC40	1463	1146	1890
EC50	1968	1546	2669

Regression Parameters

Parameter	Estimate	Std Error	95% LCL	95% UCL	t Stat	P-Value	Decision(α:5%)
Threshold	6.66E-08	4.08E-05	-8E-05	8.00E-05	0.001632	0.9987	Non-Significant Parameter
Slope	1.968	0.2832	1.413	2.523	6.949	<0.0001	Significant Parameter
Intercept	-6.484	0.8942	-8.236	-4.731	-7.251	<0.0001	Significant Parameter

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Model	72.58878	72.58878	1	97.01	<0.0001	Significant
Lack of Fit	4.436558	1.478853	3	2.36	0.1055	Non-Significant
Pure Error	11.27713	0.626507	18			
Residual	15.71368	0.748271	21			

Residual Analysis

Attribute	Method	Test Stat	Critical	P-Value	Decision(α:5%)
Goodness-of-Fit	Pearson Chi-Sq GOF	15.71	32.67	0.7855	Non-Significant Heterogeneity
	Likelihood Ratio GOF	16.86	32.67	0.7197	Non-Significant Heterogeneity
Variances	Mod Levene Equality of Variance	2.245	2.773	0.0942	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9171	0.9169	0.0504	Normal Distribution
	Anderson-Darling A2 Normality	0.7498	2.492	0.0507	Normal Distribution

Proportion Survived Summary

C-μg/L	Control Type	Count	Calculated Variate(A/B)								
			Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	Dilution Water	4	1	1	1	0	0	0.0%	0.0%	40	40
250		4	1	1	1	0	0	0.0%	0.0%	35	35
500		4	0.85	0.7	1	0.06455	0.1291	15.19%	15.0%	34	40
1000		4	0.65	0.4	0.8	0.0866	0.1732	26.65%	35.0%	26	40
2000		4	0.55	0.4	0.7	0.06455	0.1291	23.47%	45.0%	22	40
4000		4	0.275	0.2	0.4	0.04787	0.09574	34.82%	72.5%	11	40

CETIS Analytical Report

Report Date: 03 Jan-14 13:03 (p 2 of 2)
 Test Code: 2328A685 | 05-8986-6629

Reference Toxicant 96-h Acute Survival Test

NewFields

Analysis ID: 12-7746-8734 Endpoint: Proportion Survived
 Analyzed: 03 Jan-14 13:02 Analysis: Linear Regression (MLE)

CETIS Version: CETISv1.8.6
 Official Results: Yes

Proportion Survived Detail

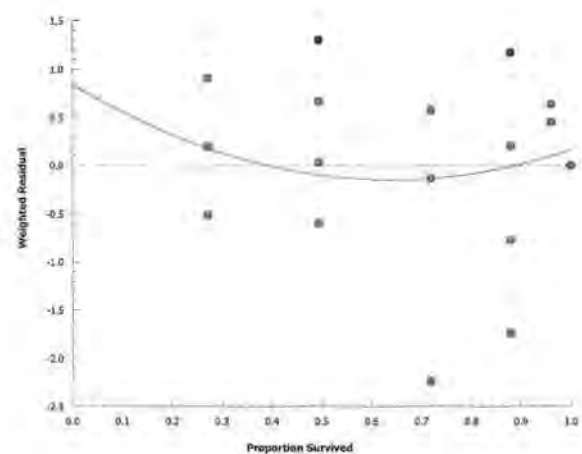
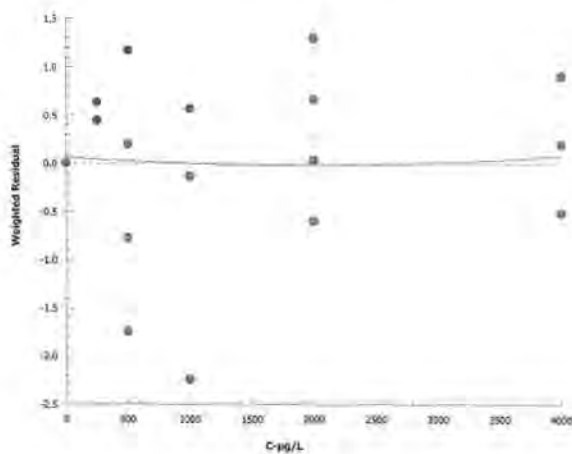
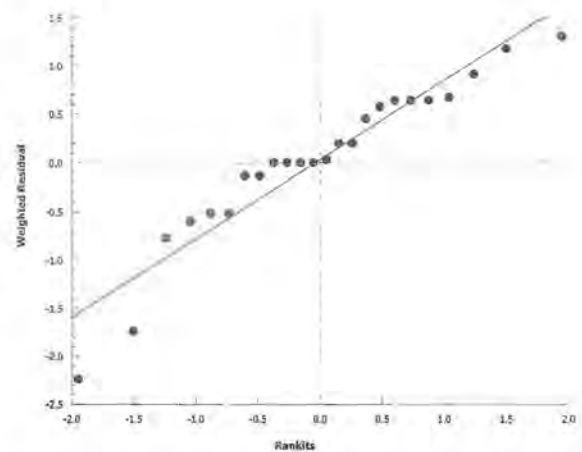
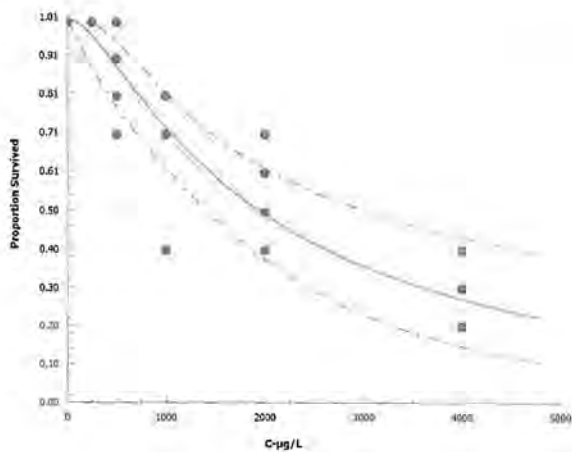
C-µg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	1	1	1	1
250		1	1	1	1
500		0.8	0.7	1	0.9
1000		0.7	0.4	0.8	0.7
2000		0.7	0.6	0.5	0.4
4000		0.3	0.2	0.4	0.2

Proportion Survived Binomials

C-µg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	10/10	10/10	10/10	10/10
250		10/10	10/10	5/5	10/10
500		8/10	7/10	10/10	9/10
1000		7/10	4/10	8/10	7/10
2000		7/10	6/10	5/10	4/10
4000		3/10	2/10	4/10	2/10

Graphics

Log-Normal [NED=A+B*log(X)]



CETIS Analytical Report

Report Date: 03 Jan-14 13:03 (p 1 of 2)
 Test Code: 2328A685 | 05-8986-6629

Reference Toxicant 96-h Acute Survival Test

NewFields

Analysis ID: 20-5449-8532	Endpoint: Proportion Survived	CETIS Version: CETISv1.8.6
Analyzed: 03 Jan-14 13:02	Analysis: Parametric-Control vs Treatments	Official Results: Yes
Batch ID: 08-4027-1305	Test Type: Survival	Analyst:
Start Date: 23 Dec-13 14:20	Protocol: EPA/600/R-99/064 (2000)	Diluent: Diluted Mineral Water
Ending Date: 27 Dec-13 14:55	Species: Chironomus tentans	Brine: Not Applicable
Duration: 4d 1h	Source: Aquatic Biosystems, CO	Age:
Sample ID: 17-8394-4451	Code: 6A54D503	Client: Internal Lab
Sample Date: 22 May-12	Material: Copper sulfate	Project: Reference Toxicant
Receive Date:	Source: Reference Toxicant	
Sample Age: 580d 14h	Station: p120522 36	

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	NOEL	LOEL	TOEL	TU
Angular (Corrected)	NA	C > T	NA	NA	13.3%	250	500	353.6	

Dunnnett Multiple Comparison Test

Control	vs C-µg/L	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Dilution Water	250	0.1869	2.407	0.215	6	0.7724	CDF	Non-Significant Effect
	500*	2.489	2.407	0.215	6	0.0427	CDF	Significant Effect
	1000*	5.249	2.407	0.215	6	0.0001	CDF	Significant Effect
	2000*	6.445	2.407	0.215	6	<0.0001	CDF	Significant Effect
	4000*	9.682	2.407	0.215	6	<0.0001	CDF	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.314478	0.4628955	5	29.06	<0.0001	Significant Effect
Error	0.2867599	0.01593111	18			
Total	2.601238		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	2.058	4.248	0.1186	Equal Variances
Variances	Levene Equality of Variance	3.384	4.248	0.0249	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9654	0.884	0.5549	Normal Distribution

Proportion Survived Summary

C-µg/L	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Dilution Water	4	1	1	1	1	1	1	0	0.0%	0.0%
250		4	1	1	1	1	1	1	0	0.0%	0.0%
500		4	0.85	0.6446	1	0.85	0.7	1	0.06455	15.19%	15.0%
1000		4	0.65	0.3744	0.9256	0.7	0.4	0.8	0.0866	26.65%	35.0%
2000		4	0.55	0.3446	0.7554	0.55	0.4	0.7	0.06455	23.47%	45.0%
4000		4	0.275	0.1227	0.4273	0.25	0.2	0.4	0.04787	34.82%	72.5%

Angular (Corrected) Transformed Summary

C-µg/L	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Dilution Water	4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.0%	0.0%
250		4	1.395	1.342	1.448	1.412	1.345	1.412	0.01668	2.39%	1.18%
500		4	1.19	0.9005	1.479	1.178	0.9912	1.412	0.09091	15.28%	15.73%
1000		4	0.9435	0.6555	1.232	0.9912	0.6847	1.107	0.0905	19.18%	33.18%
2000		4	0.8368	0.6273	1.046	0.8357	0.6847	0.9912	0.06584	15.74%	40.73%
4000		4	0.5479	0.3787	0.7171	0.5216	0.4636	0.6847	0.05317	19.41%	61.2%

CETIS Analytical Report

Report Date: 03 Jan-14 13:03 (p 2 of 2)
 Test Code: 2328A685 | 05-8986-6629

Reference Toxicant 96-h Acute Survival Test

NewFields

Analysis ID: 20-5449-8532 Endpoint: Proportion Survived
 Analyzed: 03 Jan-14 13:02 Analysis: Parametric-Control vs Treatments

CETIS Version: CETISv1.8.6
 Official Results: Yes

Proportion Survived Detail

C-µg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	1	1	1	1
250		1	1	1	1
500		0.8	0.7	1	0.9
1000		0.7	0.4	0.8	0.7
2000		0.7	0.6	0.5	0.4
4000		0.3	0.2	0.4	0.2

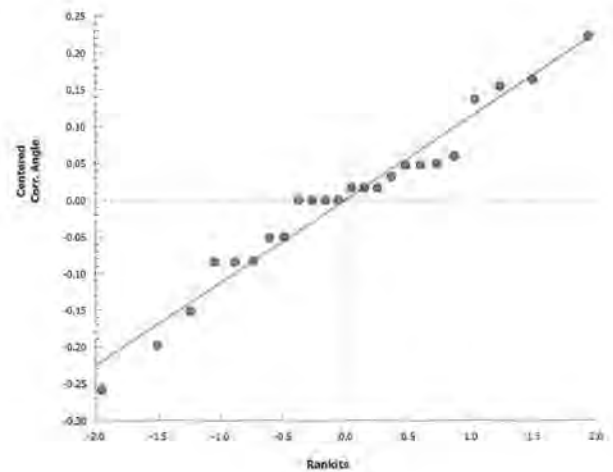
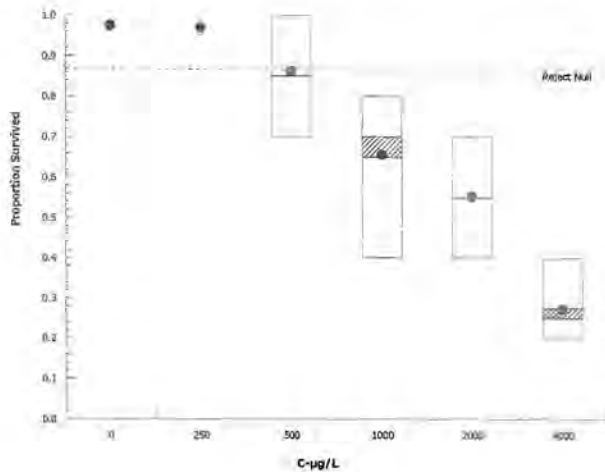
Angular (Corrected) Transformed Detail

C-µg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	1.412	1.412	1.412	1.412
250		1.412	1.412	1.345	1.412
500		1.107	0.9912	1.412	1.249
1000		0.9912	0.6847	1.107	0.9912
2000		0.9912	0.8861	0.7854	0.6847
4000		0.5796	0.4636	0.6847	0.4636

Proportion Survived Binomials

C-µg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	10/10	10/10	10/10	10/10
250		10/10	10/10	5/5	10/10
500		8/10	7/10	10/10	9/10
1000		7/10	4/10	8/10	7/10
2000		7/10	6/10	5/10	4/10
4000		3/10	2/10	4/10	2/10

Graphics



Agri-Tech/Yakima Steel Wetland Sediment Evaluation

Appendix D

Porewater TIE Test Data Sheets and Analytical Chemistry

Appendix D.1

*10-Day Porewater TIE Test with *Hyaella azteca**

CLIENT Farallon	PROJECT Yakima Steel	JOB NUMBER	PROJECT MAN. Bill Gardiner	LABORATORY Port Gamble, WA	PROTOCOL	SPECIES Hyalieia	ACCLM.MORT. #REF!
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ENDPOINT DATA & OBSERVATIONS

CLIENT/NEWFIELDS ID	REP	JAR #	INITIAL #	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	NUMBER REMAINING	WEIGH BOAT NUMBER	TARE WEIGHT (mg)	TOTAL WEIGHT (mg)	ASH FREE DRY WEIGHT (mg)
				TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN					
Control /	1			2/01	2/02	2/03	2/04	2/05	2/06	2/07	2/08	2/09	2/10				
	2			JL	JL	JL	GR	GR	MK	MK	JL	JL	GR				
	3			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓				
	4			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓				
	5			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓				
WS-1 PW /	1			↓	↓	↓	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)				
	2			↓	↓	↓	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)				
	3			↓	↓	↓	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)				
	4			↓	↓	↓	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)				
	5			↓	↓	↓	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)				
WS-1 PW C18 /	1			↓	↓	↓	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)				
	2			↓	↓	↓	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)				
	3			↓	↓	↓	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)				
	4			↓	↓	↓	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)				
	5			↓	↓	↓	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)	0(4)				
C18 Control /	1			↓	↓	↓	2(0)	4	4	4	4	4	4				
	2			↓	↓	↓	4	4	4	4	4	4	4				
	3			↓	↓	↓	4	4	4	4	4	4	4				
	4			↓	↓	↓	4	4	4	4	4	4	4				
	5			↓	↓	↓	4	4	4	4	4	4	4				
SIR300 /	1			↓	↓	↓	2(i)	N	N	1(i)	1	1	1				
	2			↓	↓	↓	2(i)	↓	↓	3(4)	2	2	2				
	3			↓	↓	↓	1(i)	↓	↓	0(i)	1	1	1				
	4			↓	↓	↓	1(0)	↓	↓	1	1	1	1				
	5			↓	↓	↓	4	4	4	4	4	4	4				

- ① JL 2/01
- ② obs 2/4 normal, # alive, (# dead) GR
- ③ WC MK 2/7
- ④ wrong data sheet. JL 2/10/14

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallela	LABORATORY Port Gamble, WA	PROTOCOL MOTPA 2007 - 424/2109-439/04
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TIME	TEST END DATE 10Feb14

WATER QUALITY DATA #1

				DO (mg/L) > 2.5		TEMP (C) 23±1		COND.(µS/cm) vary < 50%		pH 7.8-8.2		DILUTION WATER BATCH 0		TEMP.RECDR./HOB0# 0			
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
Control / .	0	WQ	Surr	7	8.7	7	20.7	2	195	12	0.1	8	7.6	KMB			
Control / .	1	WQ	Surr	6	8.4	5	23.8	6	207	5	0.7	5	7.9	JL			
Control / .	2	WQ	Surr	6	8.1	5	22.8	6	218	5		5	7.8	JL			
Control / .	3	WQ	Surr	7	8.8	7	22.1	6	231			5	7.9	GR			
Control / .	4	WQ	Surr	6	7.1	6	22.0	6	245			5	7.9	MMB			
Control / .	5	WQ	Surr	7	4.8	7	23.1	2	248			8	6.8	MMB			
Control / .	6	WQ	Surr	6	5.8	5	23.0	6	276			5	7.6	MK			
Control / .	7	WQ	Surr	7	6.0	8	21.9	2	485			8	6.9	MK			
Control / .	8	WQ	Surr	6	7.1	5	22.3	2	505			5	6.9	JL			
Control / .	9	WQ	Surr	6	7.8	5	22.5	6	494			5	7.1	JL			
Control / .	10	WQ	Surr	6	8.7	5	22.8	6	466			5	7.4	MK			

① W.C. JL 2601

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyalloella	LABORATORY Port Gamble, WA	PROTOCOL NOVA 2004 - 8/14/05/07/08/09
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TEST END DATE 10Feb14	TIME

WATER QUALITY DATA #1

				DO (mg/L)	TEMP (C)	COND. (µS/cm)	pH	DILUTION WATER BATCH		TEMP. RECDR./HOBO#					
				> 2.5	23±1	vary < 50%	7.8-8.2	0		0					
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity	pH	TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt		meter	unit	
WS-1 PW / .	0	WQ	Surr	7	4.7	7	23.3	2	1805		8	5.40	KMB		
WS-1 PW / .	1	WQ	Surr	6	8.3	5	23.9	6	1769		5	5.1	JL		
WS-1 PW / .	2	WQ	Surr	6	7.7	5	23.1	6	1737	5	5	5.3	JL		
WS-1 PW / .	3	WQ	Surr	7	8.0	7	23.1	6	1691		5	5.9	CR CR 20		
WS-1 PW / .	4	WQ	Surr	6	7.8	6	23.0	6	1612		5	6.5	MMB		
WS-1 PW / .	5	WQ	Surr	③											
WS-1 PW / .	6	WQ	Surr												
WS-1 PW / .	7	WQ	Surr												
WS-1 PW / .	8	WQ	Surr												
WS-1 PW / .	9	WQ	Surr												
WS-1 PW / .	10	WQ	Surr												

① remeasured prior to initiation pH=6.5
 ② IE CR 2/3

③ Testing discontinued MMB 2/5/14

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallela	LABORATORY Port Gamble, WA	PROTOCOL
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TIME	TEST END DATE 10Feb14

WATER QUALITY DATA #1																	
				DO (mg/L)		TEMP (C)		COND. (µS/cm)		pH		DILUTION WATER BATCH			TEMP. RECDR./HOBON#		
				> 2.5		23±1		vary < 50%		7.8-8.2		0			0		
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
WS-1 PW C18 / .	0	WQ	Surr	7	8.3	7	22.2	2	1751			8	5.1 [ⓐ]	KMB			
WS-1 PW C18 / .	1	WQ	Surr	6	8.5	5	23.9	6	1750			5	7.2	JL			
WS-1 PW C18 / .	2	WQ	Surr	6	7.8	5	23.2	6	1691			5	7.2 [ⓐ]	JL			
WS-1 PW C18 / .	3	WQ	Surr	7	7.1	7	23.5	6	1659			5	7.0	CR	CR		
WS-1 PW C18 / .	4	WQ	Surr	6	6.3	6	22.7	6	1589			5	6.9	MMMS			
WS-1 PW C18 / .	5	WQ	Surr	③													
WS-1 PW C18 / .	6	WQ	Surr														
WS-1 PW C18 / .	7	WQ	Surr														
WS-1 PW C18 / .	8	WQ	Surr														
WS-1 PW C18 / .	9	WQ	Surr														
WS-1 PW C18 / .	10	WQ	Surr														

ⓐ 10 µL 25% NaOH added bringing pH to 7.0
 ⓑ MF. JL 2/02/14.

ⓒ Testing discontinued 2/5/14 MMMS

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallela	LABORATORY Port Gamble, WA	PROTOCOL COLUM 2000 - EPA/AC017-10/0001
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TEST END DATE 10Feb14	TIME

WATER QUALITY DATA #1

				DO (mg/L)	TEMP (C)	COND. (µS/cm)	pH	DILUTION WATER BATCH	TEMP. RECDR./HOB#								
				> 2.5	23±1	vary < 50%	7.8-8.2	0	0								
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
C18 Control / .	0	WQ	Surr	7	8.8	7	23.5	188	2	8	7.8	CR					
C18 Control / .	1	WQ	Surr	6	8.4	5	23.7	202	5	5	7.8	JL					
C18 Control / .	2	WQ	Surr	6	7.5	5	23.2	204		5	7.8	JL					
C18 Control / .	3	WQ	Surr	7	8.4	7	23.6	236		5	7.8	CR	CR				
C18 Control / .	4	WQ	Surr	6	8.7	6	22.2	272		5	7.7	MMS					
C18 Control / .	5	WQ	Surr	③													
C18 Control / .	6	WQ	Surr														
C18 Control / .	7	WQ	Surr														
C18 Control / .	8	WQ	Surr														
C18 Control / .	9	WQ	Surr														
C18 Control / .	10	WQ	Surr														

① WQ CR 1/31 correct temp. = 23.1°C
 ② WQ JL 2/01

③ Testing discontinued MMS 2/5/14

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallela	LABORATORY Port Gamble, WA	PROTOCOL USEPA 2000 - EPA/600/R-97/041
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TEST END DATE 10Feb14	TIME

WATER QUALITY DATA #1

CLIENT/NEWFIELDS ID	DAY	REP	JAR #	DO (mg/L)		TEMP (C)		COND. (µS/cm)		pH		DILUTION WATER BATCH		TEMP. RECDR./HOBO#		
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit	TECHNICIAN	WATER RENEWAL AM	FEED-ING PM
WS-1 SIR300 / .	0	WQ	Surr	7	8.1	7	22.8	2	2247			8	5.50	KMB		
WS-1 SIR300 / .	1	WQ	Surr	6	6.5	5	23.8	6	2.27 MS/cm	5		5	7.7	JL		
WS-1 SIR300 / .	2	WQ	Surr	6	5.0	5	23.3	6	2.21 MS/cm	5		5	7.3	JL		
WS-1 SIR300 / .	3	WQ	Surr	7	7.7	7	23.9	6	2169			5	7.4	CR	CR	
WS-1 SIR300 / .	4	WQ	Surr	6	7.1	6	22.8	6	2095			5	7.2	MMMB		
WS-1 SIR300 / .	5	WQ	Surr	7	4.9	7	23.2	2	1982			8	6.5	MMMB		
WS-1 SIR300 / .	6	WQ	Surr	6	7.8	5	22.5	6	190315			5	7.6	MK		
WS-1 SIR300 / .	7	WQ	Surr	6	7.2	5	22.8	6	1912			8	6.6	MK		
WS-1 SIR300 / .	8	WQ	Surr	6	7.5	5	22.4	6	505			5	7.1	JL		
WS-1 SIR300 / .	9	WQ	Surr	6	7.8	5	22.6	6	1766			5	7.1	JL		
WS-1 SIR300 / .	10	WQ	Surr	6	8.9	5	22.6	6	1631			5	7.4	MK		

- ① 25µL 25% added to bring pH to 8.6
- ② spilled some of the solution while doing WQ MK 2/6/14 ← wrong page MK
- ③ WC MK
- ④ probe incompletely placed in vial

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallolela	LABORATORY Port Gamble, WA	PROTOCOL HPLSA 2020 - EPA/600/R-99/064
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TIME	TEST END DATE 10Feb14

WATER QUALITY DATA #1																		
				DO (mg/L) > 2.5	TEMP (C) 23±1	COND. (µS/cm) vary < 50%	pH 7.8-8.2	DILUTION WATER BATCH 0			TEMP. RECDR./HOBO# 0							
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN		WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit	AM	PM			
SIR300 Control / .	0	WQ	Surr	7	8.7	7	22.0	2	179			8	7.2	KUB				
SIR300 Control / .	1	WQ	Surr	6	8.8	5	24.5	6	193			5	7.8	JL				
SIR300 Control / .	2	WQ	Surr	6	7.5	5	23.1	6	201			5	7.6	JL				
SIR300 Control / .	3	WQ	Surr	7	6.8	7	23.9	6	218			5	7.6	CR				
SIR300 Control / .	4	WQ	Surr	6	8.0	6	22.3	6	203			5	7.6	MMS				
SIR300 Control / .	5	WQ	Surr	7	5.2	7	23.2	2	265			8	6.9	MMS				
SIR300 Control / .	6	WQ	Surr	6	8.9	5	21.8	6	157	194.4		5	8.1	MK				
SIR300 Control / .	7	WQ	Surr	8	3.5	8	22.0	2	328			8	6.7	MK				
SIR300 Control / .	8	WQ	Surr	6	4.0	5	22.3	6	333			5	6.9	JL				
SIR300 Control / .	9	WQ	Surr	6	5.1	5	22.4	6	332			5	7.2	JL				
SIR300 Control / .	10	WQ	Surr	6	5.0	5	22.4	6	381			5	7.4	MK				

① wrong page MK 2/6/14

CLIENT Farallon		PROJECT Yakima Steel		SPECIES Hyallela		LABORATORY Port Gamble, WA		PROTOCOL CDECA 2000 - 65AF400/FR-35/201	
JOB NUMBER		PROJECT MANAGER Bill Gardiner		TEST START DATE 31Jan14		TIME		TEST END DATE 10Feb14	

WATER QUALITY DATA #1

				DO (mg/L) > 2.5		TEMP (C) 23±1		COND. (µS/cm) vary < 50%		pH 7.8-8.2		DILUTION WATER BATCH 0		TEMP. RECDR./HOBOS# 0				
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN		WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit	AM	PM			
EDTA 1 Control / .	0	WQ	Surr	7	8.9	7	22.9	2	155			8	7.96	KMB				
EDTA 1 Control / .	1	WQ	Surr	6	8.6	5	24.5	6	164			5	7.6	JL				
EDTA 1 Control / .	2	WQ	Surr	6	7.3	5	23.4	6	155			5	7.3	JL				
EDTA 1 Control / .	3	WQ	Surr	7	8.3	7	24.0	6	161			5	7.5	CR				
EDTA 1 Control / .	4	WQ	Surr	6	7.1	6	23.0	6	173			5	7.2	MMB				
EDTA 1 Control / .	5	WQ	Surr															
EDTA 1 Control / .	6	WQ	Surr															
EDTA 1 Control / .	7	WQ	Surr															
EDTA 1 Control / .	8	WQ	Surr															
EDTA 1 Control / .	9	WQ	Surr															
EDTA 1 Control / .	10	WQ	Surr															

① WC. KMB 1/31/14

② WP. JL 2/10/14

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallela	LABORATORY Port Gamble, WA	PROTOCOL USEPA 2009 - EPA/600/R-09/061
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TEST END DATE 10Feb14	TIME

WATER QUALITY DATA #1																	
				DO (mg/L) > 2.5	TEMP (C) 23±1	COND.(µS/cm) vary < 50%	pH 7.8-8.2	DILUTION WATER BATCH 0			TEMP.RECDR./HOBO# 0						
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
WS-1 EDTA 1 / .	0	WQ	Surr	7	6.1	7	22.0	2	1795.78			8	2.82.6	KMB			
WS-1 EDTA 1 / .	1	WQ	Surr	6	7.7	5	24.3	6	1749			5	7.2	JL			
WS-1 EDTA 1 / .	2	WQ	Surr	6	7.8	5	23.2	6	1722			5	7.3	JL			
WS-1 EDTA 1 / .	3	WQ	Surr	7	8.4	7	24.2	6	1700			5	7.3	CR	CR		
WS-1 EDTA 1 / .	4	WQ	Surr	6	8.9	6	22.4	6	1672			5	7.5	MMS			
WS-1 EDTA 1 / .	5	WQ	Surr														
WS-1 EDTA 1 / .	6	WQ	Surr														
WS-1 EDTA 1 / .	7	WQ	Surr														
WS-1 EDTA 1 / .	8	WQ	Surr														
WS-1 EDTA 1 / .	9	WQ	Surr														
WS-1 EDTA 1 / .	10	WQ	Surr														

① WC. KMB 1/11/14
 ② 75µL 25% NaOH added to bring pH to 7.3

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallolella	LABORATORY Port Gamble, WA	PROTOCOL USDA 2003 - EPA/600/R-97/061
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TEST END DATE 10Feb14	TIME

WATER QUALITY DATA #1

				DO (mg/L) > 2.5	TEMP (C) 23±1	COND.(µS/cm) vary < 50%	pH 7.8-8.2	DILUTION WATER BATCH 0		TEMP.RECDR./HOBO# 0								
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN		WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit	AM	PM			
EDTA 2 Control / .	0	WQ	Surr	7	9.0	7	22.0	2	161			8	6.3	KMB				
EDTA 2 Control / .	1	WQ	Surr	6	8.2	5	24.7	6	540			5	7.3	JL				
EDTA 2 Control / .	2	WQ	Surr	6	7.9	5	23.4	6	532			5	7.6	JL				
EDTA 2 Control / .	3	WQ	Surr	7	8.5	7	24.2	6	541			5	7.8	CR	CR			
EDTA 2 Control / .	4	WQ	Surr	6	9.2	6	22.3	6	561			5	7.9	MMS				
EDTA 2 Control / .	5	WQ	Surr															
EDTA 2 Control / .	6	WQ	Surr															
EDTA 2 Control / .	7	WQ	Surr															
EDTA 2 Control / .	8	WQ	Surr															
EDTA 2 Control / .	9	WQ	Surr															
EDTA 2 Control / .	10	WQ	Surr															

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallela	LABORATORY Port Gamble, WA	PROTOCOL USDA 2009 - 2014/01/14 - 01/14/14
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TEST END DATE 10Feb14	TIME

WATER QUALITY DATA #1																	
				DO (mg/L)	TEMP (C)		COND. (µS/cm)		pH	DILUTION WATER BATCH		TEMP. RECDR./HOBO#					
				> 2.5	23±1		vary < 50%		7.8-8.2	0		0					
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
WS-1 EDTA 2 / .	0	WQ	Surr	7	6.0	7	22.0	2	1793		8	7.80	FMB				
WS-1 EDTA 2 / .	1	WQ	Surr	6	7.8	5	24.4	6	1750		5	6.8	JL				
WS-1 EDTA 2 / .	2	WQ	Surr	6	7.9	5	23.3	6	1701		5	7.0	JL				
WS-1 EDTA 2 / .	3	WQ	Surr	7	8.6	7	24.3	6	1701		5	7.1	CR	CR			
WS-1 EDTA 2 / .	4	WQ	Surr	6	9.4	6	22.8	6	1648		5	7.1	MMS				
WS-1 EDTA 2 / .	5	WQ	Surr														
WS-1 EDTA 2 / .	6	WQ	Surr														
WS-1 EDTA 2 / .	7	WQ	Surr														
WS-1 EDTA 2 / .	8	WQ	Surr														
WS-1 EDTA 2 / .	9	WQ	Surr														
WS-1 EDTA 2 / .	10	WQ	Surr														

① NaOH added to bring pH to 7.8 ^{wrong page CR 1/31}
 7.5 ML 25%
 6.7

CLIENT Farallon	PROJECT Yakima Steel
JOB NUMBER	PROJECT MANAGER Bill Gardiner

SPECIES Hyallela	LABORATORY Port Gamble, WA	PROTOCOL MSEA 2009 - PRAWQ13A-09/04.1
TEST START DATE 31Jan14	TIME	TEST END DATE 10Feb14

WATER QUALITY DATA #1																	
				DO (mg/L) > 2.5	TEMP (C) 23±1	COND.(µS/cm) vary < 50%	pH 7.8-8.2	DILUTION WATER BATCH 0			TEMP.RECDR./HOBO# 0						
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
WS-1 Filtered / .	0	WQ	Surr	7	7.3	7	22.3	2	1772			8	5.85	KMP			
WS-1 Filtered / .	1	WQ	Surr	6	8.3	5	24.5	5	1760			5	6.9	JL			
WS-1 Filtered / .	2	WQ	Surr	6	8.1	5	23.3	6	1713			5	6.9	JL			
WS-1 Filtered / .	3	WQ	Surr	7	7.7	7	24.4	2	1705			8	7.0	CR	CR		
WS-1 Filtered / .	4	WQ	Surr	6	9.1	6	22.3	6	1655			5	7.1	MMR			
WS-1 Filtered / .	5	WQ	Surr														
WS-1 Filtered / .	6	WQ	Surr														
WS-1 Filtered / .	7	WQ	Surr														
WS-1 Filtered / .	8	WQ	Surr														
WS-1 Filtered / .	9	WQ	Surr														
WS-1 Filtered / .	10	WQ	Surr														

① remeasured prior to initiation pH = 6.9

Ammonia and Sulfide Analysis Record

Client/Project: <i>Farrallon / Yakima Steel</i>	Organism: <i>Nitella azteca</i>	Test Duration (days): <i>10</i>
--	------------------------------------	------------------------------------

PRETEST / INITIAL / FINAL / OTHER (circle one) DAY of TEST: 10
OVERLYING (OV) / POREWATER (PW) (circle one)

Comments: _____

Calibration Standards Temperature		Sample temperature should be within $\pm 1^\circ\text{C}$ of standards temperature at time and date of analysis.
Date: <i>2/10/14</i>	Temperature: <i>21.7°C</i>	

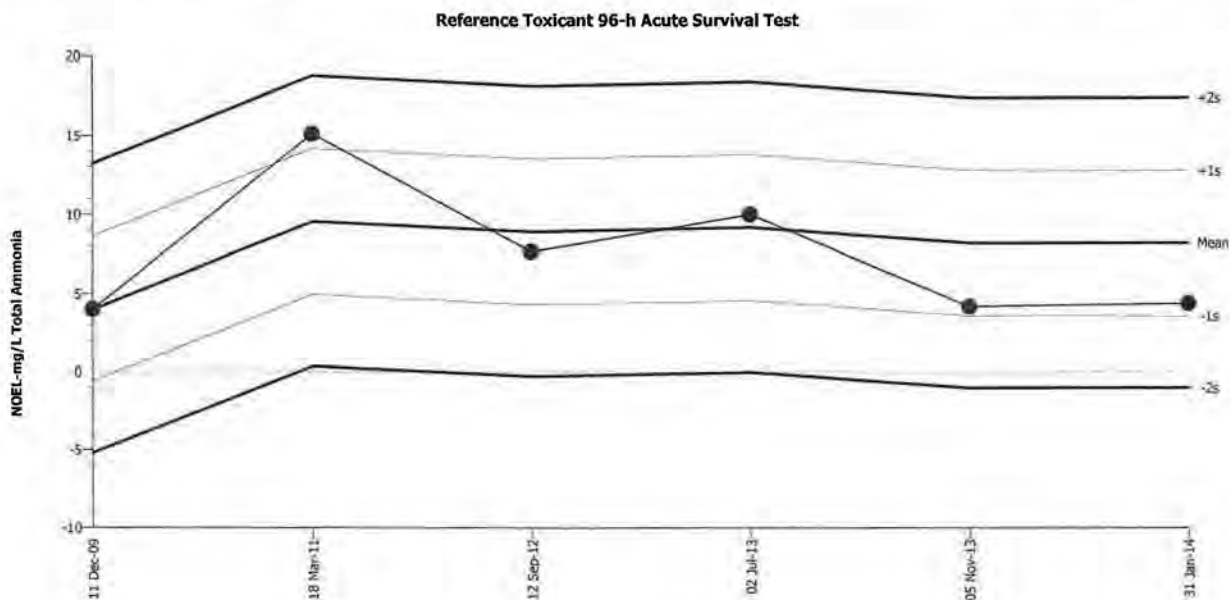
Sample ID or Description	Conc. or Rep	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	pH	Cond. (µS/cm)	Hardness	Alkalinity
OV Ø	Surv.	<i>2/10/14 mmb</i>	<i>0.821</i>	<i>21.2</i>	<i>2/10/14 JL</i>	<i>NA</i>	<i>NA</i>	<i>84</i>	<i>78</i>
OV WEISED 1	↓	↓	<i>0.513</i>	↓	↓	↓	↓	<i>80</i>	<i>74</i>
WEISED 1 SIR-300	↓	↓	<i>0.249</i>	↓	↓	↓	↓	<i>76</i>	<i>66</i>
WEISED 1 PCC	↓	↓	<i>0.433</i>	↓	↓	↓	↓	<i>79</i>	<i>72</i>
SIR-300 Blank	↓	↓	<i>0.409</i>	↓	↓	↓	↓	<i>46</i>	<i>58</i>
↓ PCC Blank	↓	↓	<i>1.34</i>	↓	↓	↓	↓	<i>82</i>	<i>74</i>
PW Ø	Surv.	<i>2/10/14 JL</i>	①	<i>22.3</i>	<i>2/10/14 JL</i>	①		<i>NA</i>	<i>NA</i>
WEISED 1	↓	↓	<i>0.768</i>	↓	↓	<i>6.5</i>	↓	↓	↓
WEISED 1 SIR-300	↓	↓	<i>1.08</i>	↓	↓	<i>6.2</i>	↓	↓	↓
WEISED 1 PCC	↓	↓	<i>0.738</i>	↓	↓	<i>6.5</i>	↓	↓	↓
SIR-300 Blank	↓	↓	<i>5.54</i>	↓	↓	<i>7.3</i>	↓	↓	↓
↓ PCC Blank	↓	↓	<i>2.35</i> ②	↓	↓	<i>7.0</i>	↓	↓	↓

① insufficient volume collected for analyses, JL 2/10/14.
 ② WC. JL 2/10/14.

Reference Toxicant 96-h Acute Survival Test

NewFields

Test Type: Survival Organism: Hyalella azteca (Freshwater Amphip) Material: Total Ammonia
 Protocol: EPA/600/R-99/064 (2000) Endpoint: Proportion Survived Source: Reference Toxicant-REF



Mean: 8.192 Count: 5 -1s Warning Limit: 3.59 -2s Action Limit: -1.012
 Sigma: 4.602 CV: 56.20% +1s Warning Limit: 12.79 +2s Action Limit: 17.4

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2009	Dec	11	16:05	4.01	-4.182	-0.9087			06-0392-7981	12-3327-0136
2	2011	Mar	18	17:40	15.1	6.908	1.501	(+)		14-6934-6989	04-6091-1142
3	2012	Sep	12	15:30	7.65	-0.542	-0.1178			15-6980-0340	11-2557-0477
4	2013	Jul	2	16:54	10	1.808	0.3929			14-0245-1637	04-9865-2715
5		Nov	5	14:15	4.2	-3.992	-0.8674			00-2973-8704	21-2079-0542
6	2014	Jan	31	17:30	4.4	-3.792	-0.824			04-3440-6883	19-1835-3562

Appendix D.2

10-Day Porewater TIE Test with Microtox



Toxicological Evaluation of Freshwater Sediments

Microtox

Report date: December 28, 2013

Submitted to:

NEWFIELDS NORTHWEST

P.O. Box 216

Port Gamble, WA 98364

5013 Pacific Hwy East
Suite 20
Tacoma, WA 98424

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SIGNATURE PAGE

Eric Tollefson

Eric Tollefson
Project Manager

This report has been prepared based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party.

1.0 INTRODUCTION

Freshwater sediment samples were collected and evaluated for toxicity as part of a project being conducted by NewFields Northwest. Freshwater sediment samples were tested for toxicity using Microtox® tests.

2.0 METHODS

2.1 Sample Collection and Transportation

NewFields personnel collected three freshwater sediment subsamples on December 10, 2013. Samples were shipped by Fed Ex and received by Rainier Environmental on December 12, 2013. Sample containers were inspected upon receipt and the contents verified against information on the chain-of-custody form. The samples were stored at 4°C in the dark until used for testing.

2.2 Test Procedures

The luminescent marine bacterium *Vibrio fischeri* was used as the test organism for the Microtox® tests. The bacteria were exposed to porewater extracted from the sediment samples and light readings were measured after a 5 minute incubation period and then after an additional 5 minutes and 10 minutes of exposure. Testing was performed using the Microtox® Model 500 Analyzer which measures light output and is equipped with a 15°C chamber to maintain test temperature in the samples and a 4°C chamber to keep the rehydrated bacteria chilled.

Vials of freeze-dried bacteria (Microtox® Acute Reagent Lot # 12B4010, Expiration date 2/15) were obtained from Strategic Diagnostics, Inc. and stored at -20°C until use. On the day of the test, a vial was rehydrated with 1.0 ml of Microtox® Reconstitution Solution, mixed thoroughly, and allowed to equilibrate for 30 minutes at 4°C. The bacteria were used within 2 hours of rehydration.

The tests were conducted in accordance with Washington Department of Ecology (WDOE, 2008) test protocol, which are summarized in Table 1. Approximately 25 milliliters (mL) of porewater was extracted from each sample by centrifugation for 30 minutes at 4500 G. Each porewater extract was adjusted to a salinity of 20 parts per thousand (ppt) with Crystal Sea artificial sea salt. The dissolved oxygen (DO) in each sample was between 50 and 100 percent saturation (5.0 to 10.2 mg/L) and did not require aeration. The pH was adjusted to 7.9 to 8.2, as necessary, using NaOH or HCl. The laboratory control consisted of deionized water adjusted to 20 ppt with artificial seasalt. Each porewater was tested within 3 hours of extraction.

Tests were conducted using five replicates. Disposable glass cuvettes were placed in the Microtox® test wells and 1 mL of salinity-adjusted porewater was added. The rehydrated bacteria (reagent) were thoroughly mixed and 10 microliters (μ L) were added to each test cuvette. After an initial incubation period of 5 minutes, the first control cuvette was placed in the read chamber of the Microtox® Analyzer to set the instrument. Initial light readings (I_0) were then taken by placing each cuvette in the read chamber of the Microtox® Analyzer and measurements were recorded on a data sheet. Light output was measured in each cuvette after an additional 5 minutes (I_5) and 10 minutes (I_{15}) of exposure. Test acceptability criteria is a mean control final light output greater than 72 percent of initial output and a test mean output not greater than 110 percent of the control mean output.

The data were evaluated statistically by conducting one-tailed t-tests on the change in light output over time for the test sediment porewaters compared to the control

A reference toxicant test using copper chloride was conducted in conjunction with the sediment porewater test to ensure that the sensitivity of the test was within the acceptable range of historical values determined in this laboratory.

Table 1. Summary of methods for the Microtox test.

Test date	December 13, 2013
Test organism source	Strategic Diagnostics
Batch number and expiration date	Lot#12B4010, Expiry 2/15
Control	Saltwater (20 ppt) prepared with Crystal Sea Marine Mix
Sample preparation	Centrifugation at 4500 G for 30 minutes; salinity adjustment to 20 ppt using Crystal Sea Marine Mix; pH adjustment to 7.9-8.2
Test chamber	Glass cuvette
Test volume	1 mL
Volume of inoculum/replicate	10 μ L
Number of replicates/sample	5
Test temperature	15 \pm 1°C
Aeration	None
Reference toxicant	Copper Chloride

3.0 RESULTS

The results of toxicity tests conducted using Microtox® are provided in Tables 2 and 3. The samples did not exceed sediment quality standards for the State of Washington (WDOE 2008).

Table 2. Results of Microtox® tests.

Sample ID	Change in light output as a % of	
	Control (5 minutes)	Change in light output as a % of Control (15 minutes)
9	104	98
6	104	102
3	107	107
1	107	107
0	106	110

Table 3. Statistical analyses of Microtox results.

Sample ID	<u>5-minute reading</u>		<u>15 minute reading</u>	
	Mean % change in light output	Significantly different relative to the control	Mean % change in light output	Significantly different relative to the control
Control	91 ± 3	—	79 ± 4	—
9	95 ± 5	No	77 ± 4	No
6	94 ± 3	No	80 ± 7	No
3	98 ± 3	No	84 ± 5	No
1	98 ± 2	No	85 ± 2	No
1	97 ± 1	No	86 ± 2	No

4.0 QA/QC

The Microtox tests met control acceptance criteria and there were no deviations from protocol.

Results of reference toxicant test used to monitor laboratory performance and test organism sensitivity are provided in Table 4. The results for the reference toxicant test fell within the range of mean ± two standard deviations of historical results, indicating that test organisms were of an appropriate degree of sensitivity.

Table 4. Reference toxicant test results.

Exposure Duration	Test date	Toxicant	EC50	Acceptable Range	CV (%)
5 Minutes	December 13, 2013	Copper	1228 µg/L	948-1628	13.2
15 Minutes			432 µg/L	398-615	10.7

5.0 REFERENCES

- American Society of Testing and Materials (ASTM). 2000. Test Method for Measuring the Toxicity of Sediment-Associated Contaminants with Freshwater Invertebrates. ASTM Designation E 1706-00.
- U.S. Environmental Protection Agency (USEPA). 2000. Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates. EPA/600/R-99/064.
- Washington Department of Ecology (WDOE). 2008. Sediment Sampling and Analysis Plan Appendix: Guidance on the Development of Sediment Sampling and Analysis Plans Meeting the Requirements of the Sediment Management Standards Publication No. 03-09-043. Revised February 2008.

APPENDIX A - Results Summaries

Appendix Table A. Microtox 100 Percent Sediment Porewater Test
Sites 9,6,3,1,0
Client NewFields
Test Date: 12/13/13

Site	Light Reading								$T_{(mean)}/C_{(mean)}$	Quality Control Steps	
	Reading	Replicate					Mean	St.Dev.		$F_{c(mean)}/I_{c(mean)}$	$(I_{(0)}/I_{(5)})/I_{(0)}/C_{(mean)}$
		1	2	3	4	5					
CON	$I_{(0)}$	92	93	88	95	92	92				
	$I_{(5)}$	81	86	80	84	87	84			0.91	
	$I_{(15)}$	68	77	70	73	75	73			0.79	
	$C_{(5)}$	0.88	0.92	0.91	0.88	0.95	0.91	0.03			
	$C_{(15)}$	0.74	0.83	0.80	0.77	0.82	0.79	0.04			
9	$I_{(0)}$	85	83	89	89	90	87				0.95
	$I_{(5)}$	77	77	91	85	83	83				
	$I_{(15)}$	64	62	75	69	67	67				
	$T_{(5)}$	0.91	0.93	1.02	0.96	0.92	0.95	0.05	1.04		
	$T_{(15)}$	0.75	0.75	0.84	0.78	0.74	0.77	0.04	0.98		
6	$I_{(0)}$	97	93	89	87	89	91				0.99
	$I_{(5)}$	88	87	83	85	85	86				
	$I_{(15)}$	73	70	70	80	71	73				
	$T_{(5)}$	0.91	0.94	0.93	0.98	0.96	0.94	0.03	1.04		
	$T_{(15)}$	0.75	0.75	0.79	0.92	0.80	0.80	0.07	1.02		
3	$I_{(0)}$	89	83	85	82	83	84				0.92
	$I_{(5)}$	87	79	81	79	86	82				
	$I_{(15)}$	74	66	67	72	76	71				
	$T_{(5)}$	0.98	0.95	0.95	0.98	1.04	0.98	0.03	1.07		
	$T_{(15)}$	0.83	0.80	0.79	0.88	0.92	0.84	0.05	1.07		
1	$I_{(0)}$	85	82	72	84	82	81				0.88
	$I_{(5)}$	80	82	70	82	81	79				
	$I_{(15)}$	70	71	59	73	70	69				
	$T_{(5)}$	0.94	1.00	0.97	0.98	0.89	0.98	0.02	1.07		
	$T_{(15)}$	0.82	0.87	0.82	0.87	0.85	0.85	0.02	1.07		
0	$I_{(0)}$	87	84	82	83	85	84				0.92
	$I_{(5)}$	84	82	80	80	81	81				
	$I_{(15)}$	75	72	71	74	72	73				
	$T_{(5)}$	0.97	0.98	0.96	0.96	0.95	0.97	0.01	1.06		
	$T_{(15)}$	0.86	0.86	0.87	0.89	0.85	0.86	0.02	1.10		

$I_{(0)}$ is the light reading after the initial five minute incubation period

$I_{(5)}$ is the light reading five minutes after $I_{(0)}$

$I_{(15)}$ is the light reading fifteen minutes after $I_{(0)}$

$C_{(0)}$, $R_{(0)}$, and $T_{(0)}$ are the changes in light readings from the initial reading in each sample container for the control, reference sediment

Quality Control Steps:

1. Is control final mean output greater than or equal to 72% control initial mean output?

$I_{(5)}/F_{c(mean)}/I_{c(mean)}$: **91% YES**

$I_{(15)}/F_{c(mean)}/I_{c(mean)}$: **79% YES**

YES: Control results are acceptable and can be used for statistical analyses.

NO: Control results are unacceptable (use reference sediment for statistical analysis if available).

2. Are test initial mean values greater than or equal to 80% of control initial mean values?

S1 $T_{(mean)}/C_{(mean)}$: **95% YES**

S2 $T_{(mean)}/C_{(mean)}$: **99% YES**

S3 $T_{(mean)}/C_{(mean)}$: **92% YES**

S4 $T_{(mean)}/C_{(mean)}$: **88% YES**

S5 $T_{(mean)}/C_{(mean)}$: **92% YES**

INVALID: If the test sediment is greater than 110%, the results in uninterpretable

YES: If test sediment is reference, reference is acceptable

APPENDIX B - Laboratory Bench Sheets

Rainier Environmental
 5013 Pacific Hwy. E., Suite 20
 Tacoma, WA 98424

Raw Data Sheet
 Microtox
 100% Sediment Porewater Toxicity

Client Name: Newfields

Test Date: 12/13/13

Sample ID: 9,6,3,1,0

Test No.: 13R-030, 13R-031, 13R-032
13R-033, 13R-034

Site	Light Reading	Time	Replicate				
			1	2	3	4	5
CON	I ₍₀₎	5 min	92	93	88	95	92
	I ₍₅₎	10min	81	86	80	84	87
	I ₍₁₅₎	20 min	68	77	70	73	75
9	I ₍₀₎	5 min	85	83	89	89	90
	I ₍₅₎	10min	77	77	91	85	83
	I ₍₁₅₎	20 min	64	62	75	69	67
6	I ₍₀₎	5 min	97	93	89	87	89
	I ₍₅₎	10min	88	87	83	85	85
	I ₍₁₅₎	20 min	73	70	70	80	71
3	I ₍₀₎	5 min	89	83	85	82	83
	I ₍₅₎	10min	87	79	81	79	86
	I ₍₁₅₎	20 min	74	66	67	72	76
1	I ₍₀₎	5 min	85	82	72	84	82
	I ₍₅₎	10min	80	82	70	82	81
	I ₍₁₅₎	20 min	70	71	59	73	70
0	I ₍₀₎	5 min	87	84	82	83	85
	I ₍₅₎	10min	84	82	80	80	81
	I ₍₁₅₎	20 min	75	72	71	74	72

Comments: _____

APPENDIX C - Water Quality Results

Rainier Environmental
 5013 Pacific Highway E., Suite 20
 Tacoma, WA 98424

Physical and Chemical
 Measurements of Porewaters
 Sediment Bioassays

Analyst: et

Client: NewFields

Test Date: 12/13/13

Test Type: Microtox 100% Porewater Toxicity Test

Test No: 13R-030, 13R-031, 13R-032, 13R-033, 13R-034 Test Species: Vibrio fischeri

Site	Initial Salinity (ppt)	Final Salinity (ppt)	Initial D.O. (mg/L)	Final D.O. (mg/L)	Initial pH	Adjusted pH	NaOH or HCl Vol. Used	Final Porewater Conc.	Ammonia
CON	20.0	20.0	7.5	7.5	8.15	6.8	—	100%	<1.0
9	0.0	19.3	6.7	6.7	7.99	—	—	100%	<1.0
6	0.0	20.1	7.2	7.2	7.83	7.92	10µL 0.1N NaOH	99.9%	<1.0
3	0.0	20.6	6.8	6.8	7.68	7.97	50µL 0.1N NaOH	99.8%	<1.0
1	0.0	20.7	6.7	6.7	7.58	7.98	100µL 0.1N NaOH	99.6%	<1.0
0	0.0	19.5	7.0	7.0	7.54	7.96	140µL 0.1N NaOH	99.4	<1.0

Sample Description: _____

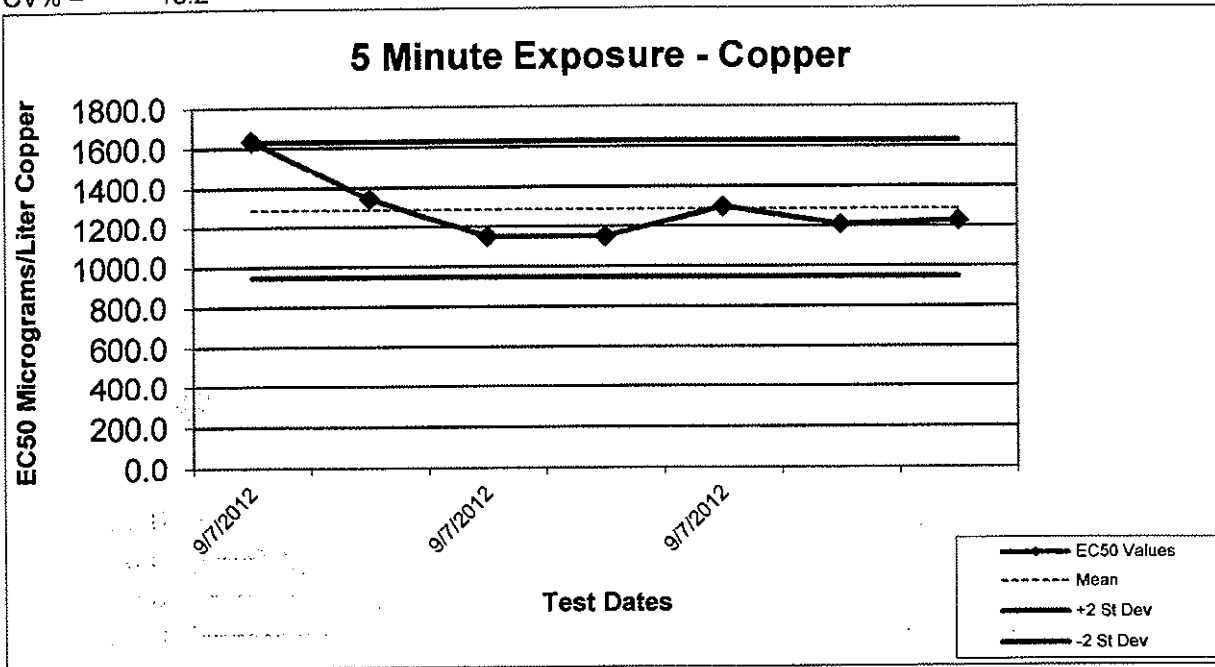
Comments: _____

QA Check: et

APPENDIX D - Reference Toxicant Tests

Reference Toxicant Control Chart Microtox 5-Minute Exposure

CV% = 13.2

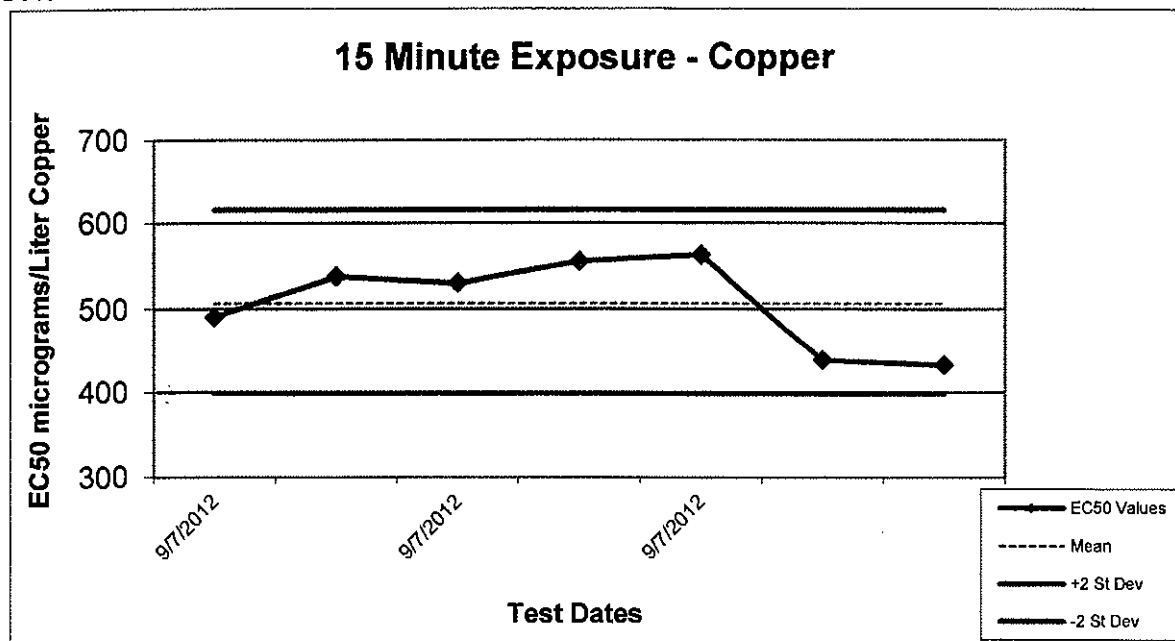


Date	Time	EC50 %	EC50 µ/L Copper ^a	Mean	StDev	-2 SD	+2 SD
9/7/2012	8:53	81.8	1636.0	1287.5	170.0	947.5	1627.6
9/7/2012	9:36	67.2	1344.0	1287.5	170.0	947.5	1627.6
9/7/2012	10:00	57.4	1148.0	1287.5	170.0	947.5	1627.6
9/7/2012	10:28	57.4	1148.0	1287.5	170.0	947.5	1627.6
9/7/2012	10:54	65.0	1300.0	1287.5	170.0	947.5	1627.6
12/5/2013	17:17	60.4	1208.8	1287.5	170.0	947.5	1627.6
12/13/2013	13:22	61.4	1228.0	1287.5	170.0	947.5	1627.6

a - Highest concentration of Copper is 2000 micro grams/Liter

Reference Toxicant Control Chart Microtox 15-Minute Exposure

CV% = 10.7



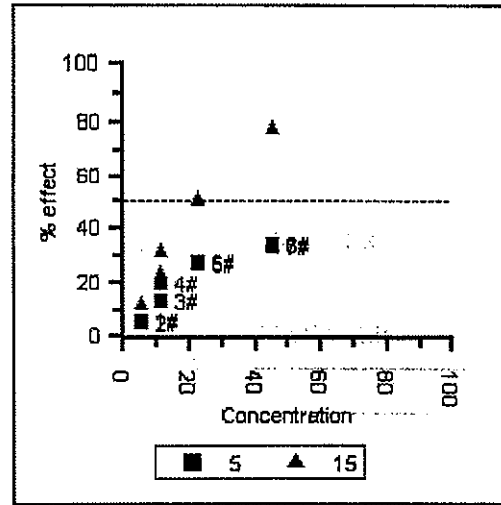
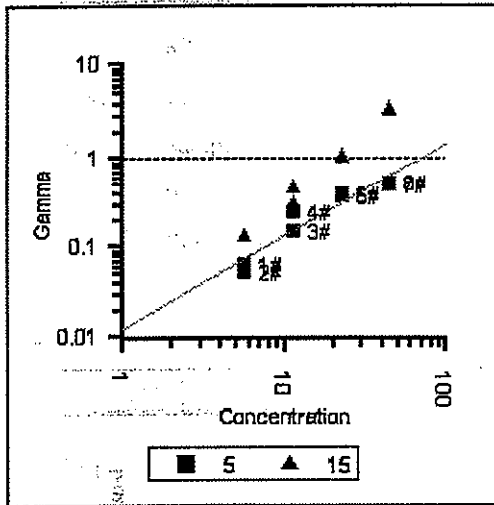
Date	Time	EC50 %	EC50 µg/L Copper ^a	Mean	StDev	-2 SD	+2 SD
9/7/2012	853	24.6	491.0	506.8	54.2	398.4	615.1
9/7/2012	937	26.9	537.8	506.8	54.2	398.4	615.1
9/7/2012	1001	26.5	530.2	506.8	54.2	398.4	615.1
9/7/2012	1028	27.8	555.4	506.8	54.2	398.4	615.1
9/7/2012	1055	28.2	563.0	506.8	54.2	398.4	615.1
12/5/2013	1717	21.9	438.0	506.8	54.2	398.4	615.1
12/13/2013	1322	21.6	432.0	506.8	54.2	398.4	615.1

a - Highest concentration of copper is 2000 micro grams/Liter

MicrotoxOmni Sample Results Report

Result Name: RTI21313VF
 Test Date/Time: 12/13/2013 1:22:05PM
 Sample Name: Sample 1
 Test Name: Basic Test
 Description: Reference Toxicant
 Toxicant:
 Test Location:

Instrument ID: MASTER
 Reagent Lot #:
 User ID: MANAGER



Time	Sample	Conc	IO	It	Gamma	%Effect
5 Mins	Control	0.00	93	95	1.022#	
	Control	0.00	95	95	1.010#	
	1	5.63	99	95	0.0648#	6.09%
	2	5.63	99	96	0.0509#	4.84%
	3	11.25	98	87	0.1474#	12.84%
	4	11.25	100	82	0.2416#	19.46%
	5	22.50	98	73	0.3616#	26.56%
	6	22.50	97	71	0.3848#	27.79%
7	45.00	103	70	0.4961#	33.16%	
8	45.00	98	66	0.5090#	33.73%	

Result Name: RT121313VF
 Test Date/Time: 12/13/2013 1:22:05PM
 Sample Name: Sample 1
 Test Name: Basic Test
 Description: Reference Toxicant
 Toxicant:
 Test Location:

Instrument ID: _MASTER
 Reagent Lot #:
 User ID: MANAGER

<i>15 Mins</i>						
Control	0.00	93	71	0.7699#		
Control	0.00	95	72	0.7641#		
1	5.63	99	68	0.1279#	11.34%	
2	5.63	99	72	0.0557#	5.28%	
3	11.25	98	57	0.3074#	23.51%	
4	11.25	100	53	0.4518#	31.12%	
5	22.50	98	37	1.002#	50.05%	
6	22.50	97	36	1.037#	50.92%	
7	45.00	103	18	3.440#	77.48%	
8	45.00	98	17	3.396#	77.25%	

- included, * - invalid

Statistics:

Data: 5 Mins

EC50 Concentration: 61.38%
 (95% Confidence Range: 37.14 to 101.4)
 EC50 value was calculated from extrapolated data.
 95% Confidence Factor: 1.653
 Estimating Equation:
 $\text{LOG C} = 0.8712 \times \text{LOG G} + 1.788$
 Correction Factor: 1.016
 Slope: 1.037
 Coeff of Determination (R²): 0.9034

Data: 15 Mins

Result Name: RT121313VF
Test Date/Time: 12/13/2013 1:22:05PM
Sample Name: Sample 1
Test Name: Basic Test
Description: Reference Toxicant
Toxicant:
Test Location:

Instrument ID: _MASTER
Reagent Lot #:
User ID: MANAGER

EC50 Concentration: 21.60%
(95% Confidence Range: 18.55 to 25.15)
95% Confidence Factor: 1.164
Estimating Equation:
LOG C = 0.5534 x LOG G + 1.334
Correction Factor: 0.7670
Slope: 1.747
Coeff of Determination (R²): 0.9667

The contents of this report are private and confidential.

Printed: 12/30/2013 9:11:06AM

Signature:

APPENDIX E - Chain-of Custody Forms

CHAIN OF CUSTODY



Shipping: 4770 NE View Dr. Mailing: P.O. Box 216
 Port Gamble, WA. 98364
 Tel: (360) 297-6045, Fax: (360) 297-6901

Destination Lab: Rainier Environmental		Sample Originator: NewFields			Report Results To:			Phone:					
Destination Contact: Eric Tollefson		Contact Name: Bill Gardiner			Contact Name:			Fax:					
Date: 12/11/2013		Address: See Above			Address:			Email:					
Turn-Around-Time													
Project Name: ATYS		Phone:			Analysis			Involving To:					
Contract/PO:		Fax:						Comments or Special Instructions:					
		E-mail: bgardiner@newfields.com											
No.	Sample ID	Matrix	No. & Type of Container	Date & Time	Microtox					Preservation	Sample Temp Upon Receipt	LAB ID	
1	9	SS	1 glass	12/10/2013 1250		X					4 deg C	4.2	13-161
2	6	SS	1 glass	12/10/2013 1305		X					4 deg C	3.9	13-162
3	3	SS	1 glass	12/10/2013 1340		X					4 deg C	4.5	13-163
4	1	SS	1 glass	12/10/2013 1415		X					4 deg C	4.6	13-164
5	0	SS	1 glass	12/10/2013 1440		X					4 deg C	4.5	12-165
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

Relinquished by:		Received by:		Relinquished by:		Received by:		Matrix Codes	
Print Name: Collin Kay	Print Name: ERIC TOLLEFSON	Print Name:	Print Name:	Print Name:	Print Name:	FW = Fresh Water			
Signature: <i>Collin Kay</i>	Signature: <i>Eric Tollefson</i>	Signature:	Signature:	Signature:	Signature:	WW = Waste Water			
Affiliation: NewFields	Affiliation: Rainier Environmental	Affiliation:	Affiliation:	Affiliation:	Affiliation:	SB = Salt & Brackish Water			
Date/Time: 12/11/13 1006	Date/Time: 12/10/13 1200	Date/Time:	Date/Time:	Date/Time:	Date/Time:	SS = Soil & Sediment			
Print Name:	Print Name:	Print Name:	Print Name:	Print Name:	Print Name:	TS = plant & Animal Tissue			
Signature:	Signature:	Signature:	Signature:	Signature:	Signature:	OT = Other			
Affiliation:	Affiliation:	Affiliation:	Affiliation:	Affiliation:	Affiliation:				
Date/Time:	Date/Time:	Date/Time:	Date/Time:	Date/Time:	Date/Time:				

Appendix D.3

Porewater TIE Test – Analytical Chemistry



Analytical Resources, Incorporated
Analytical Chemists and Consultants

February 13, 2014

Bill Gardiner
Newfields Northwest
4729 NE View Drive
Port Gamble, WA 98364

RE: Client Project: Yakima Steel
ARI Job No.: XY02

Dear Bill:

Please find enclosed the Chain-of-Custody record (COC), sample receipt documentation, and the final data package for samples from the project referenced above.

Sample receipt and analytical details are discussed in the Case Narrative.

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.ariblas.com

cc: eFile XY02

Enclosures

Chain of Custody Documentation

ARI Job ID: XY02

CHAIN OF CUSTODY

XY02



Shipping: 4770 NE View Dr. Mailing: P.O. Box 216
Port Gamble, WA. 98364

Tel: (360) 297-6045, Fax: (360)297-6901

Destination Lab: Analytical Resources Inc					Sample Originator: NewFields					Report Results To: NewFields					Phone			
Destination Contact: Cheronne Oreiro					Contact Name: Bill Gardiner					Contact Name: Bill Gardiner					Fax			
Date: 2/3/14					Address					Address					Email			
Turn-Around-Time: Standard															Phone		Analysis	
Project Name: Yakima Steel					Fax		Cadmium	Zinc	Manganese	Lead	Comments or Special Instructions:							
Contract/PO					E-mail											Preservation	Sample Temp Upon Receipt	LAB ID
No.	Sample ID	Matrix	No. & Type of Container	Date & Time														
1	WETSED-1	FW	1 Glass	2/3/2014 14:00	x	x	x	x				HCl						
2	WS-1 SIR 300	FW	1 Glass	2/3/2014 14:00	x	x	x	x				HCl						
3	WS-1 EDTA-low	FW	1 Glass	2/3/2014 14:00	x	x	x	x				HCl						
4	WS-1 EDTA- high	FW	1 Glass	2/3/2014 14:00	x	x	x	x				HCl						
5	WS-1 C18	FW	1 Glass	2/3/2014 14:00	x	x	x	x				HCl						
6	WS-1 Filtered	FW	1 Glass	2/3/2014 14:00	x	x	x	x				HCl						
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
Relinquished by:					Received by:					Relinquished by:					Received by:		Matrix Codes	
Print Name: Collin Ray					Print Name: A. Volgardsen					Print Name:					Print Name:		FW = Fresh Water	
Signature: <i>Collin Ray</i>					Signature: <i>A. Volgardsen</i>					Signature:					Signature:		WW = Waste Water	
Affiliation: NewFields					Affiliation: AR1					Affiliation:					Affiliation:		SB = Salt & Brackish Water	
Date/Time: 2/3/14 1426					Date/Time: 2/4/14 1020					Date/Time:					Date/Time:		SS = Soil & Sediment	
Print Name:					Print Name:					Print Name:					Print Name:		TS = plant & Animal Tissue	
Signature:					Signature:					Signature:					Signature:		OT = Other	
Affiliation:					Affiliation:					Affiliation:					Affiliation:			
Date/Time:					Date/Time:					Date/Time:					Date/Time:			

XY02: 2014



Cooler Receipt Form

ARI Client: Newfields

Project Name: Yakima Steel

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: X402

Tracking No: 7978 0417 1370 NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
Time: 1020 0.8

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID# 90877952

Cooler Accepted by: AV Date: 2/4/14 Time: 1020

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI: NA

Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: AV Date: 2/4/14 Time: 1132

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:
Samples received in 2oz wide mouth jars, preserved with +KI

By AV Date: 2/4/14

<p>Small Air Bubbles ~2mm</p>	<p>Peabubbles 2-4 mm</p>	<p>LARGE Air Bubbles > 4 mm</p>	<p>Small → "sm" (< 2 mm)</p> <p>Peabubbles → "pb" (2 to < 4 mm)</p> <p>Large → "lg" (4 to < 6 mm)</p> <p>Headspace → "hs" (> 6 mm)</p>
-----------------------------------	------------------------------	--	--



ARI Job No: XY02

Inquiry Number: NONE
 Analysis Requested: 02/04/14
 Contact: Gardiner, Bill
 Client: Newfields Northwest
 Logged by: AV
 Sample Set Used: Yes-481
 Validatable Package: Lv4
 Deliverables:

PC: Cheronne
 VTSR: 02/04/14

Project #:
 Project: Yakima Steel
 Sample Site:
 SDG No:
 Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	TPHD <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY	
14-1901 XY02A	WETSED-1						*TOT Pass												L2	MP2592	2ml	2-04-13 DM	
14-1902 XY02B	WS-1 SIR 300						*TOT Pass																
14-1903 XY02C	WS-1 EDTA-LOW						*TOT Pass																
14-1904 XY02D	WS-1 EDTA-HIGH						TOT Fail																
14-1905 XY02E	WS-1 C18						TOT Pass																
14-1906 XY02F	WS-1 FILTERED						TOT Fail																

*weak

50000 : 2014

Checked By AV Date 2/4/14

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: XY02



Case Narrative

Client: Newfields
Project: Yakima Steel
ARI Job No.: XY02

Sample Receipt

Six water samples were received on February 4, 2014 under ARI job XY02. The cooler temperature measured by IR thermometer following ARI SOP was 0.8°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

Metals by SW6010C

The samples and associated laboratory QC were digested and analyzed within the method recommended holding times.

The method blank was clean at the reporting limits. The LCS percent recoveries were within control limits.

Sample ID Cross Reference Report



ARI Job No: XY02
Client: Newfields Northwest
Project Event: N/A
Project Name: Yakima Steel

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. WETSED-1	XY02A	14-1901	Water	02/03/14 14:00	02/04/14 10:20
2. WS-1 SIR 300	XY02B	14-1902	Water	02/03/14 14:00	02/04/14 10:20
3. WS-1 EDTA-LOW	XY02C	14-1903	Water	02/03/14 14:00	02/04/14 10:20
4. WS-1 EDTA-HIGH	XY02D	14-1904	Water	02/03/14 14:00	02/04/14 10:20
5. WS-1 C18	XY02E	14-1905	Water	02/03/14 14:00	02/04/14 10:20
6. WS-1 FILTERED	XY02F	14-1906	Water	02/03/14 14:00	02/04/14 10:20



**Quality Control Parameters for Metals Analysis-ICP-OES
EPA Methods 200.7 and 6010C**

Analyte	Aqueous Samples ²			Spike Recovery		RPD ⁵	Solids ³	Tissue ⁴
	DL ¹ µg/L	LOD ¹ µg/L	LOQ ¹ µg/L	Matrix Spike	LCS		LOQ mg/kg	LOQ mg/kg
Aluminum	7.57	25	50	75 – 125	80 – 120	≤ 20	5.0	1.0
Antimony	6.28	25	50	75 – 125	80 – 120	≤ 20	5.0	1.0
Arsenic	3.33	25	50	75 – 125	80 – 120	≤ 20	5.0	1.0
Barium	1.33	1.5	3.0	75 – 125	80 – 120	≤ 20	0.3	0.06
Beryllium	0.16	0.5	1.0	75 – 125	80 – 120	≤ 20	0.1	0.02
Boron	7.39	10	20	75 – 125	80 – 120	≤ 20	2.0	0.4
Cadmium	0.18	0.5	2.0	75 – 125	80 – 120	≤ 20	0.2	0.04
Calcium	11.27	25	50	75 – 125	80 – 120	≤ 20	5.0	1.0
Chromium	1.24	2.5	5.0	75 – 125	80 – 120	≤ 20	0.5	0.1
Cobalt	0.27	1.5	3.0	75 – 125	80 – 120	≤ 20	0.3	0.06
Copper	0.92	1.0	2.0	75 – 125	80 – 120	≤ 20	0.2	0.04
Iron	7.50	25	50	75 – 125	80 – 120	≤ 20	5.0	1.0
Lead	1.55	10	20	75 – 125	80 – 120	≤ 20	2.0	0.4
Magnesium	9.61	25	50	75 – 125	80 – 120	≤ 20	5.0	1.0
Manganese	0.28	0.5	1.0	75 – 125	80 – 120	≤ 20	0.1	0.02
Molybdenum	0.79	2.5	5.0	75 – 125	80 – 120	≤ 20	0.5	0.1
Nickel	3.86	5.0	10	75 – 125	80 – 120	≤ 20	1.0	0.2
Potassium	65.70	250	500	75 – 125	80 – 120	≤ 20	50	10
Selenium	4.99	25	50	75 – 125	80 – 120	≤ 20	5.0	1.0
Silicon	8.17	30	60	75 – 125	80 – 120	≤ 20	(6)	(6)
Silver	0.43	1.5	3.0	75 – 125	80 – 120	≤ 20	0.3	0.06
Sodium	11.35	250	500	75 – 125	80 – 120	≤ 20	50	10
Strontium	0.09	1.0	1.0	75 – 125	80 – 120	≤ 20	0.1	0.02
Thallium	3.10	25	50	75 – 125	80 – 120	≤ 20	5.0	1.0
Tin	1.41	5.0	10	75 – 125	80 – 120	≤ 20	1.0	0.2
Titanium	2.11	2.5	5.0	75 – 125	80 – 120	≤ 20	0.5	0.1
Vanadium	0.27	1.5	3.0	75 – 125	80 – 120	≤ 20	0.3	0.06
Zinc	1.45	5.0	10	75 – 125	80 – 120	≤ 20	1.0	0.2

(1) Detection Limit (DL), Limit of Detection Limit (LOD) and Limit of Quantitation (LOQ) as defined in ARI SOP 1018S

(2) 50 mL sample and 50 mL final volume

(3) Solids LOQ based on 100% solids using 1.0 g sample with 100 mL final volume.

(4) Tissue is reported on an "as received" (wet weight) basis using 2.5 g sample with 50 mL final volume.

(5) Relative Percent Difference between analytes in replicate analyzes. If C_O and C_D are the concentrations of the

original and duplicate respectively then

$$RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} \times 100$$

(6) ARI does not analyze for Silicon in solids or tissue samples

Metals Analysis
Report and Summary QC Forms

ARI Job ID: XY02

Cover Page

INORGANIC ANALYSIS DATA PACKAGE



CLIENT: Newfields Northwest

PROJECT: Yakima Steel

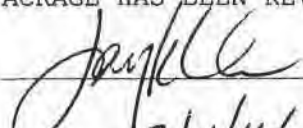
SDG: XY02

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
WETSED-1	XY02A	14-1901	
PBW	XY02MB1	14-1901	
LCSW	XY02MB1SPK	14-1901	
WS-1 SIR 300	XY02B	14-1902	
WS-1 EDTA-LOW	XY02C	14-1903	
WS-1 EDTA-HIGH	XY02D	14-1904	
WS-1 C18	XY02E	14-1905	
WS-1 FILTERED	XY02F	14-1906	

Were ICP interelement corrections applied ? Yes/No YES
Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before
application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature:  Name: Jay Kuhn
Date: 2/11/14 Title: Inorganics Director

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: WETSED-1
SAMPLE

Lab Sample ID: XY02A

LIMS ID: 14-1901

Matrix: Water

Data Release Authorized: 

Reported: 02/11/14

QC Report No: XY02-Newfields Northwest

Project: Yakima Steel

Date Sampled: 02/03/14

Date Received: 02/04/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	02/06/14	6010C	02/10/14	7440-43-9	Cadmium	0.002	0.002	U
3010A	02/06/14	6010C	02/10/14	7439-92-1	Lead	0.02	0.02	U
3010A	02/06/14	6010C	02/10/14	7439-96-5	Manganese	0.001	4.49	
3010A	02/06/14	6010C	02/10/14	7440-66-6	Zinc	0.01	28.3	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: WS-1 SIR 300
SAMPLE

Lab Sample ID: XY02B

LIMS ID: 14-1902

Matrix: Water

Data Release Authorized: 

Reported: 02/11/14

QC Report No: XY02-Newfields Northwest

Project: Yakima Steel

Date Sampled: 02/03/14

Date Received: 02/04/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	02/06/14	6010C	02/10/14	7440-43-9	Cadmium	0.002	0.002	U
3010A	02/06/14	6010C	02/10/14	7439-92-1	Lead	0.02	0.02	U
3010A	02/06/14	6010C	02/10/14	7439-96-5	Manganese	0.001	0.053	
3010A	02/06/14	6010C	02/10/14	7440-66-6	Zinc	0.01	0.13	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

**Sample ID: WS-1 EDTA-LOW
SAMPLE**

Lab Sample ID: XY02C

LIMS ID: 14-1903

Matrix: Water

Data Release Authorized:

Reported: 02/11/14

QC Report No: XY02-Newfields Northwest

Project: Yakima Steel

Date Sampled: 02/03/14

Date Received: 02/04/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	02/06/14	6010C	02/10/14	7440-43-9	Cadmium	0.002	0.002	U
3010A	02/06/14	6010C	02/10/14	7439-92-1	Lead	0.02	0.02	U
3010A	02/06/14	6010C	02/10/14	7439-96-5	Manganese	0.001	4.18	
3010A	02/06/14	6010C	02/10/14	7440-66-6	Zinc	0.01	26.0	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: WS-1 EDTA-HIGH
SAMPLE**

Lab Sample ID: XY02D

LIMS ID: 14-1904

Matrix: Water

Data Release Authorized: 

Reported: 02/11/14

QC Report No: XY02-Newfields Northwest

Project: Yakima Steel

Date Sampled: 02/03/14

Date Received: 02/04/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	02/06/14	6010C	02/10/14	7440-43-9	Cadmium	0.002	0.002	U
3010A	02/06/14	6010C	02/10/14	7439-92-1	Lead	0.02	0.02	U
3010A	02/06/14	6010C	02/10/14	7439-96-5	Manganese	0.001	4.36	
3010A	02/06/14	6010C	02/10/14	7440-66-6	Zinc	0.01	26.9	

U-Analyte undetected at given RL


RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: WS-1 C18
SAMPLE

Lab Sample ID: XY02E
LIMS ID: 14-1905
Matrix: Water
Data Release Authorized: 
Reported: 02/11/14

QC Report No: XY02-Newfields Northwest
Project: Yakima Steel

Date Sampled: 02/03/14
Date Received: 02/04/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	02/06/14	6010C	02/10/14	7440-43-9	Cadmium	0.002	0.002	U
3010A	02/06/14	6010C	02/10/14	7439-92-1	Lead	0.02	0.02	U
3010A	02/06/14	6010C	02/10/14	7439-96-5	Manganese	0.001	4.25	
3010A	02/06/14	6010C	02/10/14	7440-66-6	Zinc	0.01	26.0	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: WS-1 FILTERED
SAMPLE**

Lab Sample ID: XY02F

LIMS ID: 14-1906

Matrix: Water

Data Release Authorized: 

Reported: 02/11/14

QC Report No: XY02-Newfields Northwest

Project: Yakima Steel

Date Sampled: 02/03/14

Date Received: 02/04/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	02/06/14	6010C	02/10/14	7440-43-9	Cadmium	0.002	0.002	U
3010A	02/06/14	6010C	02/10/14	7439-92-1	Lead	0.02	0.02	U
3010A	02/06/14	6010C	02/10/14	7439-96-5	Manganese	0.001	4.37	
3010A	02/06/14	6010C	02/10/14	7440-66-6	Zinc	0.01	25.8	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: XY02LCS

LIMS ID: 14-1901

Matrix: Water

Data Release Authorized 

Reported: 02/11/14

QC Report No: XY02-Newfields Northwest

Project: Yakima Steel

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Cadmium	6010C	0.524	0.500	105%	
Lead	6010C	2.04	2.00	102%	
Manganese	6010C	0.509	0.500	102%	
Zinc	6010C	0.53	0.50	106%	

Reported in mg/L

N-Control limit not met

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: XY02MB

LIMS ID: 14-1901

Matrix: Water

Data Release Authorized: 

Reported: 02/11/14

QC Report No: XY02-Newfields Northwest

Project: Yakima Steel

Date Sampled: NA

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	02/06/14	6010C	02/10/14	7440-43-9	Cadmium	0.002	0.002	U
3010A	02/06/14	6010C	02/10/14	7439-92-1	Lead	0.02	0.02	U
3010A	02/06/14	6010C	02/10/14	7439-96-5	Manganese	0.001	0.001	U
3010A	02/06/14	6010C	02/10/14	7440-66-6	Zinc	0.01	0.01	U

U-Analyte undetected at given RL

RL-Reporting Limit

Calibration Verification

CLIENT: Newfields Northwest

PROJECT: Yakima Steel

SDG: XY02



UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Cadmium	CD	ICP	IP021071	1000.0	1021.02	102.1	1000.0	1037.66	103.8	1031.39	103.1	1028.76	102.9				
Lead	PB	ICP	IP021071	2000.0	1994.99	99.7	2000.0	1984.89	99.2	2021.14	101.1	2013.35	100.7				
Manganese	MN	ICP	IP021071	1000.0	1014.11	101.4	1000.0	974.80	97.5	979.42	97.9	974.61	97.5				
Zinc	ZN	ICP	IP021071	1000.0	1027.58	102.8	1000.0	1031.52	103.2	1034.46	103.4	1032.06	103.2				

XY02: 000000

Control Limits: Mercury 80-120; Other Metals 90-110

CRDL Standard

CLIENT: Newfields Northwest

PROJECT: Yakima Steel

SDG: XY02



UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Cadmium	CD	ICP	IP021071	2.0		2.23	111.5										
Lead	PB	ICP	IP021071	20.0		21.04	105.2										
Manganese	MN	ICP	IP021071	1.0		1.13	113.0										
Zinc	ZN	ICP	IP021071	10.0		9.70	97.0										

XY02:00021

Control Limits: no control limits have been established by the EPA at this time.

Calibration Blanks

CLIENT: Newfields Northwest

PROJECT: Yakima Steel

SDG: XY02



UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Cadmium	CD	ICP	IP021071	5.0	2.0	2.0	U	2.0	U	2.0	U	2.0	U				
Lead	PB	ICP	IP021071	3.0	20.0	20.0	U	20.0	U	20.0	U	20.0	U				
Manganese	MN	ICP	IP021071	15.0	1.0	1.0	U	1.0	U	1.0	U	1.0	U				
Zinc	ZN	ICP	IP021071	20.0	10.0	10.0	U	10.0	U	10.0	U	10.0	U				

XY02:00022

ICP Interference Check Sample



CLIENT: Newfields Northwest
PROJECT: Yakima Steel
SDG: XY02

ICS SOURCE: I.V.
RUNID: IP021071
INSTRUMENT ID: OPTIMA ICP 2
UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	198625.1	199999.1	100.0						
Antimony		1000	7.2	1028.7	102.9						
Arsenic		1000	33.1	1045.1	104.5						
Barium		1000	-3.3	1011.1	101.1						
Beryllium		1000	0.1	1022.1	102.2						
Boron			-8.2	-8.9							
Cadmium		1000	0.7	1046.6	104.7						
Calcium	100000	100000	100159.7	100768.2	100.8						
Chromium		1000	0.6	1022.8	102.3						
Cobalt		1000	2.6	975.0	97.5						
Copper		1000	0.3	1033.8	103.4						
Iron	200000	200000	197981.8	198919.4	99.5						
Lead		1000	-11.6	959.9	96.0						
Magnesium	100000	100000	100975.9	98344.0	98.3						
Manganese		1000	-0.1	957.3	95.7						
Molybdenum			5.2	6.0							
Nickel		1000	1.2	985.7	98.6						
Potassium			25.4	30.2							
Selenium		1000	28.1	1040.8	104.1						
Silicon			-20.7	-17.6							
Silver		1000	-0.6	1026.1	102.6						
Sodium			10.5	11.3							
Strontium			5.5	5.5							
Thallium		1000	29.2	976.1	97.6						
Tin			-16.2	-18.2							
Titanium			4.9	5.3							
Vanadium		1000	-1.8	966.5	96.7						
Zinc		1000	-0.7	986.4	98.6						

XY02:00023

IDLs and ICP Linear Ranges



CLIENT: Newfields Northwest


PROJECT: Yakima Steel

SDG: XY02

UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENGTH (nm)	GFA BACK- GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
Cadmium	CD	ICP	OPTIMA ICP 2	228.80		5	2.0	4/1/2012	20000.0	1/3/2014
Lead	PB	ICP	OPTIMA ICP 2	220.35		3	20.0	4/1/2012	300000.0	1/3/2014
Manganese	MN	ICP	OPTIMA ICP 2	257.61		15	1.0	4/1/2012	30000.0	1/3/2014
Zinc	ZN	ICP	OPTIMA ICP 2	213.86		20	10.0	4/1/2012	100000.0	1/3/2014

ICP Interelement Correction Factors

ANALYTICAL
RESOURCES
INCORPORATED 

CLIENT: Newfields Northwest

PROJECT: Yakima Steel

SDG: XY02

IEC DATE: 1/3/2014

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Antimony	206.84	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	13.0001730	0.000000	0.000000
Arsenic	188.98	0.000000	0.000000	0.000000	0.000000	0.1128300	0.000000	-1.1418810	1.4701580	0.000000	0.000000
Barium	233.53	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.1914790	0.000000	0.000000	0.1344770
Beryllium	313.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Boron	249.67	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	2.1178670	0.000000	0.000000	0.000000
Cadmium	228.80	0.000000	5.1456370	0.000000	0.000000	0.000000	0.000000	0.1519640	0.000000	0.000000	0.000000
Calcium	317.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.72	0.000000	0.000000	0.000000	0.000000	0.0095990	0.000000	0.000000	0.000000	0.000000	-0.0528610
Cobalt	228.62	0.000000	0.000000	0.0956050	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Copper	324.75	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.1731660	0.000000	0.000000	-0.0508090
Iron	273.96	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.3572290	0.000000	0.000000
Lead	220.35	-0.2628260	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.8955100	1.3683810	0.0527180
Magnesium	279.08	0.000000	0.000000	0.000000	0.000000	0.1322750	0.000000	-1.6154620	-1.2018020	0.000000	0.7412760
Manganese	257.61	0.0065340	0.000000	0.000000	0.000000	0.0043550	0.000000	0.000000	0.000000	0.000000	0.000000
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.0132610	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.60	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.4704930	0.000000	0.000000	0.000000
Silicon	288.16	0.000000	0.000000	0.000000	0.000000	0.000000	-3.8483140	0.000000	-0.6009380	0.000000	0.000000
Silver	328.07	0.000000	0.000000	0.000000	0.000000	-0.0074910	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.59	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.80	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.8939530	0.4135750	0.000000	-0.1349480
Tin	189.93	0.000000	0.000000	0.000000	0.000000	-0.1372110	0.000000	0.000000	0.000000	0.000000	0.000000
Titanium	334.90	0.000000	0.000000	0.000000	0.000000	0.0738540	0.000000	0.000000	0.1910190	0.000000	0.000000
Vanadium	292.40	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-4.1255090	0.000000	0.0607850
Zinc	206.20	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.2680380	0.000000	0.000000

XY02:00025

ICP Interelement Correction Factors



CLIENT: Newfields Northwest

PROJECT: Yakima Steel

IEC DATE: 1/3/2014

SDG: XY02

INSTRUMENT ID: OPTIMA ICF 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.0000000	0.0000000	15.7116050	0.0000000	0.0000000	0.0000000	2.0154950	0.0000000	14.6504130	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.7865220	0.0000000	-3.6308690	0.0000000
Arsenic	188.98	0.0000000	0.0000000	3.3640920	0.0000000	0.0000000	0.0000000	-35.7069030	0.0000000	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.1263190	0.0000000	0.0000000	0.0000000	0.0000000	0.2049710	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0109650	0.0000000	0.2471980	0.0000000
Boron	249.67	0.0000000	0.0000000	-1,1300970	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0000000	-0.9924980	0.0000000	0.0000000	0.0000000	0.0000000	0.0519140	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0846880	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.3711990	0.0000000
Cobalt	228.62	0.0000000	0.0000000	-0.1573840	0.1604620	0.0000000	0.0000000	1.7865010	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0050268	0.0000000	0.3207980	0.0000000	0.0000000	0.0000000	0.1968290	0.0000000	0.0000000	0.0000000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	8.0715790	0.0000000
Lead	220.35	0.0000000	0.0000000	0.0000000	0.1183620	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	-5.0356720	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0030740	0.0000000	0.0000000	0.0000000	-0.2132560	0.0000000	0.0000000	0.0000000	-0.0238460	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.5233870	0.0000000	0.4243640	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.6221340	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2593400	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	65.0683530	0.0000000	0.0000000	88.8015530
Thallium	190.80	0.0000000	0.0000000	-1.6229180	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	3.6063050	0.0000000
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.0356520	-0.5555490	-0.1890930	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.9536400	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	-0.1515920	-0.5364060	0.0000000	0.0000000	0.0000000	0.5783020	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.2492000	0.0000000	-0.0717780	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

XY02:000000

Preparation Log



CLIENT: Newfields Northwest
PROJECT: Yakima Steel
SDG: XY02

ANALYSIS METHOD: ICP
ARI PREP CODE: TWC
PREPDATE: 2/6/2014

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
WETSED-1	XY02A	0.000	25.0	25.0
WS-1 SIR 300	XY02B	0.000	25.0	25.0
WS-1 EDTA-LOW	XY02C	0.000	25.0	25.0
WS-1 EDTA-HIGH	XY02D	0.000	25.0	25.0
WS-1 C18	XY02E	0.000	25.0	25.0
WS-1 FILTERED	XY02F	0.000	25.0	25.0
PBW	XY02MB1	0.000	25.0	25.0
LCSW	XY02MB1SPK	0.000	25.0	25.0

Analysis Run Log



CLIENT: Newfields Northwest

PROJECT: Yakima Steel

SDG: XY02

INSTRUMENT ID: OPTIMA ICP 2

RUNID: IPO21071 METHOD: ICP

START DATE: 2/10/2014

END DATE: 2/10/2014

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	10453									X												X								X	
S2	S2	1.00	10493									X												X									X
S3	S3	1.00	10512																					X									X
S4	S4	1.00	10534																														
S5	S5	1.00	10555																														
ICV	ICV	1.00	10590									X									X			X								X	
ICB	ICB	1.00	11030									X									X			X									X
CRI	CRII	1.00	11070									X									X			X									X
ICSA	ICSAI	1.00	11110									X									X			X									X
ICSAB	ICSABI	1.00	11152									X									X			X									X
ZZZZZZ	DICHECK	1.00	11203																														
CCV	CCV1	1.00	11243									X									X			X									X
CCB	CCB1	1.00	11283									X									X			X									X
ZZZZZZ	XW40MB1	2.00	11323																														
ZZZZZZ	XW40A-L	10.00	11363																														
ZZZZZZ	XW40A	2.00	11403																														
ZZZZZZ	XW40ADUP	2.00	11442																														
ZZZZZZ	XW40ASPK	2.00	11482																														
ZZZZZZ	ZZZZZZ	2.00	11520																														
ZZZZZZ	XW40B	2.00	11555																														
ZZZZZZ	XW40MB1SPK	2.00	11593																														
CCV	CCV2	1.00	12033									X									X			X									X
CCB	CCB2	1.00	12073									X									X			X									X
PBW	XY02MB1	1.00	12113									X									X			X									X
ZZZZZZ	XW40MB1	2.00	12153																														
WETSED-1	XY02A	1.00	12193																														
WS-1 SIR 300	XY02B	1.00	12243									X									X			X									X
WS-1 EDTA-LOW	XY02C	1.00	12285									X									X			X									X
WS-1 EDTA-HIGH	XY02D	1.00	12331									X									X			X									X
WS-1 C18	XY02E	1.00	12372									X									X			X									X
WS-1 FILTERED	XY02F	1.00	12414									X									X			X									X
WETSED-1	XY02A	1.00	12455									X									X			X									X
LCSW	XY02MB1SPK	1.00	12501									X									X			X									X
CCV	CCV3	1.00	12541									X									X			X									X
CCB	CCB3	1.00	12581									X									X			X									X

2000:20A



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: DM Date: 02-06-14 Time: 0815
Matrix: Water Block ID: #7 Block Temp: 90°C Thermometer: MP28

ARI Sample ID	Btl #	pH<2	Prep Code: <u>TWC</u>		Prep Code:		Comments
			Initial Wt(g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
<u>XW36R A</u>	<u>7</u>	<u>✓</u>	<u>25.0</u>	<u>250</u>			
<u>" B</u>	<u>7</u>	<u>✓</u>					
<u>" C</u>	<u>7</u>	<u>✓</u>					
<u>" D</u>	<u>7</u>	<u>✓</u>					
<u>" E</u>	<u>7</u>	<u>✓</u>					
<u>" EDUP</u>	<u>7</u>	<u>✓</u>					
<u>" ESPK</u>	<u>7</u>	<u>✓</u>					
<u>" F</u>	<u>7</u>	<u>✓</u>					
<u>" G</u>	<u>6</u>	<u>✓</u>					
<u>" H</u>	<u>7</u>	<u>✓</u>					
<u>" MBI</u>	<u>-</u>	<u>✓</u>					
<u>" MBISPK</u>	<u>-</u>	<u>✓</u>					
<u>XY24 A</u>	<u>C</u>	<u>✓</u>					
<u>" B</u>	<u>C</u>	<u>✓</u>					
<u>" MBI</u>	<u>-</u>	<u>✓</u>					
<u>" MBISPK</u>	<u>-</u>	<u>✓</u>					
<u>XY02 A</u>	<u>1</u>	<u>-</u>					<u>Preserved in Lab</u>
<u>" B</u>	<u>1</u>	<u>-</u>					
<u>" C</u>	<u>1</u>	<u>-</u>					
<u>" D</u>	<u>1</u>	<u>-</u>					
<u>" E</u>	<u>1</u>	<u>-</u>					
<u>" F</u>	<u>1</u>	<u>-</u>					
<u>" MBI</u>	<u>-</u>	<u>-</u>	<u>↓</u>	<u>↓</u>			
<u>" MBISPK</u>	<u>-</u>	<u>-</u>	<u>25.0</u>	<u>25.0</u>			<u>Preserved in Lab</u>
			<u>206-14</u>		<u>OM</u>		

Chemical/Reagent ID: HNO3: C0082
MP2812

HC1: C0454
Page 26228

Tube Lot #
1308071

Version 005
1/10/12

XY02: C00830

Metals Data Review Checklist

Method: (ICP) ICP-MS GFA CVA

Analysis Date: 2-10-14

ICP2	Analyst BA 2-11-14	Peer GJ 2-11-14	Comment
Logbook:			
Analyst, Date, Method info	✓	✓	
Sample ID's	✓	✓	
Standard/QC solution ID's recorded	✓	✓	
Prep codes	✓	✓	
Dilution factors	✓	✓	
Crossouts/Corrections/Deletions	✓	✓	
Calibration:			
Blank & Standard intensities	✓	✓	
Standard deviations	✓	✓	
Curve fit	✓	✓	
Calibration Verification:			
ICV/CCV	✓	✓	
ICB/CCB	✓	✓	
Samples:			
RSD's & SD's	✓	✓	See log
Internal Standards	✓	✓	
Carry-over	✓	✓	
Method QC:			
CRI/CRA	✓	✓	
ICSA/ICSAB	✓	✓	
Post Spikes/Serial Dilutions	✓	✓	
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	✓	✓	
Matrix Spikes	✓	✓	
Matrix Duplicates	✓	✓	XW40
Method Blanks	✓	✓	XW40
Data Distribution:			
Requested elements/isotope identified	✓	✓	
Correct samples identified for distribution	✓	✓	
Raw data match distributed data	✓	✓	
Data filename correct	✓	✓	
Necessary Analysts Notes and CAF's	✓	✓	Ad-XW40 CAF-XW40



IEC Date: 1-3-14

Analysis Date: 2-10-14

Analyst: BA

LR Date: 1-3-14

Page: 1 of 4

All corrections made by analyst unless otherwise noted. BA 2-10-14

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		STD 0			C0531
		↓ 2			C0556
		3			C0557
		↓ 4			C0558
		↓ 5			C0560
		ICV			B2567
		ICB			STDC
		CAI			C0538
		ICSA			C0532
		ICSAB			C0533
		DI Check			
		CCV1			ICV
		CCB1			STDC
		XW40 MBI	SWC	2	Zn ↑ (0.01420 mg/L) (A.W.)
		↓ A-L		10	
		A		2	
		ADUP			✓ Cu, Zn ↑ RPD Pb = RL diff. (CAF)
		ASPK			
222		222222 AAST			
		B			
		↓ MBISPK			
		CCV2			
		CCB2			
		XY02 MBI	TWC		



IEC Date: - Analysis Date: 2-10-14 Analyst: BA
LR Date: - Page: 2 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
	✓	XW40 MBI	SWC	2	Zn ↑ confirmed
	✓	XY02 A	TWC		Did not inject
		B			
		C			
		D			
		E			
		F			
		A			
		↓ MBSPK	↓		✓
		CCV3			
		CCB3			
		XW92 MB	TWC		
		↓ ADUF	↓		✓
		A			
		↓ ASPK	↓		✓
		B			
		C			
		↓ MBSPK	↓		BA 2-11-14
		CCV4			
		CCB4			
		XY03 MB2	DMN		
		↓ F	↓		
		G			
		H			
		↓ EDUF	↓		✓

=====
Analysis Begun

Start Time: 2/10/2014 10:45:36 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 2/10/2014 9:56:43 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSETMON.sif
Batch ID:
Results Data Set: I2140210
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1
Sample ID: Calib Blank 1
Autosampler Location: 1
Date Collected: 2/10/2014 10:45:38 AM
Data Type: Original

Nebulizer Parameters: Calib Blank 1
Analyte Back Pressure Flow
All 199.0 kPa 0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units	Calib
ScA 357.253	2101497.7	10278.62	0.49%	100.0	%	
ScR 361.383	228142.8	1529.98	0.67%	100.0	%	
Ag 328.068†	960.5	41.70	4.34%	[0.00]	mg/L	
Al 308.215†	85.4	1.85	2.17%	[0.00]	mg/L	
As 188.979†	-14.2	2.44	17.17%	[0.00]	mg/L	
B 249.677†	-1.0	1.54	157.08%	[0.00]	mg/L	
Ba 233.527†	33.1	1.78	5.39%	[0.00]	mg/L	
Be 313.042†	685.2	3.75	0.55%	[0.00]	mg/L	
Ca 317.933†	-35.1	5.99	17.08%	[0.00]	mg/L	
Cd 228.802†	179.0	2.29	1.28%	[0.00]	mg/L	
Co 228.616†	-135.9	5.64	4.15%	[0.00]	mg/L	
Cr 267.716†	-66.4	2.49	3.75%	[0.00]	mg/L	
Cu 324.752†	2781.8	30.19	1.09%	[0.00]	mg/L	
Fe 273.955†	-58.3	0.91	1.55%	[0.00]	mg/L	
K 766.490†	330.0	51.87	15.72%	[0.00]	mg/L	
Mg 279.077†	45.2	3.58	7.91%	[0.00]	mg/L	
Mn 257.610†	5.8	2.30	39.45%	[0.00]	mg/L	
Mo 202.031†	70.9	2.90	4.08%	[0.00]	mg/L	
Na 589.592†	-526.1	23.26	4.42%	[0.00]	mg/L	
Na 330.237†	-16.7	5.19	31.13%	[0.00]	mg/L	
Ni 231.604†	21.0	5.21	24.78%	[0.00]	mg/L	
Pb 220.353†	-29.7	3.23	10.88%	[0.00]	mg/L	
Sb 206.836†	34.5	5.06	14.65%	[0.00]	mg/L	
Se 196.026†	-47.1	6.54	13.87%	[0.00]	mg/L	
Si 288.158†	-7.9	1.66	21.09%	[0.00]	mg/L	
Sn 189.927†	-11.2	1.40	12.52%	[0.00]	mg/L	
Sr 421.552†	107.1	32.06	29.94%	[0.00]	mg/L	
Ti 334.903†	109.6	13.11	11.96%	[0.00]	mg/L	
Tl 190.801†	-32.9	2.26	6.86%	[0.00]	mg/L	
V 292.402†	186.7	4.28	2.29%	[0.00]	mg/L	
Zn 206.200†	-18.5	0.61	3.28%	[0.00]	mg/L	

Sequence No.: 2
Sample ID: STD2
Autosampler Location: 2
Date Collected: 2/10/2014 10:49:38 AM
Data Type: Original

Nebulizer Parameters: STD2
Analyte Back Pressure Flow
All 198.0 kPa 0.75 L/min

Mean Data: STD2
Mean Corrected
Calib

Analyte	Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2071341.0	4114.68	0.20%	98.56	%
ScR 361.383	223794.1	662.71	0.30%	98.09	%
Ba 233.527†	45232.3	366.51	0.81%	[10]	mg/L
Cd 228.802†	185149.9	152.55	0.08%	[10]	mg/L
Co 228.616†	292414.1	106.35	0.04%	[10]	mg/L
Cr 267.716†	53866.9	83.81	0.16%	[10]	mg/L
Cu 324.752†	2089385.1	4288.01	0.21%	[10]	mg/L
Mn 257.610†	301592.1	821.16	0.27%	[10]	mg/L
V 292.402†	1172250.2	2109.98	0.18%	[10]	mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 2/10/2014 10:51:24 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	198.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2081210.2	15691.30	0.75%	99.03	%
ScR 361.383	226740.3	868.71	0.38%	99.39	%
Ag 328.068†	191475.1	319.59	0.17%	[1.0]	mg/L
As 188.979†	11083.9	120.38	1.09%	[10]	mg/L
B 249.677†	45895.3	159.03	0.35%	[10]	mg/L
Be 313.042†	2006368.8	7749.13	0.39%	[5.0]	mg/L
Na 589.592†	519566.9	405.90	0.08%	[50]	mg/L
Ni 231.604†	28871.0	165.58	0.57%	[10]	mg/L
Pb 220.353†	69578.9	750.60	1.08%	[10]	mg/L
Se 196.026†	12086.1	164.34	1.36%	[10]	mg/L
Sr 421.552†	3246855.1	14962.03	0.46%	[5]	mg/L
Tl 190.801†	14399.8	157.47	1.09%	[10]	mg/L
Zn 206.200†	29842.0	66.35	0.22%	[10]	mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 2/10/2014 10:53:41 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	199.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2105851.3	4116.05	0.20%	100.2	%
ScR 361.383	227101.1	1037.03	0.46%	99.54	%
Mo 202.031†	151494.2	566.15	0.37%	[10]	mg/L
Sb 206.836†	23118.9	46.87	0.20%	[10]	mg/L
Si 288.158†	10049.6	121.97	1.21%	[10]	mg/L
Sn 189.927†	34264.8	117.38	0.34%	[10]	mg/L
Ti 334.903†	171052.5	421.25	0.25%	[10]	mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 2/10/2014 10:55:56 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	198.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	1969054.4	9420.16	0.48%	93.70	%
ScR 361.383	225259.6	679.07	0.30%	98.74	%
Al 308.215†	24652.3	87.22	0.35%	[30]	mg/L
Ca 317.933†	219517.8	664.23	0.30%	[30]	mg/L
Fe 273.955†	77787.6	227.82	0.29%	[100]	mg/L
K 766.490†	180206.9	134.67	0.07%	[100]	mg/L
Mg 279.077†	20913.6	63.22	0.30%	[30]	mg/L
Na 330.237†	2083.9	12.91	0.62%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	191500	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	821.7	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1108	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	4590	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	4523	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	401300	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	7317	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	18510	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	29240	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	5387	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	208900	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	777.9	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	1802	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	697.1	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	30160	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	15150	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	10390	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	20.84	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	2887	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	6958	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	2312	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1209	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1005	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	3426	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	649400	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	17110	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	1440	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	117200	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	2984	0.00000	1.000000	

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Analysis Begun

Start Time: 2/10/2014 10:59:06 AM

Plasma On Time: 2/10/2014 9:56:43 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSETMON.sif

Batch ID:

Results Data Set: I2140210

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb
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Sequence No.: 1

Autosampler Location: 7

Sample ID: ICV

Date Collected: 2/10/2014 10:59:07 AM

Data Type: Original

Dilution: 1.000000X
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Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	198.0 kPa	0.75 L/min

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Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2077902.1	98.88	%	0.588			0.59%
ScR 361.383	221761.4	97.20	%	0.415			0.43%
Ag 328.068†	199036.7	1.040	mg/L	0.0060	1.040 mg/L	0.0060	0.58%
Al 308.215†	1694.8	2.030	mg/L	0.0151	2.030 mg/L	0.0151	0.74%
As 188.979†	2220.7	2.035	mg/L	0.0123	2.035 mg/L	0.0123	0.61%
B 249.677†	4716.9	1.027	mg/L	0.0066	1.027 mg/L	0.0066	0.64%
Ba 233.527†	4625.3	1.022	mg/L	0.0045	1.022 mg/L	0.0045	0.44%
Be 313.042†	417100.5	1.039	mg/L	0.0054	1.039 mg/L	0.0054	0.52%
Ca 317.933†	15139.4	2.069	mg/L	0.0133	2.069 mg/L	0.0133	0.65%
Cd 228.802†	19079.8	1.021	mg/L	0.0087	1.021 mg/L	0.0087	0.85%
Co 228.616†	29137.1	0.9945	mg/L	0.00777	0.9945 mg/L	0.00777	0.78%
Cr 267.716†	5562.7	1.032	mg/L	0.0044	1.032 mg/L	0.0044	0.43%
Cu 324.752†	219132.6	1.049	mg/L	0.0074	1.049 mg/L	0.0074	0.70%
Fe 273.955†	1600.7	2.051	mg/L	0.0169	2.051 mg/L	0.0169	0.82%
K 766.490†	35874.3	19.91	mg/L	0.036	19.91 mg/L	0.036	0.18%
Mg 279.077†	1376.0	1.980	mg/L	0.0108	1.980 mg/L	0.0108	0.54%
Mn 257.610†	30572.1	1.014	mg/L	0.0069	1.014 mg/L	0.0069	0.68%
Mo 202.031†	14744.9	0.9733	mg/L	0.00535	0.9733 mg/L	0.00535	0.55%
Na 589.592†	530160.0	51.02	mg/L	0.067	51.02 mg/L	0.067	0.13%
Na 330.237†	1078.0	51.70	mg/L	0.681	51.70 mg/L	0.681	1.32%
Ni 231.604†	2988.4	1.035	mg/L	0.0054	1.035 mg/L	0.0054	0.52%
Pb 220.353†	13873.4	1.995	mg/L	0.0120	1.995 mg/L	0.0120	0.60%
Sb 206.836†	4842.0	2.093	mg/L	0.0098	2.093 mg/L	0.0098	0.47%
Se 196.026†	2444.7	2.022	mg/L	0.0097	2.022 mg/L	0.0097	0.48%
Si 288.158†	2033.4	2.028	mg/L	0.0054	2.028 mg/L	0.0054	0.27%
Sn 189.927†	3425.5	1.001	mg/L	0.0086	1.001 mg/L	0.0086	0.86%
Sr 421.552†	660734.7	1.017	mg/L	0.0021	1.017 mg/L	0.0021	0.21%
Ti 334.903†	16993.1	0.9922	mg/L	0.00148	0.9922 mg/L	0.00148	0.15%
Tl 190.801†	2983.5	2.064	mg/L	0.0066	2.064 mg/L	0.0066	0.32%
V 292.402†	118241.2	1.013	mg/L	0.0058	1.013 mg/L	0.0058	0.58%
Zn 206.200†	3064.8	1.028	mg/L	0.0068	1.028 mg/L	0.0068	0.66%

Sequence No.: 2
Sample ID: ICB

Autosampler Location: 1
Date Collected: 2/10/2014 11:03:08 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	198.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	2063626.0	98.20	%	0.659			0.67%
ScR 361.383	225198.1	98.71	%	0.668			0.68%
Ag 328.068†	17.9	0.00009	mg/L	0.000301	0.00009 mg/L	0.000301	320.60%
Al 308.215†	-3.8	-0.00470	mg/L	0.003082	-0.00470 mg/L	0.003082	65.59%
As 188.979†	0.8	0.00071	mg/L	0.001734	0.00071 mg/L	0.001734	243.65%
B 249.677†	8.8	0.00192	mg/L	0.000775	0.00192 mg/L	0.000775	40.26%
Ba 233.527†	1.8	0.00040	mg/L	0.000119	0.00040 mg/L	0.000119	29.54%
Be 313.042†	32.1	0.00008	mg/L	0.000011	0.00008 mg/L	0.000011	13.78%
Ca 317.933†	4.4	0.00061	mg/L	0.000672	0.00061 mg/L	0.000672	110.75%
Cd 228.802†	-0.3	-0.00002	mg/L	0.000198	-0.00002 mg/L	0.000198	>999.9%
Co 228.616†	-6.7	-0.00023	mg/L	0.000010	-0.00023 mg/L	0.000010	4.24%
Cr 267.716†	2.8	0.00051	mg/L	0.000863	0.00051 mg/L	0.000863	168.76%
Cu 324.752†	32.0	0.00015	mg/L	0.000207	0.00015 mg/L	0.000207	135.41%
Fe 273.955†	-2.0	-0.00251	mg/L	0.001153	-0.00251 mg/L	0.001153	45.87%
K 766.490†	26.6	0.01478	mg/L	0.011287	0.01478 mg/L	0.011287	76.35%
Mg 279.077†	3.2	0.00460	mg/L	0.007884	0.00460 mg/L	0.007884	171.29%
Mn 257.610†	6.4	0.00021	mg/L	0.000147	0.00021 mg/L	0.000147	69.36%
Mo 202.031†	20.7	0.00137	mg/L	0.000414	0.00137 mg/L	0.000414	30.28%
Na 589.592†	69.9	0.00673	mg/L	0.005393	0.00673 mg/L	0.005393	80.19%
Na 330.237†	-7.1	-0.3406	mg/L	0.47502	-0.3406 mg/L	0.47502	139.48%
Ni 231.604†	-1.4	-0.00049	mg/L	0.000852	-0.00049 mg/L	0.000852	173.44%
Pb 220.353†	7.1	0.00102	mg/L	0.000155	0.00102 mg/L	0.000155	15.16%
Sb 206.836†	10.1	0.00436	mg/L	0.001539	0.00436 mg/L	0.001539	35.28%
Se 196.026†	-2.3	-0.00193	mg/L	0.000868	-0.00193 mg/L	0.000868	45.00%
Si 288.158†	-7.0	-0.00700	mg/L	0.004418	-0.00700 mg/L	0.004418	63.08%
Sn 189.927†	4.8	0.00140	mg/L	0.000306	0.00140 mg/L	0.000306	21.94%
Sr 421.552†	21.8	0.00003	mg/L	0.000044	0.00003 mg/L	0.000044	132.36%
Ti 334.903†	10.2	0.00059	mg/L	0.000632	0.00059 mg/L	0.000632	106.62%
Tl 190.801†	1.2	0.00084	mg/L	0.002198	0.00084 mg/L	0.002198	260.50%
V 292.402†	19.7	0.00017	mg/L	0.000139	0.00017 mg/L	0.000139	81.36%
Zn 206.200†	-0.2	-0.00008	mg/L	0.000235	-0.00008 mg/L	0.000235	293.04%

Sequence No.: 3
Sample ID: CRI

Autosampler Location: 301
Date Collected: 2/10/2014 11:07:08 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte Back Pressure Flow
All 198.0 kPa 0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2081201.5	99.03	%	0.736			0.74%
ScR 361.383	228512.8	100.2	%	0.21			0.21%
Ag 328.068†	633.6	0.00331	mg/L	0.000236	0.00331 mg/L	0.000236	7.13%
Al 308.215†	39.0	0.04730	mg/L	0.011461	0.04730 mg/L	0.011461	24.23%
As 188.979†	58.1	0.05253	mg/L	0.003106	0.05253 mg/L	0.003106	5.91%
B 249.677†	96.3	0.02098	mg/L	0.000830	0.02098 mg/L	0.000830	3.95%
Ba 233.527†	11.3	0.00249	mg/L	0.000365	0.00249 mg/L	0.000365	14.66%
Be 313.042†	418.9	0.00104	mg/L	0.000011	0.00104 mg/L	0.000011	1.02%
Ca 317.933†	349.1	0.04771	mg/L	0.000225	0.04771 mg/L	0.000225	0.47%
Cd 228.802†	46.1	0.00223	mg/L	0.000103	0.00223 mg/L	0.000103	4.61%
Co 228.616†	90.4	0.00308	mg/L	0.000216	0.00308 mg/L	0.000216	7.00%
Cr 267.716†	27.7	0.00514	mg/L	0.000484	0.00514 mg/L	0.000484	9.41%
Cu 324.752†	449.2	0.00215	mg/L	0.000225	0.00215 mg/L	0.000225	10.46%
Fe 273.955†	37.8	0.04861	mg/L	0.001745	0.04861 mg/L	0.001745	3.59%
K 766.490†	926.3	0.5140	mg/L	0.01381	0.5140 mg/L	0.01381	2.69%
Mg 279.077†	32.8	0.04702	mg/L	0.005140	0.04702 mg/L	0.005140	10.93%
Mn 257.610†	33.9	0.00113	mg/L	0.000109	0.00113 mg/L	0.000109	9.65%
Mo 202.031†	82.6	0.00545	mg/L	0.000086	0.00545 mg/L	0.000086	1.57%
Na 589.592†	5409.3	0.5206	mg/L	0.00300	0.5206 mg/L	0.00300	0.58%
Na 330.237†	-0.5	-0.02490	mg/L	0.511377	-0.02490 mg/L	0.511377	>999.9%
Ni 231.604†	33.2	0.01152	mg/L	0.001373	0.01152 mg/L	0.001373	11.92%
Pb 220.353†	146.3	0.02104	mg/L	0.000371	0.02104 mg/L	0.000371	1.76%
Sb 206.836†	123.4	0.05339	mg/L	0.002197	0.05339 mg/L	0.002197	4.11%
Se 196.026†	62.9	0.05203	mg/L	0.006264	0.05203 mg/L	0.006264	12.04%
Si 288.158†	53.1	0.05287	mg/L	0.003465	0.05287 mg/L	0.003465	6.55%
Sn 189.927†	37.8	0.01105	mg/L	0.000472	0.01105 mg/L	0.000472	4.27%
Sr 421.552†	653.6	0.00101	mg/L	0.000015	0.00101 mg/L	0.000015	1.54%
Ti 334.903†	56.3	0.00328	mg/L	0.001370	0.00328 mg/L	0.001370	41.78%
Tl 190.801†	70.9	0.04920	mg/L	0.001861	0.04920 mg/L	0.001861	3.78%
V 292.402†	370.5	0.00318	mg/L	0.000197	0.00318 mg/L	0.000197	6.19%
Zn 206.200†	28.9	0.00970	mg/L	0.000605	0.00970 mg/L	0.000605	6.23%

Sequence No.: 4
Sample ID: ICSA

Autosampler Location: 302
Date Collected: 2/10/2014 11:11:09 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	198.0 kPa	0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2003634.1	95.34	%	0.587				0.62%
ScR 361.383	221086.1	96.91	%	0.548				0.57%
Ag 328.068†	-263.4	-0.00062	mg/L	0.000364	-0.00062	mg/L	0.000364	58.40%
Al 308.215†	163218.9	198.6	mg/L	1.57	198.6	mg/L	1.57	0.79%
As 188.979†	48.7	0.03306	mg/L	0.000827	0.03306	mg/L	0.000827	2.50%
B 249.677†	-37.5	-0.00816	mg/L	0.000891	-0.00816	mg/L	0.000891	10.92%
Ba 233.527†	105.4	-0.00333	mg/L	0.000037	-0.00333	mg/L	0.000037	1.12%
Be 313.042†	31.6	0.00008	mg/L	0.000027	0.00008	mg/L	0.000027	34.96%
Ca 317.933†	732894.7	100.2	mg/L	0.90	100.2	mg/L	0.90	0.90%
Cd 228.802†	17.8	0.00074	mg/L	0.000148	0.00074	mg/L	0.000148	20.14%
Co 228.616†	75.4	0.00255	mg/L	0.000124	0.00255	mg/L	0.000124	4.84%
Cr 267.716†	-1.7	0.00063	mg/L	0.000977	0.00063	mg/L	0.000977	155.77%
Cu 324.752†	-1925.7	0.00033	mg/L	0.000267	0.00033	mg/L	0.000267	80.83%
Fe 273.955†	154005.3	198.0	mg/L	0.74	198.0	mg/L	0.74	0.37%
K 766.490†	45.7	0.02536	mg/L	0.023255	0.02536	mg/L	0.023255	91.71%
Mg 279.077†	70503.8	101.0	mg/L	0.87	101.0	mg/L	0.87	0.86%
Mn 257.610†	57.7	-0.00014	mg/L	0.000356	-0.00014	mg/L	0.000356	251.32%
Mo 202.031†	99.2	0.00522	mg/L	0.000415	0.00522	mg/L	0.000415	7.94%
Na 589.592†	108.8	0.01047	mg/L	0.003075	0.01047	mg/L	0.003075	29.37%
Na 330.237†	-21.7	-1.040	mg/L	0.4482	-1.040	mg/L	0.4482	43.09%
Ni 231.604†	3.4	0.00116	mg/L	0.002160	0.00116	mg/L	0.002160	185.50%
Pb 220.353†	-371.2	-0.01157	mg/L	0.000780	-0.01157	mg/L	0.000780	6.74%
Sb 206.836†	17.1	0.00721	mg/L	0.001244	0.00721	mg/L	0.001244	17.27%
Se 196.026†	34.0	0.02810	mg/L	0.001997	0.02810	mg/L	0.001997	7.10%
Si 288.158†	-20.8	-0.02067	mg/L	0.005027	-0.02067	mg/L	0.005027	24.31%
Sn 189.927†	-102.8	-0.01625	mg/L	0.001566	-0.01625	mg/L	0.001566	9.64%
Sr 421.552†	3577.9	0.00551	mg/L	0.000060	0.00551	mg/L	0.000060	1.09%
Ti 334.903†	211.2	0.00494	mg/L	0.000419	0.00494	mg/L	0.000419	8.49%
Tl 190.801†	3.6	0.02917	mg/L	0.006045	0.02917	mg/L	0.006045	20.72%
V 292.402†	1200.7	-0.00180	mg/L	0.000578	-0.00180	mg/L	0.000578	32.16%
Zn 206.200†	-2.0	-0.00069	mg/L	0.001158	-0.00069	mg/L	0.001158	168.10%

Sequence No.: 5
Sample ID: ICSAB

Autosampler Location: 303
Date Collected: 2/10/2014 11:15:24 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	199.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected			Std.Dev.	Sample		RSD
	Intensity	Conc.	Units		Conc.	Units	
ScA 357.253	2014724.0	95.87	%	1.099			1.15%
ScR 361.383	221233.1	96.97	%	0.429			0.44%
Ag 328.068†	196283.1	1.026	mg/L	0.0140	1.026	mg/L	0.0140 1.36%
Al 308.215†	164359.7	200.0	mg/L	1.11	200.0	mg/L	1.11 0.55%
As 188.979†	1170.9	1.045	mg/L	0.0178	1.045	mg/L	0.0178 1.70%
B 249.677†	-31.4	-0.00890	mg/L	0.002037	-0.00890	mg/L	0.002037 22.88%
Ba 233.527†	4695.1	1.011	mg/L	0.0035	1.011	mg/L	0.0035 0.35%
Be 313.042†	410244.1	1.022	mg/L	0.0065	1.022	mg/L	0.0065 0.63%
Ca 317.933†	737347.0	100.8	mg/L	1.22	100.8	mg/L	1.22 1.21%
Cd 228.802†	19464.9	1.047	mg/L	0.0168	1.047	mg/L	0.0168 1.60%
Co 228.616†	28517.1	0.9750	mg/L	0.01513	0.9750	mg/L	0.01513 1.55%
Cr 267.716†	5505.0	1.023	mg/L	0.0062	1.023	mg/L	0.0062 0.60%
Cu 324.752†	213967.2	1.034	mg/L	0.0131	1.034	mg/L	0.0131 1.27%
Fe 273.955†	154739.6	198.9	mg/L	2.22	198.9	mg/L	2.22 1.12%
K 766.490†	54.4	0.03020	mg/L	0.019013	0.03020	mg/L	0.019013 62.95%
Mg 279.077†	68667.7	98.34	mg/L	0.881	98.34	mg/L	0.881 0.90%
Mn 257.610†	28925.8	0.9573	mg/L	0.00899	0.9573	mg/L	0.00899 0.94%
Mo 202.031†	110.9	0.00599	mg/L	0.000321	0.00599	mg/L	0.000321 5.37%
Na 589.592†	116.9	0.01125	mg/L	0.002266	0.01125	mg/L	0.002266 20.14%
Na 330.237†	-8.1	-0.6710	mg/L	0.26116	-0.6710	mg/L	0.26116 38.92%
Ni 231.604†	2845.3	0.9857	mg/L	0.00307	0.9857	mg/L	0.00307 0.31%
Pb 220.353†	6381.5	0.9599	mg/L	0.01295	0.9599	mg/L	0.01295 1.35%
Sb 206.836†	2401.2	1.029	mg/L	0.0213	1.029	mg/L	0.0213 2.08%
Se 196.026†	1259.2	1.041	mg/L	0.0181	1.041	mg/L	0.0181 1.74%
Si 288.158†	-22.4	-0.01758	mg/L	0.007315	-0.01758	mg/L	0.007315 41.61%
Sn 189.927†	-111.8	-0.01818	mg/L	0.000825	-0.01818	mg/L	0.000825 4.54%
Sr 421.552†	3589.2	0.00553	mg/L	0.000005	0.00553	mg/L	0.000005 0.09%
Ti 334.903†	221.3	0.00529	mg/L	0.000419	0.00529	mg/L	0.000419 7.92%
Tl 190.801†	1380.8	0.9761	mg/L	0.00861	0.9761	mg/L	0.00861 0.88%
V 292.402†	114200.5	0.9665	mg/L	0.01288	0.9665	mg/L	0.01288 1.33%
Zn 206.200†	2942.7	0.9864	mg/L	0.00729	0.9864	mg/L	0.00729 0.74%

Sequence No.: 6
 Sample ID: DI CHECK
 Dilution: 1.000000X

Autosampler Location: 304
 Date Collected: 2/10/2014 11:20:33 AM
 Data Type: Original

Nebulizer Parameters: DI CHECK
 Analyte Back Pressure Flow
 All 198.0 kPa 0.75 L/min

Mean Data: DI CHECK

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2122017.1	101.0	%	0.77				0.77%
ScR 361.383	233049.5	102.2	%	2.15				2.10%
Ag 328.068†	0.9	0.00000	mg/L	0.000379	0.00000	mg/L	0.000379	>999.9%
Al 308.215†	-0.7	-0.00087	mg/L	0.003606	-0.00087	mg/L	0.003606	414.94%
As 188.979†	4.2	0.00376	mg/L	0.003196	0.00376	mg/L	0.003196	85.01%
B 249.677†	-3.7	-0.00081	mg/L	0.000779	-0.00081	mg/L	0.000779	96.28%
Ba 233.527†	-2.6	-0.00058	mg/L	0.000690	-0.00058	mg/L	0.000690	118.16%
Be 313.042†	10.2	0.00003	mg/L	0.000043	0.00003	mg/L	0.000043	170.85%
Ca 317.933†	26.4	0.00361	mg/L	0.001170	0.00361	mg/L	0.001170	32.36%
Cd 228.802†	-3.0	-0.00018	mg/L	0.000239	-0.00018	mg/L	0.000239	132.73%
Co 228.616†	20.2	0.00069	mg/L	0.000076	0.00069	mg/L	0.000076	10.99%
Cr 267.716†	-0.6	-0.00011	mg/L	0.000765	-0.00011	mg/L	0.000765	677.22%
Cu 324.752†	-30.3	-0.00014	mg/L	0.000092	-0.00014	mg/L	0.000092	63.34%
Fe 273.955†	2.1	0.00264	mg/L	0.005047	0.00264	mg/L	0.005047	190.88%
K 766.490†	35.9	0.01991	mg/L	0.013569	0.01991	mg/L	0.013569	68.16%
Mg 279.077†	1.9	0.00274	mg/L	0.007312	0.00274	mg/L	0.007312	266.46%
Mn 257.610†	1.3	0.00004	mg/L	0.000054	0.00004	mg/L	0.000054	124.61%
Mo 202.031†	-4.1	-0.00027	mg/L	0.000160	-0.00027	mg/L	0.000160	58.95%
Na 589.592†	23.7	0.00228	mg/L	0.003567	0.00228	mg/L	0.003567	156.15%
Na 330.237†	-5.0	-0.2412	mg/L	0.20593	-0.2412	mg/L	0.20593	85.37%
Ni 231.604†	1.0	0.00034	mg/L	0.001368	0.00034	mg/L	0.001368	399.52%
Pb 220.353†	1.9	0.00027	mg/L	0.001022	0.00027	mg/L	0.001022	381.03%
Sb 206.836†	-9.7	-0.00420	mg/L	0.000434	-0.00420	mg/L	0.000434	10.34%
Se 196.026†	9.6	0.00798	mg/L	0.001837	0.00798	mg/L	0.001837	23.01%
Si 288.158†	-4.3	-0.00427	mg/L	0.000429	-0.00427	mg/L	0.000429	10.04%
Sn 189.927†	2.8	0.00081	mg/L	0.001227	0.00081	mg/L	0.001227	152.09%
Sr 421.552†	7.4	0.00001	mg/L	0.000006	0.00001	mg/L	0.000006	55.18%
Ti 334.903†	-3.6	-0.00021	mg/L	0.000477	-0.00021	mg/L	0.000477	225.49%
Tl 190.801†	9.3	0.00643	mg/L	0.003164	0.00643	mg/L	0.003164	49.24%
V 292.402†	11.8	0.00010	mg/L	0.000109	0.00010	mg/L	0.000109	109.50%
Zn 206.200†	2.8	0.00094	mg/L	0.000202	0.00094	mg/L	0.000202	21.51%

Sequence No.: 7

Sample ID: CV |

Autosampler Location: 7

Date Collected: 2/10/2014 11:24:32 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	198.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.		
ScA 357.253	2054308.4	97.75 %	0.471			0.48%	
ScR 361.383	224236.6	98.29 %	0.291			0.30%	
Ag 328.068†	201649.6	1.053 mg/L	0.0027	1.053 mg/L	0.0027	0.25%	
Al 308.215†	1685.2	2.018 mg/L	0.0078	2.018 mg/L	0.0078	0.39%	
As 188.979†	2255.3	2.066 mg/L	0.0031	2.066 mg/L	0.0031	0.15%	
B 249.677†	4681.3	1.019 mg/L	0.0048	1.019 mg/L	0.0048	0.47%	
Ba 233.527†	4621.1	1.021 mg/L	0.0057	1.021 mg/L	0.0057	0.56%	
Be 313.042†	417134.1	1.039 mg/L	0.0031	1.039 mg/L	0.0031	0.30%	
Ca 317.933†	15169.7	2.073 mg/L	0.0058	2.073 mg/L	0.0058	0.28%	
Cd 228.802†	19390.9	1.038 mg/L	0.0055	1.038 mg/L	0.0055	0.53%	
Co 228.616†	29550.7	1.009 mg/L	0.0036	1.009 mg/L	0.0036	0.36%	
Cr 267.716†	5559.3	1.032 mg/L	0.0032	1.032 mg/L	0.0032	0.31%	
Cu 324.752†	220684.8	1.056 mg/L	0.0080	1.056 mg/L	0.0080	0.76%	
Fe 273.955†	1607.7	2.060 mg/L	0.0119	2.060 mg/L	0.0119	0.58%	
K 766.490†	35558.3	19.73 mg/L	0.080	19.73 mg/L	0.080	0.40%	
Mg 279.077†	1381.8	1.988 mg/L	0.0093	1.988 mg/L	0.0093	0.47%	
Mn 257.610†	29386.6	0.9748 mg/L	0.00278	0.9748 mg/L	0.00278	0.29%	
Mo 202.031†	14979.4	0.9888 mg/L	0.00821	0.9888 mg/L	0.00821	0.83%	
Na 589.592†	525931.5	50.61 mg/L	0.233	50.61 mg/L	0.233	0.46%	
Na 330.237†	1070.4	51.33 mg/L	0.144	51.33 mg/L	0.144	0.28%	
Ni 231.604†	2991.9	1.037 mg/L	0.0015	1.037 mg/L	0.0015	0.14%	
Pb 220.353†	13803.3	1.985 mg/L	0.0122	1.985 mg/L	0.0122	0.62%	
Sb 206.836†	4912.8	2.124 mg/L	0.0041	2.124 mg/L	0.0041	0.20%	
Se 196.026†	2484.1	2.054 mg/L	0.0069	2.054 mg/L	0.0069	0.33%	
Si 288.158†	2014.4	2.009 mg/L	0.0106	2.009 mg/L	0.0106	0.53%	
Sn 189.927†	3472.6	1.015 mg/L	0.0037	1.015 mg/L	0.0037	0.36%	
Sr 421.552†	657594.6	1.013 mg/L	0.0029	1.013 mg/L	0.0029	0.29%	
Ti 334.903†	16972.1	0.9909 mg/L	0.00323	0.9909 mg/L	0.00323	0.33%	
Tl 190.801†	3038.7	2.102 mg/L	0.0118	2.102 mg/L	0.0118	0.56%	
V 292.402†	120120.6	1.029 mg/L	0.0026	1.029 mg/L	0.0026	0.26%	
Zn 206.200†	3076.6	1.032 mg/L	0.0046	1.032 mg/L	0.0046	0.44%	

Sequence No.: 8

Sample ID: CB |

Autosampler Location: 1

Date Collected: 2/10/2014 11:28:34 AM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	199.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2102050.7	100.0	%	0.21				0.21%
ScR 361.383	227662.2	99.79	%	0.387				0.39%
Ag 328.068†	46.1	0.00024	mg/L	0.000309	0.00024	mg/L	0.000309	128.38%
Al 308.215†	0.5	0.00059	mg/L	0.005563	0.00059	mg/L	0.005563	942.65%
As 188.979†	0.7	0.00068	mg/L	0.001060	0.00068	mg/L	0.001060	156.07%
B 249.677†	4.3	0.00093	mg/L	0.002727	0.00093	mg/L	0.002727	292.45%
Ba 233.527†	2.5	0.00056	mg/L	0.000539	0.00056	mg/L	0.000539	95.95%
Be 313.042†	34.8	0.00009	mg/L	0.000024	0.00009	mg/L	0.000024	27.58%
Ca 317.933†	14.8	0.00202	mg/L	0.000571	0.00202	mg/L	0.000571	28.29%
Cd 228.802†	-0.7	-0.00004	mg/L	0.000055	-0.00004	mg/L	0.000055	129.74%
Co 228.616†	1.9	0.00007	mg/L	0.000256	0.00007	mg/L	0.000256	390.88%
Cr 267.716†	-7.8	-0.00144	mg/L	0.000683	-0.00144	mg/L	0.000683	47.30%
Cu 324.752†	2.4	0.00001	mg/L	0.000099	0.00001	mg/L	0.000099	909.94%
Fe 273.955†	-2.2	-0.00284	mg/L	0.001568	-0.00284	mg/L	0.001568	55.19%
K 766.490†	41.8	0.02319	mg/L	0.011497	0.02319	mg/L	0.011497	49.58%
Mg 279.077†	4.1	0.00586	mg/L	0.009455	0.00586	mg/L	0.009455	161.22%
Mn 257.610†	3.1	0.00010	mg/L	0.000037	0.00010	mg/L	0.000037	36.25%
Mo 202.031†	16.3	0.00108	mg/L	0.000515	0.00108	mg/L	0.000515	47.85%
Na 589.592†	80.6	0.00776	mg/L	0.005798	0.00776	mg/L	0.005798	74.75%
Na 330.237†	0.4	0.01870	mg/L	0.171332	0.01870	mg/L	0.171332	916.39%
Ni 231.604†	0.3	0.00010	mg/L	0.000277	0.00010	mg/L	0.000277	277.57%
Pb 220.353†	-2.1	-0.00030	mg/L	0.001066	-0.00030	mg/L	0.001066	350.96%
Sb 206.836†	10.2	0.00442	mg/L	0.000986	0.00442	mg/L	0.000986	22.31%
Se 196.026†	1.1	0.00090	mg/L	0.002529	0.00090	mg/L	0.002529	281.40%
Si 288.158†	-5.2	-0.00518	mg/L	0.002649	-0.00518	mg/L	0.002649	51.15%
Sn 189.927†	2.1	0.00062	mg/L	0.000729	0.00062	mg/L	0.000729	117.25%
Sr 421.552†	44.3	0.00007	mg/L	0.000039	0.00007	mg/L	0.000039	57.68%
Ti 334.903†	4.8	0.00028	mg/L	0.000186	0.00028	mg/L	0.000186	66.68%
Tl 190.801†	2.9	0.00202	mg/L	0.001071	0.00202	mg/L	0.001071	53.14%
V 292.402†	19.4	0.00016	mg/L	0.000123	0.00016	mg/L	0.000123	76.50%
Zn 206.200†	1.6	0.00052	mg/L	0.000836	0.00052	mg/L	0.000836	161.29%

Sequence No.: 9

Sample ID: XW40 MB1 SWC

Autosampler Location: 305

Date Collected: 2/10/2014 11:32:34 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: XW40 MB1 SWC

Analyte	Back Pressure	Flow
All	198.0 kPa	0.75 L/min

Mean Data: XW40 MB1 SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc. Units			
ScA 357.253	2094439.9		99.66 %	1.402				1.41%
ScR 361.383	225741.1		98.95 %	0.489				0.49%
Ag 328.068†	-10.8	-0.00006	mg/L	0.000107	-0.00011	mg/L	0.000213	190.53%
Al 308.215†	27.5	0.03344	mg/L	0.007975	0.06688	mg/L	0.015950	23.85%
As 188.979†	-1.1	-0.00092	mg/L	0.002302	-0.00184	mg/L	0.004605	249.95%
B 249.677†	4.1	0.00089	mg/L	0.001799	0.00178	mg/L	0.003599	201.95%
Ba 233.527†	-0.5	-0.00010	mg/L	0.000695	-0.00020	mg/L	0.001390	693.63%
Be 313.042†	16.0	0.00004	mg/L	0.000030	0.00008	mg/L	0.000061	76.78%
Ca 317.933†	225.7	0.03085	mg/L	0.001510	0.06170	mg/L	0.003020	4.90%
Cd 228.802†	0.2	0.00001	mg/L	0.000076	0.00003	mg/L	0.000152	507.92%
Co 228.616†	-0.5	-0.00002	mg/L	0.000308	-0.00004	mg/L	0.000616	>999.9%
Cr 267.716†	-2.6	-0.00049	mg/L	0.000554	-0.00098	mg/L	0.001109	112.88%
Cu 324.752†	45.8	0.00022	mg/L	0.000267	0.00044	mg/L	0.000534	122.18%
Fe 273.955†	2.9	0.00367	mg/L	0.002425	0.00735	mg/L	0.004850	66.00%
K 766.490†	41.4	0.02299	mg/L	0.018857	0.04598	mg/L	0.037715	82.02%
Mg 279.077†	10.3	0.01483	mg/L	0.002131	0.02966	mg/L	0.004263	14.37%
Mn 257.610†	6.3	0.00021	mg/L	0.000059	0.00042	mg/L	0.000118	28.13%
Mo 202.031†	2.4	0.00016	mg/L	0.000282	0.00031	mg/L	0.000564	180.00%
Na 589.592†	133.0	0.01280	mg/L	0.004694	0.02560	mg/L	0.009387	36.67%
Na 330.237†	-9.4	-0.4532	mg/L	1.10155	-0.9063	mg/L	2.20310	243.09%
Ni 231.604†	0.2	0.00006	mg/L	0.001023	0.00012	mg/L	0.002046	>999.9%
Pb 220.353†	-0.6	-0.00008	mg/L	0.001126	-0.00015	mg/L	0.002251	>999.9%
Sb 206.836†	-0.4	-0.00015	mg/L	0.002695	-0.00029	mg/L	0.005390	>999.9%
Se 196.026†	-2.6	-0.00216	mg/L	0.002033	-0.00432	mg/L	0.004067	94.20%
Si 288.158†	2.2	0.00224	mg/L	0.003253	0.00447	mg/L	0.006507	145.45%
Sn 189.927†	1.4	0.00041	mg/L	0.000617	0.00081	mg/L	0.001235	151.92%
Sr 421.552†	19.2	0.00003	mg/L	0.000050	0.00006	mg/L	0.000099	167.80%
Ti 334.903†	41.7	0.00244	mg/L	0.000282	0.00487	mg/L	0.000563	11.56%
Tl 190.801†	0.2	0.00013	mg/L	0.001767	0.00026	mg/L	0.003533	>999.9%
V 292.402†	18.9	0.00016	mg/L	0.000079	0.00032	mg/L	0.000158	50.18%
Zn 206.200†	42.4	0.01420	mg/L	0.000638	0.02840	mg/L	0.001275	4.49%

Sequence No.: 10
Sample ID: XW40 A-L SWC

Autosampler Location: 306
Date Collected: 2/10/2014 11:36:35 AM
Data Type: Original

Dilution: 10.000000X

Nebulizer Parameters: XW40 A-L SWC

Analyte Back Pressure Flow
All 199.0 kPa 0.75 L/min

Mean Data: XW40 A-L SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2118718.3	100.8	%	0.18				0.18%
ScR 361.383	232186.8	101.8	%	0.22				0.22%
Ag 328.068†	-70.2	-0.00021	mg/L	0.000250	-0.00207	mg/L	0.002502	121.07%
Al 308.215†	22556.2	27.44	mg/L	0.059	274.4	mg/L	0.59	0.22%
As 188.979†	-61.3	0.01460	mg/L	0.001507	0.1460	mg/L	0.01507	10.32%
B 249.677†	29.5	0.00637	mg/L	0.000526	0.06373	mg/L	0.005261	8.26%
Ba 233.527†	505.1	0.1054	mg/L	0.00297	1.054	mg/L	0.0297	2.81%
Be 313.042†	229.6	0.00052	mg/L	0.000023	0.00523	mg/L	0.000234	4.47%
Ca 317.933†	128853.1	17.61	mg/L	0.018	176.1	mg/L	0.18	0.10%
Cd 228.802†	2.1	0.00045	mg/L	0.000017	0.00449	mg/L	0.000166	3.70%
Co 228.616†	648.2	0.01855	mg/L	0.000273	0.1855	mg/L	0.00273	1.47%
Cr 267.716†	258.7	0.04922	mg/L	0.000304	0.4922	mg/L	0.00304	0.62%
Cu 324.752†	9475.5	0.04726	mg/L	0.000698	0.4726	mg/L	0.00698	1.48%
Fe 273.955†	36152.6	46.48	mg/L	0.210	464.8	mg/L	2.10	0.45%
K 766.490†	7057.8	3.916	mg/L	0.0247	39.16	mg/L	0.247	0.63%
Mg 279.077†	8741.5	12.50	mg/L	0.016	125.0	mg/L	0.16	0.12%
Mn 257.610†	19960.6	0.6615	mg/L	0.00191	6.615	mg/L	0.0191	0.29%
Mo 202.031†	36.9	0.00220	mg/L	0.000290	0.02205	mg/L	0.002895	13.13%
Na 589.592†	31754.5	3.056	mg/L	0.0033	30.56	mg/L	0.033	0.11%
Na 330.237†	47.8	2.795	mg/L	0.1319	27.95	mg/L	1.319	4.72%
Ni 231.604†	179.6	0.06221	mg/L	0.000488	0.6221	mg/L	0.00488	0.78%
Pb 220.353†	-6.3	0.00389	mg/L	0.001539	0.03889	mg/L	0.015386	39.56%
Sb 206.836†	8.3	0.00488	mg/L	0.002645	0.04876	mg/L	0.026448	54.23%
Se 196.026†	4.1	0.00335	mg/L	0.002148	0.03349	mg/L	0.021477	64.12%
Si 288.158†	914.5	0.9100	mg/L	0.00657	9.100	mg/L	0.0657	0.72%
Sn 189.927†	-31.8	-0.00648	mg/L	0.001528	-0.06476	mg/L	0.015277	23.59%
Sr 421.552†	58132.4	0.08952	mg/L	0.000123	0.8952	mg/L	0.00123	0.14%
Ti 334.903†	34446.9	2.013	mg/L	0.0032	20.13	mg/L	0.032	0.16%
Tl 190.801†	5.7	0.00968	mg/L	0.003558	0.09684	mg/L	0.035584	36.75%
V 292.402†	12644.3	0.1042	mg/L	0.00117	1.042	mg/L	0.0117	1.13%
Zn 206.200†	314.5	0.1056	mg/L	0.00088	1.056	mg/L	0.0088	0.84%

Sequence No.: 11

Sample ID: XW40 A SWC

Autosampler Location: 307

Date Collected: 2/10/2014 11:40:34 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: XW40 A SWC

Analyte	Back Pressure	Flow
All	198.0 kPa	0.75 L/min

Mean Data: XW40 A SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2086263.7	99.28	%	0.260				0.26%
ScR 361.383	227386.3	99.67	%	0.283				0.28%
Ag 328.068†	-307.8	-0.00084	mg/L	0.000191	-0.00167	mg/L	0.000382	22.81%
Al 308.215†	111379.4	135.5	mg/L	0.81	271.0	mg/L	1.61	0.59%
As 188.979†	-323.7	0.04661	mg/L	0.006617	0.09322	mg/L	0.013233	14.20%
B 249.677†	141.7	0.03066	mg/L	0.000416	0.06132	mg/L	0.000832	1.36%
Ba 233.527†	2438.8	0.5092	mg/L	0.00258	1.018	mg/L	0.0052	0.51%
Be 313.042†	1068.7	0.00243	mg/L	0.000012	0.00486	mg/L	0.000025	0.51%
Ca 317.933†	624605.9	85.36	mg/L	0.193	170.7	mg/L	0.39	0.23%
Cd 228.802†	25.7	0.00314	mg/L	0.000343	0.00628	mg/L	0.000685	10.92%
Co 228.616†	3011.7	0.08546	mg/L	0.000315	0.1709	mg/L	0.00063	0.37%
Cr 267.716†	1201.3	0.2286	mg/L	0.00038	0.4572	mg/L	0.00077	0.17%
Cu 324.752†	46390.8	0.2311	mg/L	0.00061	0.4622	mg/L	0.00123	0.27%
Fe 273.955†	172635.6	221.9	mg/L	0.23	443.9	mg/L	0.46	0.10%
K 766.490†	34668.7	19.24	mg/L	0.043	38.48	mg/L	0.085	0.22%
Mg 279.077†	42495.9	60.78	mg/L	0.159	121.6	mg/L	0.32	0.26%
Mn 257.610†	95594.2	3.168	mg/L	0.0048	6.336	mg/L	0.0095	0.15%
Mo 202.031†	103.4	0.00569	mg/L	0.000467	0.01139	mg/L	0.000933	8.20%
Na 589.592†	156555.1	15.07	mg/L	0.063	30.13	mg/L	0.126	0.42%
Na 330.237†	251.1	14.50	mg/L	0.042	28.99	mg/L	0.085	0.29%
Ni 231.604†	848.1	0.2938	mg/L	0.00367	0.5875	mg/L	0.00733	1.25%
Pb 220.353†	-66.1	0.01457	mg/L	0.001045	0.02914	mg/L	0.002089	7.17%
Sb 206.836†	14.6	0.01276	mg/L	0.002069	0.02552	mg/L	0.004138	16.21%
Se 196.026†	30.8	0.02513	mg/L	0.001937	0.05025	mg/L	0.003873	7.71%
Si 288.158†	4398.3	4.377	mg/L	0.0166	8.754	mg/L	0.0332	0.38%
Sn 189.927†	-88.3	-0.01221	mg/L	0.000546	-0.02441	mg/L	0.001092	4.47%
Sr 421.552†	283336.1	0.4363	mg/L	0.00207	0.8726	mg/L	0.00414	0.47%
Ti 334.903†	166970.2	9.755	mg/L	0.0406	19.51	mg/L	0.081	0.42%
Tl 190.801†	-2.6	0.02563	mg/L	0.001687	0.05126	mg/L	0.003374	6.58%
V 292.402†	59510.7	0.4899	mg/L	0.00214	0.9799	mg/L	0.00429	0.44%
Zn 206.200†	1483.0	0.4978	mg/L	0.00153	0.9957	mg/L	0.00306	0.31%

Sequence No.: 12
Sample ID: XW40 ADUP SWC

Autosampler Location: 308
Date Collected: 2/10/2014 11:44:20 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: XW40 ADUP SWC

Analyte Back Pressure Flow
All 199.0 kPa 0.75 L/min

Mean Data: XW40 ADUP SWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2101104.4	99.98 %	0.252			0.25%
ScR 361.383	233799.1	102.5 %	0.97			0.95%
Ag 328.068†	-404.1	-0.00096 mg/L	0.000093	-0.00191 mg/L	0.000186	9.75%
Al 308.215†	118698.5	144.4 mg/L	0.88	288.9 mg/L	1.76	0.61%
As 188.979†	-202.4	0.05963 mg/L	0.006902	0.1193 mg/L	0.01380	11.58%
B 249.677†	131.3	0.02845 mg/L	0.000966	0.05690 mg/L	0.001933	3.40%
Ba 233.527†	1758.3	0.3625 mg/L	0.00217	0.7250 mg/L	0.00433	0.60%
Be 313.042†	1173.5	0.00273 mg/L	0.000038	0.00547 mg/L	0.000075	1.38%
Ca 317.933†	1015478.4	138.8 mg/L	1.52	277.6 mg/L	3.03	1.09%
Cd 228.802†	14.7	0.00193 mg/L	0.000017	0.00386 mg/L	0.000033	0.86%
Co 228.616†	2212.8	0.06269 mg/L	0.000171	0.1254 mg/L	0.00034	0.27%
Cr 267.716†	1033.0	0.1959 mg/L	0.00161	0.3917 mg/L	0.00322	0.82%
Cu 324.752†	35374.3	0.1775 mg/L	0.00024	0.3550 mg/L	0.00048	0.14%
Fe 273.955†	150994.8	194.1 mg/L	0.26	388.2 mg/L	0.53	0.14%
K 766.490†	24511.2	13.60 mg/L	0.080	27.20 mg/L	0.160	0.59%
Mg 279.077†	38399.4	54.92 mg/L	0.356	109.8 mg/L	0.71	0.65%
Mn 257.610†	85102.0	2.820 mg/L	0.0033	5.640 mg/L	0.0067	0.12%
Mo 202.031†	116.3	0.00583 mg/L	0.000522	0.01167 mg/L	0.001045	8.95%
Na 589.592†	174952.2	16.84 mg/L	0.178	33.67 mg/L	0.355	1.06%
Na 330.237†	298.3	16.11 mg/L	0.027	32.23 mg/L	0.054	0.17%
Ni 231.604†	673.0	0.2331 mg/L	0.00408	0.4662 mg/L	0.00817	1.75%
Pb 220.353†	550.0	0.1069 mg/L	0.00127	0.2139 mg/L	0.00254	1.19%
Sb 206.836†	7.9	0.00799 mg/L	0.005114	0.01598 mg/L	0.010227	63.99%
Se 196.026†	32.8	0.02686 mg/L	0.003315	0.05371 mg/L	0.006631	12.34%
Si 288.158†	670.2	0.6670 mg/L	0.01147	1.334 mg/L	0.0229	1.72%
Sn 189.927†	-103.7	-0.00986 mg/L	0.000833	-0.01973 mg/L	0.001667	8.45%
Sr 421.552†	607504.3	0.9355 mg/L	0.00855	1.871 mg/L	0.0171	0.91%
Ti 334.903†	123661.7	7.219 mg/L	0.0359	14.44 mg/L	0.072	0.50%
Tl 190.801†	23.4	0.04035 mg/L	0.004030	0.08071 mg/L	0.008059	9.99%
V 292.402†	52346.8	0.4318 mg/L	0.00059	0.8636 mg/L	0.00118	0.14%
Zn 206.200†	1191.6	0.3995 mg/L	0.00285	0.7990 mg/L	0.00570	0.71%

Sequence No.: 13
Sample ID: XW40 ASPK SWC

Autosampler Location: 309
Date Collected: 2/10/2014 11:48:21 AM
Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: XW40 ASPK SWC

Analyte Back Pressure Flow
All 199.0 kPa 0.75 L/min

Mean Data: XW40 ASPK SWC

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2060665.9	98.06	%	0.547				0.56%
ScR 361.383	225844.1	98.99	%	0.190				0.19%
Ag 328.068†	95498.7	0.4999	mg/L	0.00287	0.9997	mg/L	0.00575	0.57%
Al 308.215†	125698.4	152.9	mg/L	1.25	305.9	mg/L	2.50	0.82%
As 188.979†	1996.3	2.051	mg/L	0.0114	4.103	mg/L	0.0227	0.55%
B 249.677†	125.4	0.02606	mg/L	0.001532	0.05211	mg/L	0.003063	5.88%
Ba 233.527†	10444.9	2.277	mg/L	0.0158	4.553	mg/L	0.0317	0.70%
Be 313.042†	194958.8	0.4855	mg/L	0.00757	0.9711	mg/L	0.01514	1.56%
Ca 317.933†	838181.4	114.5	mg/L	1.04	229.1	mg/L	2.08	0.91%
Cd 228.802†	10029.2	0.5331	mg/L	0.00292	1.066	mg/L	0.0058	0.55%
Co 228.616†	17450.1	0.5832	mg/L	0.00315	1.166	mg/L	0.0063	0.54%
Cr 267.716†	4021.9	0.7510	mg/L	0.00211	1.502	mg/L	0.0042	0.28%
Cu 324.752†	148612.5	0.7217	mg/L	0.00391	1.443	mg/L	0.0078	0.54%
Fe 273.955†	186548.8	239.8	mg/L	1.54	479.6	mg/L	3.07	0.64%
K 766.490†	43948.8	24.39	mg/L	0.141	48.78	mg/L	0.282	0.58%
Mg 279.077†	56480.0	80.83	mg/L	0.621	161.7	mg/L	1.24	0.77%
Mn 257.610†	117386.4	3.891	mg/L	0.0304	7.782	mg/L	0.0608	0.78%
Mo 202.031†	114.6	0.00604	mg/L	0.000493	0.01209	mg/L	0.000986	8.16%
Na 589.592†	295911.4	28.48	mg/L	0.213	56.95	mg/L	0.426	0.75%
Na 330.237†	545.7	27.86	mg/L	0.068	55.72	mg/L	0.137	0.25%
Ni 231.604†	2296.1	0.7945	mg/L	0.00216	1.589	mg/L	0.0043	0.27%
Pb 220.353†	13538.9	1.974	mg/L	0.0128	3.948	mg/L	0.0257	0.65%
Sb 206.836†	27.6	0.01131	mg/L	0.005974	0.02262	mg/L	0.011948	52.83%
Se 196.026†	2431.2	2.011	mg/L	0.0154	4.021	mg/L	0.0307	0.76%
Si 288.158†	3349.3	3.335	mg/L	0.0147	6.671	mg/L	0.0293	0.44%
Sn 189.927†	-101.5	-0.01242	mg/L	0.000634	-0.02484	mg/L	0.001268	5.10%
Sr 421.552†	717360.6	1.105	mg/L	0.0088	2.209	mg/L	0.0176	0.80%
Ti 334.903†	126287.9	7.374	mg/L	0.0635	14.75	mg/L	0.127	0.86%
Tl 190.801†	2764.5	1.945	mg/L	0.0064	3.890	mg/L	0.0128	0.33%
V 292.402†	113145.9	0.9500	mg/L	0.00627	1.900	mg/L	0.0125	0.66%
Zn 206.200†	2913.7	0.9773	mg/L	0.00315	1.955	mg/L	0.0063	0.32%

Sequence No.: 14

Autosampler Location: 310

Sample ID: ~~XW40 APOST SWC~~ ZZZZZZ

Date Collected: 2/10/2014 11:52:07 AM

Dilution: 2.000000X

3A 2/10/14

Data Type: Original

Nebulizer Parameters: XW40 APOST SWC

Analyte	Back Pressure	Flow
All	199.0 kPa	0.75 L/min

Mean Data: XW40 APOST SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2076385.2	98.81	%	0.243				0.25%
ScR 361.383	228563.5	100.2	%	0.51				0.50%
Ag 328.068†	92595.4	0.4846	mg/L	0.00290	0.9691	mg/L	0.00580	0.60%
Al 308.215†	111098.3	135.2	mg/L	0.69	270.3	mg/L	1.38	0.51%
As 188.979†	1912.4	2.058	mg/L	0.0077	4.116	mg/L	0.0155	0.38%
B 249.677†	154.9	0.03251	mg/L	0.000844	0.06502	mg/L	0.001688	2.60%
Ba 233.527†	11340.4	2.477	mg/L	0.0185	4.954	mg/L	0.0370	0.75%
Be 313.042†	191150.1	0.4760	mg/L	0.00315	0.9520	mg/L	0.00631	0.66%
Ca 317.933†	690303.7	94.34	mg/L	0.631	188.7	mg/L	1.26	0.67%
Cd 228.802†	9841.7	0.5233	mg/L	0.00052	1.047	mg/L	0.0010	0.10%
Co 228.616†	17138.7	0.5686	mg/L	0.00126	1.137	mg/L	0.0025	0.22%
Cr 267.716†	3858.1	0.7208	mg/L	0.00302	1.442	mg/L	0.0060	0.42%
Cu 324.752†	152701.2	0.7400	mg/L	0.00338	1.480	mg/L	0.0068	0.46%
Fe 273.955†	173029.4	222.4	mg/L	1.66	444.9	mg/L	3.32	0.75%
K 766.490†	52285.8	29.01	mg/L	0.108	58.03	mg/L	0.217	0.37%
Mg 279.077†	48831.1	69.87	mg/L	0.323	139.7	mg/L	0.65	0.46%
Mn 257.610†	109225.1	3.621	mg/L	0.0257	7.241	mg/L	0.0514	0.71%
Mo 202.031†	109.6	0.00598	mg/L	0.000149	0.01196	mg/L	0.000297	2.48%
Na 589.592†	260149.1	25.04	mg/L	0.118	50.07	mg/L	0.236	0.47%
Na 330.237†	456.8	24.18	mg/L	0.423	48.37	mg/L	0.847	1.75%
Ni 231.604†	2240.6	0.7753	mg/L	0.00465	1.551	mg/L	0.0093	0.60%
Pb 220.353†	13348.0	1.943	mg/L	0.0011	3.885	mg/L	0.0023	0.06%
Sb 206.836†	23.5	0.01180	mg/L	0.001926	0.02359	mg/L	0.003852	16.33%
Se 196.026†	2519.3	2.084	mg/L	0.0053	4.167	mg/L	0.0106	0.25%
Si 288.158†	4324.4	4.306	mg/L	0.0216	8.611	mg/L	0.0433	0.50%
Sn 189.927†	-91.7	-0.01193	mg/L	0.002175	-0.02386	mg/L	0.004351	18.23%
Sr 421.552†	601650.3	0.9265	mg/L	0.00490	1.853	mg/L	0.0098	0.53%
Ti 334.903†	164603.8	9.616	mg/L	0.0524	19.23	mg/L	0.105	0.54%
Tl 190.801†	2723.1	1.914	mg/L	0.0066	3.828	mg/L	0.0133	0.35%
V 292.402†	115258.0	0.9676	mg/L	0.00535	1.935	mg/L	0.0107	0.55%
Zn 206.200†	2990.3	1.003	mg/L	0.0062	2.006	mg/L	0.0125	0.62%

Sequence No.: 15

Sample ID: XW40 B SWC

Autosampler Location: 311

Date Collected: 2/10/2014 11:55:53 AM

Data Type: Original

Dilution: 2.000000X

Nebulizer Parameters: XW40 B SWC

Analyte	Back Pressure	Flow
All	199.0 kPa	0.75 L/min

Mean Data: XW40 B SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2072821.0	98.64	%	0.646				0.66%
ScR 361.383	227227.0	99.60	%	0.570				0.57%
Ag 328.068†	-359.2	-0.00080	mg/L	0.000162	-0.00160	mg/L	0.000323	20.26%
Al 308.215†	116640.2	141.9	mg/L	0.46	283.8	mg/L	0.91	0.32%
As 188.979†	-311.2	0.05541	mg/L	0.001090	0.1108	mg/L	0.00218	1.97%
B 249.677†	145.1	0.03141	mg/L	0.001064	0.06282	mg/L	0.002127	3.39%
Ba 233.527†	1299.1	0.2573	mg/L	0.00057	0.5146	mg/L	0.00113	0.22%
Be 313.042†	1168.2	0.00268	mg/L	0.000022	0.00535	mg/L	0.000043	0.80%
Ca 317.933†	923650.6	126.2	mg/L	0.52	252.5	mg/L	1.04	0.41%
Cd 228.802†	18.1	0.00269	mg/L	0.000019	0.00538	mg/L	0.000038	0.70%
Co 228.616†	3087.9	0.08798	mg/L	0.001089	0.1760	mg/L	0.00218	1.24%
Cr 267.716†	1410.4	0.2658	mg/L	0.00163	0.5316	mg/L	0.00326	0.61%
Cu 324.752†	37060.1	0.1863	mg/L	0.00178	0.3727	mg/L	0.00357	0.96%
Fe 273.955†	172188.2	221.4	mg/L	1.29	442.7	mg/L	2.57	0.58%
K 766.490†	20913.8	11.61	mg/L	0.040	23.21	mg/L	0.079	0.34%
Mg 279.077†	52242.9	74.76	mg/L	0.272	149.5	mg/L	0.54	0.36%
Mn 257.610†	103464.5	3.429	mg/L	0.0210	6.858	mg/L	0.0420	0.61%
Mo 202.031†	111.7	0.00570	mg/L	0.000472	0.01140	mg/L	0.000944	8.28%
Na 589.592†	200083.2	19.25	mg/L	0.086	38.51	mg/L	0.172	0.45%
Na 330.237†	331.9	18.40	mg/L	0.250	36.79	mg/L	0.500	1.36%
Ni 231.604†	906.4	0.3140	mg/L	0.00125	0.6279	mg/L	0.00250	0.40%
Pb 220.353†	-112.7	0.00973	mg/L	0.000391	0.01947	mg/L	0.000782	4.02%
Sb 206.836†	4.6	0.00796	mg/L	0.002736	0.01591	mg/L	0.005472	34.39%
Se 196.026†	40.9	0.03345	mg/L	0.004768	0.06691	mg/L	0.009535	14.25%
Si 288.158†	3312.9	3.297	mg/L	0.0166	6.593	mg/L	0.0332	0.50%
Sn 189.927†	-106.6	-0.01192	mg/L	0.001100	-0.02384	mg/L	0.002201	9.23%
Sr 421.552†	499108.8	0.7686	mg/L	0.00306	1.537	mg/L	0.0061	0.40%
Ti 334.903†	167985.8	9.811	mg/L	0.0368	19.62	mg/L	0.074	0.38%
Tl 190.801†	4.1	0.03014	mg/L	0.003079	0.06027	mg/L	0.006157	10.22%
V 292.402†	59972.3	0.4941	mg/L	0.00629	0.9881	mg/L	0.01257	1.27%
Zn 206.200†	1387.0	0.4655	mg/L	0.00359	0.9309	mg/L	0.00718	0.77%

Sequence No.: 16
Sample ID: XW40 MB1SPK SWC
Dilution: 2.000000X

Autosampler Location: 312
Date Collected: 2/10/2014 11:59:39 AM
Data Type: Original

Nebulizer Parameters: XW40 MB1SPK SWC

Analyte Back Pressure Flow
All 199.0 kPa 0.75 L/min

Mean Data: XW40 MB1SPK SWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc. Units			
ScA 357.253	2101199.8		99.99 %	0.280				0.28%
ScR 361.383	229397.7		100.6 %	0.54				0.53%
Ag 328.068†	102354.7		0.5348 mg/L	0.00682	1.070 mg/L		0.0136	1.27%
Al 308.215†	1744.3		2.115 mg/L	0.0184	4.230 mg/L		0.0368	0.87%
As 188.979†	2339.9		2.110 mg/L	0.0243	4.220 mg/L		0.0485	1.15%
B 249.677†	-0.7	-0.00123	mg/L	0.000162	-0.00246 mg/L		0.000323	13.14%
Ba 233.527†	9549.2		2.111 mg/L	0.0224	4.222 mg/L		0.0447	1.06%
Be 313.042†	203241.8		0.5064 mg/L	0.00029	1.013 mg/L		0.0006	0.06%
Ca 317.933†	76528.4		10.46 mg/L	0.015	20.92 mg/L		0.031	0.15%
Cd 228.802†	10045.7		0.5321 mg/L	0.00446	1.064 mg/L		0.0089	0.84%
Co 228.616†	15007.8		0.5129 mg/L	0.00553	1.026 mg/L		0.0111	1.08%
Cr 267.716†	2902.0		0.5376 mg/L	0.00298	1.075 mg/L		0.0060	0.55%
Cu 324.752†	105473.0		0.5049 mg/L	0.00285	1.010 mg/L		0.0057	0.56%
Fe 273.955†	1676.9		2.152 mg/L	0.0130	4.305 mg/L		0.0259	0.60%
K 766.490†	18927.9		10.50 mg/L	0.047	21.01 mg/L		0.095	0.45%
Mg 279.077†	7506.2		10.77 mg/L	0.073	21.53 mg/L		0.146	0.68%
Mn 257.610†	15419.5		0.5116 mg/L	0.00335	1.023 mg/L		0.0067	0.66%
Mo 202.031†	27.3	0.00166	mg/L	0.000428	0.00333 mg/L		0.000857	25.76%
Na 589.592†	111339.0		10.71 mg/L	0.028	21.43 mg/L		0.056	0.26%
Na 330.237†	227.1		10.74 mg/L	0.096	21.48 mg/L		0.192	0.89%
Ni 231.604†	1553.7		0.5373 mg/L	0.00376	1.075 mg/L		0.0075	0.70%
Pb 220.353†	14238.1		2.047 mg/L	0.0200	4.094 mg/L		0.0400	0.98%
Sb 206.836†	13.0	0.00050	mg/L	0.001498	0.00100 mg/L		0.002997	301.08%
Se 196.026†	2561.4		2.119 mg/L	0.0300	4.237 mg/L		0.0599	1.41%
Si 288.158†	-0.3	0.00212	mg/L	0.006023	0.00424 mg/L		0.012045	284.41%
Sn 189.927†	-20.9	-0.00459	mg/L	0.001649	-0.00918 mg/L		0.003299	35.92%
Sr 421.552†	341292.1		0.5256 mg/L	0.00123	1.051 mg/L		0.0025	0.23%
Ti 334.903†	126.9	0.00654	mg/L	0.000721	0.01308 mg/L		0.001443	11.03%
Tl 190.801†	3003.6		2.081 mg/L	0.0256	4.162 mg/L		0.0511	1.23%
V 292.402†	61339.6		0.5254 mg/L	0.00657	1.051 mg/L		0.0131	1.25%
Zn 206.200†	1622.1		0.5439 mg/L	0.00316	1.088 mg/L		0.0063	0.58%

Sequence No.: 17
 Sample ID: CV 2

Autosampler Location: 7
 Date Collected: 2/10/2014 12:03:38 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	199.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	2090218.3	99.46	%	0.122				0.12%
ScR 361.383	224668.9	98.48	%	0.544				0.55%
Ag 328.068†	200565.7	1.048	mg/L	0.0065	1.048	mg/L	0.0065	0.62%
Al 308.215†	1697.7	2.033	mg/L	0.0138	2.033	mg/L	0.0138	0.68%
As 188.979†	2252.2	2.063	mg/L	0.0035	2.063	mg/L	0.0035	0.17%
B 249.677†	4699.1	1.023	mg/L	0.0085	1.023	mg/L	0.0085	0.83%
Ba 233.527†	4597.4	1.016	mg/L	0.0089	1.016	mg/L	0.0089	0.88%
Be 313.042†	417217.6	1.039	mg/L	0.0052	1.039	mg/L	0.0052	0.50%
Ca 317.933†	15211.4	2.079	mg/L	0.0159	2.079	mg/L	0.0159	0.77%
Cd 228.802†	19274.5	1.031	mg/L	0.0023	1.031	mg/L	0.0023	0.23%
Co 228.616†	29491.5	1.007	mg/L	0.0036	1.007	mg/L	0.0036	0.36%
Cr 267.716†	5589.6	1.037	mg/L	0.0061	1.037	mg/L	0.0061	0.59%
Cu 324.752†	219876.7	1.052	mg/L	0.0051	1.052	mg/L	0.0051	0.48%
Fe 273.955†	1626.5	2.084	mg/L	0.0145	2.084	mg/L	0.0145	0.70%
K 766.490†	36080.8	20.02	mg/L	0.078	20.02	mg/L	0.078	0.39%
Mg 279.077†	1388.0	1.997	mg/L	0.0118	1.997	mg/L	0.0118	0.59%
Mn 257.610†	29525.7	0.9794	mg/L	0.00621	0.9794	mg/L	0.00621	0.63%
Mo 202.031†	15286.8	1.009	mg/L	0.0022	1.009	mg/L	0.0022	0.21%
Na 589.592†	532106.1	51.21	mg/L	0.195	51.21	mg/L	0.195	0.38%
Na 330.237†	1073.6	51.48	mg/L	0.208	51.48	mg/L	0.208	0.40%
Ni 231.604†	2995.5	1.038	mg/L	0.0059	1.038	mg/L	0.0059	0.57%
Pb 220.353†	14055.3	2.021	mg/L	0.0024	2.021	mg/L	0.0024	0.12%
Sb 206.836†	4891.2	2.114	mg/L	0.0020	2.114	mg/L	0.0020	0.09%
Se 196.026†	2481.4	2.052	mg/L	0.0064	2.052	mg/L	0.0064	0.31%
Si 288.158†	2028.7	2.023	mg/L	0.0192	2.023	mg/L	0.0192	0.95%
Sn 189.927†	3471.3	1.015	mg/L	0.0020	1.015	mg/L	0.0020	0.19%
Sr 421.552†	660853.4	1.018	mg/L	0.0043	1.018	mg/L	0.0043	0.42%
Ti 334.903†	16990.9	0.9920	mg/L	0.00413	0.9920	mg/L	0.00413	0.42%
Tl 190.801†	3030.3	2.096	mg/L	0.0031	2.096	mg/L	0.0031	0.15%
V 292.402†	119419.1	1.023	mg/L	0.0055	1.023	mg/L	0.0055	0.54%
Zn 206.200†	3085.4	1.034	mg/L	0.0068	1.034	mg/L	0.0068	0.66%

Sequence No.: 18
Sample ID: CB 2

Autosampler Location: 1
Date Collected: 2/10/2014 12:07:39 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
All 199.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2078060.7	98.88 %	0.935			0.95%
ScR 361.383	226454.9	99.26 %	0.367			0.37%
Ag 328.068†	47.8	0.00025 mg/L	0.000059	0.00025 mg/L	0.000059	23.49%
Al 308.215†	3.7	0.00447 mg/L	0.000926	0.00447 mg/L	0.000926	20.73%
As 188.979†	4.2	0.00380 mg/L	0.000537	0.00380 mg/L	0.000537	14.11%
B 249.677†	5.9	0.00130 mg/L	0.000986	0.00130 mg/L	0.000986	76.00%
Ba 233.527†	0.4	0.00010 mg/L	0.000632	0.00010 mg/L	0.000632	643.17%
Be 313.042†	35.0	0.00009 mg/L	0.000016	0.00009 mg/L	0.000016	17.99%
Ca 317.933†	13.8	0.00188 mg/L	0.001607	0.00188 mg/L	0.001607	85.27%
Cd 228.802†	1.0	0.00003 mg/L	0.000107	0.00003 mg/L	0.000107	311.82%
Co 228.616†	0.8	0.00003 mg/L	0.000118	0.00003 mg/L	0.000118	441.62%
Cr 267.716†	-2.4	-0.00045 mg/L	0.000968	-0.00045 mg/L	0.000968	217.13%
Cu 324.752†	25.3	0.00012 mg/L	0.000123	0.00012 mg/L	0.000123	102.40%
Fe 273.955†	-2.4	-0.00304 mg/L	0.003489	-0.00304 mg/L	0.003489	114.70%
K 766.490†	2.1	0.00119 mg/L	0.014910	0.00119 mg/L	0.014910	>999.9%
Mg 279.077†	6.2	0.00884 mg/L	0.005174	0.00884 mg/L	0.005174	58.53%
Mn 257.610†	4.1	0.00014 mg/L	0.000056	0.00014 mg/L	0.000056	40.97%
Mo 202.031†	21.2	0.00140 mg/L	0.000208	0.00140 mg/L	0.000208	14.89%
Na 589.592†	68.6	0.00660 mg/L	0.003200	0.00660 mg/L	0.003200	48.47%
Na 330.237†	-5.2	-0.2479 mg/L	0.76422	-0.2479 mg/L	0.76422	308.34%
Ni 231.604†	-3.9	-0.00135 mg/L	0.000421	-0.00135 mg/L	0.000421	31.07%
Pb 220.353†	6.4	0.00092 mg/L	0.000415	0.00092 mg/L	0.000415	45.19%
Sb 206.836†	9.9	0.00430 mg/L	0.001838	0.00430 mg/L	0.001838	42.72%
Se 196.026†	1.5	0.00123 mg/L	0.003602	0.00123 mg/L	0.003602	293.47%
Si 288.158†	-1.8	-0.00183 mg/L	0.004428	-0.00183 mg/L	0.004428	242.41%
Sn 189.927†	1.5	0.00044 mg/L	0.000219	0.00044 mg/L	0.000219	49.94%
Sr 421.552†	35.6	0.00005 mg/L	0.000051	0.00005 mg/L	0.000051	93.40%
Ti 334.903†	5.6	0.00032 mg/L	0.000162	0.00032 mg/L	0.000162	49.91%
Tl 190.801†	3.5	0.00241 mg/L	0.003019	0.00241 mg/L	0.003019	125.35%
V 292.402†	24.1	0.00020 mg/L	0.000189	0.00020 mg/L	0.000189	92.20%
Zn 206.200†	-1.1	-0.00037 mg/L	0.000421	-0.00037 mg/L	0.000421	114.86%

Sequence No.: 19

Sample ID: XY02 MB1 TWC

Autosampler Location: 313

Date Collected: 2/10/2014 12:11:39 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: XY02 MB1 TWC

Analyte	Back Pressure	Flow
All	199.0 kPa	0.75 L/min

Mean Data: XY02 MB1 TWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc. Units			
ScA 357.253	2084235.3		99.18 %	0.634				0.64%
ScR 361.383	226452.2		99.26 %	1.356				1.37%
Ag 328.068†	9.1	0.00005	mg/L	0.000157	0.00005	mg/L	0.000157	330.49%
Al 308.215†	3.3	0.00404	mg/L	0.004810	0.00404	mg/L	0.004810	119.06%
As 188.979†	1.7	0.00156	mg/L	0.000612	0.00156	mg/L	0.000612	39.27%
B 249.677†	2.6	0.00056	mg/L	0.000735	0.00056	mg/L	0.000735	130.61%
Ba 233.527†	1.3	0.00028	mg/L	0.000660	0.00028	mg/L	0.000660	237.83%
Be 313.042†	7.9	0.00002	mg/L	0.000037	0.00002	mg/L	0.000037	186.57%
Ca 317.933†	53.9	0.00737	mg/L	0.000993	0.00737	mg/L	0.000993	13.48%
Cd 228.802†	-1.1	-0.00007	mg/L	0.000208	-0.00007	mg/L	0.000208	302.21%
Co 228.616†	-10.7	-0.00037	mg/L	0.000172	-0.00037	mg/L	0.000172	46.90%
Cr 267.716†	0.4	0.00008	mg/L	0.000713	0.00008	mg/L	0.000713	939.44%
Cu 324.752†	44.6	0.00021	mg/L	0.000154	0.00021	mg/L	0.000154	72.22%
Fe 273.955†	0.1	0.00015	mg/L	0.002645	0.00015	mg/L	0.002645	>999.9%
K 766.490†	39.0	0.02163	mg/L	0.019104	0.02163	mg/L	0.019104	88.31%
Mg 279.077†	5.0	0.00724	mg/L	0.004282	0.00724	mg/L	0.004282	59.17%
Mn 257.610†	4.9	0.00016	mg/L	0.000100	0.00016	mg/L	0.000100	61.94%
Mo 202.031†	6.9	0.00045	mg/L	0.000308	0.00045	mg/L	0.000308	67.89%
Na 589.592†	31.6	0.00304	mg/L	0.000488	0.00304	mg/L	0.000488	16.03%
Na 330.237†	4.4	0.2109	mg/L	0.46955	0.2109	mg/L	0.46955	222.60%
Ni 231.604†	1.5	0.00052	mg/L	0.002167	0.00052	mg/L	0.002167	419.22%
Pb 220.353†	2.2	0.00031	mg/L	0.000742	0.00031	mg/L	0.000742	237.34%
Sb 206.836†	5.3	0.00227	mg/L	0.000729	0.00227	mg/L	0.000729	32.05%
Se 196.026†	-7.0	-0.00575	mg/L	0.001474	-0.00575	mg/L	0.001474	25.62%
Si 288.158†	1.8	0.00181	mg/L	0.000687	0.00181	mg/L	0.000687	37.92%
Sn 189.927†	0.2	0.00006	mg/L	0.000936	0.00006	mg/L	0.000936	>999.9%
Sr 421.552†	-7.9	-0.00001	mg/L	0.000023	-0.00001	mg/L	0.000023	189.74%
Ti 334.903†	8.6	0.00050	mg/L	0.000722	0.00050	mg/L	0.000722	143.91%
Tl 190.801†	1.6	0.00110	mg/L	0.002730	0.00110	mg/L	0.002730	247.69%
V 292.402†	-2.0	-0.00002	mg/L	0.000224	-0.00002	mg/L	0.000224	>999.9%
Zn 206.200†	28.0	0.00938	mg/L	0.000622	0.00938	mg/L	0.000622	6.63%

XY02:00056

Sequence No.: 20
Sample ID: XW40 MB1 SWC
Dilution: 2.000000X

Del

Autosampler Location: 328
Date Collected: 2/10/2014 12:15:39 PM
Data Type: Original

Nebulizer Parameters: XW40 MB1 SWC

Analyte Back Pressure Flow
All 198.0 kPa 0.75 L/min

Mean Data: XW40 MB1 SWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2108795.0	100.3	%	0.35				0.35%
ScR 361.383	231447.6	101.4	%	0.29				0.28%
Ag 328.068†	-5.8	-0.00003	mg/L	0.000284	-0.00006	mg/L	0.000569	960.03%
Al 308.215†	31.3	0.03803	mg/L	0.003678	0.07606	mg/L	0.007355	9.67%
As 188.979†	2.4	0.00231	mg/L	0.002403	0.00461	mg/L	0.004806	104.15%
B 249.677†	2.7	0.00059	mg/L	0.000764	0.00117	mg/L	0.001529	130.50%
Ba 233.527†	-2.5	-0.00056	mg/L	0.000462	-0.00112	mg/L	0.000924	82.41%
Be 313.042†	6.1	0.00002	mg/L	0.000035	0.00003	mg/L	0.000069	231.17%
Ca 317.933†	385.5	0.05268	mg/L	0.002030	0.1054	mg/L	0.00406	3.85%
Cd 228.802†	-1.8	-0.00011	mg/L	0.000073	-0.00021	mg/L	0.000146	68.41%
Co 228.616†	5.2	0.00017	mg/L	0.000160	0.00034	mg/L	0.000321	93.21%
Cr 267.716†	4.2	0.00077	mg/L	0.000631	0.00154	mg/L	0.001262	82.01%
Cu 324.752†	12.3	0.00006	mg/L	0.000061	0.00012	mg/L	0.000122	104.52%
Fe 273.955†	4.7	0.00601	mg/L	0.007547	0.01202	mg/L	0.015094	125.55%
K 766.490†	38.5	0.02135	mg/L	0.005571	0.04270	mg/L	0.011142	26.10%
Mg 279.077†	12.4	0.01779	mg/L	0.004907	0.03559	mg/L	0.009814	27.58%
Mn 257.610†	6.2	0.00021	mg/L	0.000060	0.00041	mg/L	0.000121	29.44%
Mo 202.031†	4.6	0.00030	mg/L	0.000239	0.00060	mg/L	0.000477	79.60%
Na 589.592†	2103.8	0.2025	mg/L	0.00288	0.4049	mg/L	0.00577	1.42%
Na 330.237†	1.6	0.07140	mg/L	0.362583	0.1428	mg/L	0.72517	507.84%
Ni 231.604†	0.0	0.00001	mg/L	0.001679	0.00002	mg/L	0.003359	>999.9%
Pb 220.353†	0.2	0.00004	mg/L	0.000621	0.00008	mg/L	0.001241	>999.9%
Sb 206.836†	-6.1	-0.00265	mg/L	0.001448	-0.00530	mg/L	0.002895	54.67%
Se 196.026†	0.3	0.00025	mg/L	0.002078	0.00051	mg/L	0.004157	818.95%
Si 288.158†	-5.8	-0.00581	mg/L	0.002005	-0.01162	mg/L	0.004011	34.51%
Sn 189.927†	1.7	0.00050	mg/L	0.000323	0.00100	mg/L	0.000645	64.80%
Sr 421.552†	24.0	0.00004	mg/L	0.000013	0.00007	mg/L	0.000027	36.36%
Ti 334.903†	61.8	0.00361	mg/L	0.000151	0.00721	mg/L	0.000302	4.19%
Tl 190.801†	4.7	0.00323	mg/L	0.001908	0.00646	mg/L	0.003815	59.03%
V 292.402†	24.2	0.00021	mg/L	0.000156	0.00041	mg/L	0.000311	75.12%
Zn 206.200†	62.6	0.02098	mg/L	0.000229	0.04196	mg/L	0.000458	1.09%

Sequence No.: 21
 Sample ID: XY02 A TWC
 Dilution: 1.000000X

Del

Autosampler Location: 314
 Date Collected: 2/10/2014 12:19:38 PM
 Data Type: Original

Nebulizer Parameters: XY02 A TWC
 Analyte Back Pressure Flow
 All 199.0 kPa 0.75 L/min

Mean Data: XY02 A TWC

Analyte	Mean Corrected Intensity	Conc	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	5117127.5	243.5	%	18.53			7.61%
ScR 361.383	566933.4	248.5	%	4.19			1.69%
Ag 328.068†	-607.0	-0.00317	mg/L	0.000152	-0.00317 mg/L	0.000152	4.80%
Al 308.215†	-58.1	-0.07058	mg/L	0.001659	-0.07058 mg/L	0.001659	2.35%
As 188.979†	9.6	0.00858	mg/L	0.000177	0.00858 mg/L	0.000177	2.07%
B 249.677†	0.5	0.00009	mg/L	0.001002	0.00009 mg/L	0.001002	>999.9%
Ba 233.527†	-21.6	-0.00478	mg/L	0.000411	-0.00478 mg/L	0.000411	8.60%
Be 313.042†	-453.1	-0.00113	mg/L	0.000009	-0.00113 mg/L	0.000009	0.80%
Ca 317.933†	33.7	0.00461	mg/L	0.001324	0.00461 mg/L	0.001324	28.71%
Cd 228.802†	-44.9	-0.00248	mg/L	0.000696	-0.00248 mg/L	0.000696	28.13%
Co 228.616†	79.8	0.00274	mg/L	0.000182	0.00274 mg/L	0.000182	6.67%
Cr 267.716†	43.1	0.00800	mg/L	0.000274	0.00800 mg/L	0.000274	3.43%
Cu 324.752†	-1949.8	-0.00933	mg/L	0.000304	-0.00933 mg/L	0.000304	3.26%
Fe 273.955†	36.8	0.04729	mg/L	0.001034	0.04729 mg/L	0.001034	2.19%
K 766.490†	-168.2	-0.09335	mg/L	0.004018	-0.09335 mg/L	0.004018	4.30%
Mg 279.077†	-29.6	-0.04248	mg/L	0.003060	-0.04248 mg/L	0.003060	7.20%
Mn 257.610†	-3.4	-0.00011	mg/L	0.000083	-0.00011 mg/L	0.000083	74.29%
Mo 202.031†	-41.7	-0.00275	mg/L	0.000163	-0.00275 mg/L	0.000163	5.93%
Na 589.592†	310.8	0.02991	mg/L	0.001936	0.02991 mg/L	0.001936	6.47%
Na 330.237†	14.3	0.6846	mg/L	0.10918	0.6846 mg/L	0.10918	15.95%
Ni 231.604†	-12.6	-0.00438	mg/L	0.000493	-0.00438 mg/L	0.000493	11.26%
Pb 220.353†	22.4	0.00322	mg/L	0.000158	0.00322 mg/L	0.000158	4.91%
Sb 206.836†	-18.2	-0.00797	mg/L	0.001144	-0.00797 mg/L	0.001144	14.35%
Se 196.026†	27.2	0.02255	mg/L	0.001982	0.02255 mg/L	0.001982	8.79%
Si 288.158†	3.8	0.00379	mg/L	0.002995	0.00379 mg/L	0.002995	79.01%
Sn 189.927†	7.1	0.00206	mg/L	0.000162	0.00206 mg/L	0.000162	7.87%
Sr 421.552†	-80.0	-0.00012	mg/L	0.000013	-0.00012 mg/L	0.000013	10.37%
Ti 334.903†	-61.9	-0.00362	mg/L	0.000256	-0.00362 mg/L	0.000256	7.07%
Tl 190.801†	19.6	0.01359	mg/L	0.001485	0.01359 mg/L	0.001485	10.92%
V 292.402†	-109.8	-0.00091	mg/L	0.000076	-0.00091 mg/L	0.000076	8.42%
Zn 206.200†	13.0	0.00437	mg/L	0.000413	0.00437 mg/L	0.000413	9.45%

Sequence No.: 22
 Sample ID: XY02 B TWC

Autosampler Location: 315
 Date Collected: 2/10/2014 12:24:39 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: XY02 B TWC

Analyte Back Pressure Flow
 All 199.0 kPa 0.75 L/min

Mean Data: XY02 B TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1991513.4	94.77 %	%	0.156			0.16%
ScR 361.383	224320.9	98.32 %	%	0.532			0.54%
Ag 328.068†	50.8	0.00030 mg/L	mg/L	0.000083	0.00030 mg/L	0.000083	27.63%
Al 308.215†	44.0	0.05350 mg/L	mg/L	0.008837	0.05350 mg/L	0.008837	16.52%
As 188.979†	4.2	0.00333 mg/L	mg/L	0.000396	0.00333 mg/L	0.000396	11.91%
B 249.677†	449.6	0.09796 mg/L	mg/L	0.001875	0.09796 mg/L	0.001875	1.91%
Ba 233.527†	9.2	0.00151 mg/L	mg/L	0.000201	0.00151 mg/L	0.000201	13.26%
Be 313.042†	4.5	0.00001 mg/L	mg/L	0.000035	0.00001 mg/L	0.000035	315.70%
Ca 317.933†	33280.5	4.548 mg/L	mg/L	0.0212	4.548 mg/L	0.0212	0.47%
Cd 228.802†	5.3	0.00027 mg/L	mg/L	0.000059	0.00027 mg/L	0.000059	21.64%
Co 228.616†	-0.4	-0.00002 mg/L	mg/L	0.000094	-0.00002 mg/L	0.000094	497.17%
Cr 267.716†	6.1	0.00121 mg/L	mg/L	0.001440	0.00121 mg/L	0.001440	118.54%
Cu 324.752†	746.5	0.00376 mg/L	mg/L	0.000121	0.00376 mg/L	0.000121	3.22%
Fe 273.955†	2951.3	3.794 mg/L	mg/L	0.0255	3.794 mg/L	0.0255	0.67%
K 766.490†	3760.1	2.087 mg/L	mg/L	0.0193	2.087 mg/L	0.0193	0.93%
Mg 279.077†	584.0	0.8344 mg/L	mg/L	0.01331	0.8344 mg/L	0.01331	1.59%
Mn 257.610†	1598.8	0.05299 mg/L	mg/L	0.000525	0.05299 mg/L	0.000525	0.99%
Mo 202.031†	15.7	0.00098 mg/L	mg/L	0.000206	0.00098 mg/L	0.000206	21.16%
Na 589.592†	4812064.3	463.1 mg/L	mg/L	4.54	463.1 mg/L	4.54	0.98%
Na 330.237†	9548.3	458.2 mg/L	mg/L	1.74	458.2 mg/L	1.74	0.38%
Ni 231.604†	9.1	0.00314 mg/L	mg/L	0.002024	0.00314 mg/L	0.002024	64.49%
Pb 220.353†	-3.8	-0.00074 mg/L	mg/L	0.000175	-0.00074 mg/L	0.000175	23.76%
Sb 206.836†	7.4	0.00388 mg/L	mg/L	0.000366	0.00388 mg/L	0.000366	9.45%
Se 196.026†	0.5	0.00045 mg/L	mg/L	0.000887	0.00045 mg/L	0.000887	197.84%
Si 288.158†	11176.9	11.12 mg/L	mg/L	0.027	11.12 mg/L	0.027	0.24%
Sn 189.927†	305.9	0.08991 mg/L	mg/L	0.001537	0.08991 mg/L	0.001537	1.71%
Sr 421.552†	7718.7	0.01189 mg/L	mg/L	0.000043	0.01189 mg/L	0.000043	0.36%
Ti 334.903†	40.4	0.00203 mg/L	mg/L	0.000166	0.00203 mg/L	0.000166	8.18%
Tl 190.801†	3.8	0.00316 mg/L	mg/L	0.001443	0.00316 mg/L	0.001443	45.60%
V 292.402†	84.8	0.00050 mg/L	mg/L	0.000122	0.00050 mg/L	0.000122	24.23%
Zn 206.200†	372.8	0.1270 mg/L	mg/L	0.00045	0.1270 mg/L	0.00045	0.35%

Sequence No.: 23
 Sample ID: XY02 C TWC
 Dilution: 1.000000X

Autosampler Location: 316
 Date Collected: 2/10/2014 12:28:56 PM
 Data Type: Original

Nebulizer Parameters: XY02 C TWC

Analyte Back Pressure Flow
 All 199.0 kPa 0.75 L/min

Mean Data: XY02 C TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	1988255.6	94.61	%	0.535			0.57%
ScR 361.383	217290.1	95.24	%	0.279			0.29%
Ag 328.068†	-378.2	0.00027	mg/L	0.000065	0.00027 mg/L	0.000065	23.87%
Al 308.215†	95.9	0.1165	mg/L	0.00527	0.1165 mg/L	0.00527	4.52%
As 188.979†	79.3	0.03920	mg/L	0.006456	0.03920 mg/L	0.006456	16.47%
B 249.677†	186.5	0.04036	mg/L	0.000435	0.04036 mg/L	0.000435	1.08%
Ba 233.527†	155.7	0.03351	mg/L	0.000323	0.03351 mg/L	0.000323	0.96%
Be 313.042†	42.1	0.00010	mg/L	0.000006	0.00010 mg/L	0.000006	5.42%
Ca 317.933†	2194751.8	299.9	mg/L	0.43	299.9 mg/L	0.43	0.14%
Cd 228.802†	14.1	0.00043	mg/L	0.000210	0.00043 mg/L	0.000210	48.39%
Co 228.616†	4071.2	0.1391	mg/L	0.00071	0.1391 mg/L	0.00071	0.51%
Cr 267.716†	34.0	0.00147	mg/L	0.000261	0.00147 mg/L	0.000261	17.72%
Cu 324.752†	1344.5	0.00666	mg/L	0.000083	0.00666 mg/L	0.000083	1.24%
Fe 273.955†	5413.9	6.960	mg/L	0.0551	6.960 mg/L	0.0551	0.79%
K 766.490†	8416.5	4.670	mg/L	0.0294	4.670 mg/L	0.0294	0.63%
Mg 279.077†	19156.3	27.43	mg/L	0.212	27.43 mg/L	0.212	0.77%
Mn 257.610†	125959.0	4.175	mg/L	0.0172	4.175 mg/L	0.0172	0.41%
Mo 202.031†	126.7	0.00439	mg/L	0.000544	0.00439 mg/L	0.000544	12.40%
Na 589.592†	571537.9	55.00	mg/L	0.176	55.00 mg/L	0.176	0.32%
Na 330.237†	1267.9	53.34	mg/L	1.006	53.34 mg/L	1.006	1.89%
Ni 231.604†	177.4	0.06143	mg/L	0.001043	0.06143 mg/L	0.001043	1.70%
Pb 220.353†	-32.9	-0.00505	mg/L	0.000363	-0.00505 mg/L	0.000363	7.19%
Sb 206.836†	21.5	0.01051	mg/L	0.000729	0.01051 mg/L	0.000729	6.94%
Se 196.026†	36.2	0.02987	mg/L	0.002298	0.02987 mg/L	0.002298	7.69%
Si 288.158†	12050.0	11.99	mg/L	0.063	11.99 mg/L	0.063	0.53%
Sn 189.927†	564.2	0.2058	mg/L	0.00125	0.2058 mg/L	0.00125	0.61%
Sr 421.552†	439917.5	0.6775	mg/L	0.00224	0.6775 mg/L	0.00224	0.33%
Ti 334.903†	653.3	0.01603	mg/L	0.000308	0.01603 mg/L	0.000308	1.92%
Tl 190.801†	57.4	0.03996	mg/L	0.000908	0.03996 mg/L	0.000908	2.27%
V 292.402†	76.4	0.00087	mg/L	0.000071	0.00087 mg/L	0.000071	8.20%
Zn 206.200†	77681.1	26.03	mg/L	0.121	26.03 mg/L	0.121	0.46%

Sequence No.: 24

Sample ID: XY02 D TWC

Autosampler Location: 317

Date Collected: 2/10/2014 12:33:12 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: XY02 D TWC

Analyte	Back Pressure	Flow
All	200.0 kPa	0.75 L/min

Mean Data: XY02 D TWC

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1969617.1	93.72	%	0.482				0.51%
ScR 361.383	217325.0	95.26	%	0.726				0.76%
Ag 328.068†	-422.3	0.00013	mg/L	0.000071	0.00013	mg/L	0.000071	55.98%
Al 308.215†	56.6	0.06863	mg/L	0.006529	0.06863	mg/L	0.006529	9.51%
As 188.979†	81.8	0.04008	mg/L	0.001375	0.04008	mg/L	0.001375	3.43%
B 249.677†	198.7	0.04299	mg/L	0.001121	0.04299	mg/L	0.001121	2.61%
Ba 233.527†	158.4	0.03423	mg/L	0.001173	0.03423	mg/L	0.001173	3.43%
Be 313.042†	36.3	0.00009	mg/L	0.000018	0.00009	mg/L	0.000018	20.08%
Ca 317.933†	2278226.2	311.3	mg/L	3.74	311.3	mg/L	3.74	1.20%
Cd 228.802†	15.4	0.00049	mg/L	0.000156	0.00049	mg/L	0.000156	31.83%
Co 228.616†	4243.8	0.1451	mg/L	0.00105	0.1451	mg/L	0.00105	0.73%
Cr 267.716†	38.3	0.00204	mg/L	0.001817	0.00204	mg/L	0.001817	88.95%
Cu 324.752†	1203.1	0.00594	mg/L	0.000261	0.00594	mg/L	0.000261	4.40%
Fe 273.955†	4745.2	6.100	mg/L	0.0689	6.100	mg/L	0.0689	1.13%
K 766.490†	8524.6	4.730	mg/L	0.0525	4.730	mg/L	0.0525	1.11%
Mg 279.077†	19816.7	28.38	mg/L	0.288	28.38	mg/L	0.288	1.01%
Mn 257.610†	131606.6	4.362	mg/L	0.0652	4.362	mg/L	0.0652	1.49%
Mo 202.031†	130.6	0.00449	mg/L	0.000364	0.00449	mg/L	0.000364	8.11%
Na 589.592†	763671.8	73.49	mg/L	1.195	73.49	mg/L	1.195	1.63%
Na 330.237†	1654.9	71.67	mg/L	0.828	71.67	mg/L	0.828	1.16%
Ni 231.604†	180.1	0.06238	mg/L	0.001400	0.06238	mg/L	0.001400	2.24%
Pb 220.353†	-38.2	-0.00578	mg/L	0.001772	-0.00578	mg/L	0.001772	30.68%
Sb 206.836†	31.1	0.01491	mg/L	0.002900	0.01491	mg/L	0.002900	19.46%
Se 196.026†	37.2	0.03074	mg/L	0.003039	0.03074	mg/L	0.003039	9.89%
Si 288.158†	14184.3	14.11	mg/L	0.036	14.11	mg/L	0.036	0.25%
Sn 189.927†	689.6	0.2440	mg/L	0.00456	0.2440	mg/L	0.00456	1.87%
Sr 421.552†	459838.5	0.7081	mg/L	0.01034	0.7081	mg/L	0.01034	1.46%
Ti 334.903†	633.4	0.01402	mg/L	0.000942	0.01402	mg/L	0.000942	6.72%
Tl 190.801†	59.8	0.04150	mg/L	0.002133	0.04150	mg/L	0.002133	5.14%
V 292.402†	36.8	0.00062	mg/L	0.000127	0.00062	mg/L	0.000127	20.61%
Zn 206.200†	80163.5	26.87	mg/L	0.272	26.87	mg/L	0.272	1.01%

Sequence No.: 25
 Sample ID: XY02 E TWC
 Dilution: 1.000000X

Autosampler Location: 318
 Date Collected: 2/10/2014 12:37:28 PM
 Data Type: Original

Nebulizer Parameters: XY02 E TWC
 Analyte Back Pressure Flow
 All 198.0 kPa 0.75 L/min

Mean Data: XY02 E TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1990856.2	94.74	%	0.282			0.30%
ScR 361.383	216729.4	95.00	%	0.736			0.77%
Ag 328.068†	-433.4	0.00001	mg/L	0.000106	0.00001 mg/L	0.000106	>999.9%
Al 308.215†	106.7	0.1296	mg/L	0.00517	0.1296 mg/L	0.00517	3.99%
As 188.979†	80.7	0.04001	mg/L	0.003437	0.04001 mg/L	0.003437	8.59%
B 249.677†	545.2	0.1185	mg/L	0.00396	0.1185 mg/L	0.00396	3.35%
Ba 233.527†	152.5	0.03350	mg/L	0.000311	0.03350 mg/L	0.000311	0.93%
Be 313.042†	38.2	0.00009	mg/L	0.000049	0.00009 mg/L	0.000049	52.05%
Ca 317.933†	2218364.9	303.2	mg/L	3.63	303.2 mg/L	3.63	1.20%
Cd 228.802†	38.0	0.00175	mg/L	0.000108	0.00175 mg/L	0.000108	6.17%
Co 228.616†	4102.8	0.1402	mg/L	0.00046	0.1402 mg/L	0.00046	0.33%
Cr 267.716†	38.0	0.00189	mg/L	0.000458	0.00189 mg/L	0.000458	24.28%
Cu 324.752†	2555.9	0.01220	mg/L	0.000159	0.01220 mg/L	0.000159	1.31%
Fe 273.955†	1335.3	1.717	mg/L	0.0245	1.717 mg/L	0.0245	1.43%
K 766.490†	5946.4	3.300	mg/L	0.0309	3.300 mg/L	0.0309	0.94%
Mg 279.077†	19263.5	27.59	mg/L	0.417	27.59 mg/L	0.417	1.51%
Mn 257.610†	128084.3	4.246	mg/L	0.0620	4.246 mg/L	0.0620	1.46%
Mo 202.031†	124.5	0.00420	mg/L	0.000517	0.00420 mg/L	0.000517	12.30%
Na 589.592†	402958.0	38.78	mg/L	0.572	38.78 mg/L	0.572	1.48%
Na 330.237†	937.6	37.50	mg/L	1.327	37.50 mg/L	1.327	3.54%
Ni 231.604†	262.2	0.09082	mg/L	0.001947	0.09082 mg/L	0.001947	2.14%
Pb 220.353†	-44.1	-0.00639	mg/L	0.001200	-0.00639 mg/L	0.001200	18.80%
Sb 206.836†	23.0	0.01189	mg/L	0.000514	0.01189 mg/L	0.000514	4.32%
Se 196.026†	35.3	0.02911	mg/L	0.001621	0.02911 mg/L	0.001621	5.57%
Si 288.158†	12956.0	12.89	mg/L	0.165	12.89 mg/L	0.165	1.28%
Sn 189.927†	918.9	0.3098	mg/L	0.00171	0.3098 mg/L	0.00171	0.55%
Sr 421.552†	447781.4	0.6896	mg/L	0.01032	0.6896 mg/L	0.01032	1.50%
Ti 334.903†	602.7	0.01283	mg/L	0.000598	0.01283 mg/L	0.000598	4.66%
Tl 190.801†	58.7	0.04019	mg/L	0.005552	0.04019 mg/L	0.005552	13.81%
V 292.402†	-0.9	0.00054	mg/L	0.000065	0.00054 mg/L	0.000065	12.02%
Zn 206.200†	77560.2	25.99	mg/L	0.334	25.99 mg/L	0.334	1.28%

Sequence No.: 26
 Sample ID: XY02 F TWC
 Dilution: 1.000000X

Autosampler Location: 319
 Date Collected: 2/10/2014 12:41:43 PM
 Data Type: Original

Nebulizer Parameters: XY02 F TWC
 Analyte Back Pressure Flow
 All 199.0 kPa 0.75 L/min

Mean Data: XY02 F TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1983033.5	94.36	%	1.502				1.59%
ScR 361.383	219762.6	96.33	%	0.264				0.27%
Ag 328.068†	-410.4	0.00022	mg/L	0.000100	0.00022	mg/L	0.000100	45.46%
Al 308.215†	36.0	0.04358	mg/L	0.009813	0.04358	mg/L	0.009813	22.52%
As 188.979†	87.5	0.04476	mg/L	0.004682	0.04476	mg/L	0.004682	10.46%
B 249.677†	520.5	0.1131	mg/L	0.00087	0.1131	mg/L	0.00087	0.77%
Ba 233.527†	154.6	0.03415	mg/L	0.000782	0.03415	mg/L	0.000782	2.29%
Be 313.042†	27.6	0.00007	mg/L	0.000034	0.00007	mg/L	0.000034	50.10%
Ca 317.933†	2308495.7	315.5	mg/L	0.45	315.5	mg/L	0.45	0.14%
Cd 228.802†	8.4	0.00009	mg/L	0.000259	0.00009	mg/L	0.000259	292.78%
Co 228.616†	4275.4	0.1461	mg/L	0.00186	0.1461	mg/L	0.00186	1.27%
Cr 267.716†	36.5	0.00132	mg/L	0.001781	0.00132	mg/L	0.001781	135.02%
Cu 324.752†	841.9	0.00391	mg/L	0.000184	0.00391	mg/L	0.000184	4.69%
Fe 273.955†	208.1	0.2675	mg/L	0.00516	0.2675	mg/L	0.00516	1.93%
K 766.490†	8004.9	4.442	mg/L	0.0063	4.442	mg/L	0.0063	0.14%
Mg 279.077†	20062.3	28.74	mg/L	0.073	28.74	mg/L	0.073	0.26%
Mn 257.610†	131875.8	4.371	mg/L	0.0216	4.371	mg/L	0.0216	0.49%
Mo 202.031†	126.3	0.00416	mg/L	0.000772	0.00416	mg/L	0.000772	18.58%
Na 589.592†	410192.0	39.47	mg/L	0.087	39.47	mg/L	0.087	0.22%
Na 330.237†	939.6	37.66	mg/L	0.303	37.66	mg/L	0.303	0.81%
Ni 231.604†	181.9	0.06301	mg/L	0.000776	0.06301	mg/L	0.000776	1.23%
Pb 220.353†	-43.0	-0.00616	mg/L	0.001791	-0.00616	mg/L	0.001791	29.06%
Sb 206.836†	24.0	0.01088	mg/L	0.001224	0.01088	mg/L	0.001224	11.25%
Se 196.026†	38.9	0.03212	mg/L	0.005904	0.03212	mg/L	0.005904	18.38%
Si 288.158†	13119.0	13.05	mg/L	0.052	13.05	mg/L	0.052	0.40%
Sn 189.927†	257.9	0.1186	mg/L	0.00077	0.1186	mg/L	0.00077	0.65%
Sr 421.552†	461974.2	0.7114	mg/L	0.00158	0.7114	mg/L	0.00158	0.22%
Ti 334.903†	600.5	0.01180	mg/L	0.000714	0.01180	mg/L	0.000714	6.05%
Tl 190.801†	58.5	0.03981	mg/L	0.002218	0.03981	mg/L	0.002218	5.57%
V 292.402†	-16.8	0.00052	mg/L	0.000010	0.00052	mg/L	0.000010	2.00%
Zn 206.200†	76878.8	25.76	mg/L	0.054	25.76	mg/L	0.054	0.21%

Sequence No.: 27
 Sample ID: XY02 A TWC
 Dilution: 1.000000X

Autosampler Location: 314
 Date Collected: 2/10/2014 12:45:59 PM
 Data Type: Original

Nebulizer Parameters: XY02 A TWC

Analyte Back Pressure Flow
 All 199.0 kPa 0.75 L/min

Mean Data: XY02 A TWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc. Units			
ScA 357.253	2001305.7		95.23 %	0.449				0.47%
ScR 361.383	219672.4		96.29 %	0.458				0.48%
Ag 328.068†	-415.9	0.00022	mg/L	0.000189	0.00022	mg/L	0.000189	86.97%
Al 308.215†	626.9	0.7625	mg/L	0.00186	0.7625	mg/L	0.00186	0.24%
As 188.979†	84.2	0.04289	mg/L	0.000805	0.04289	mg/L	0.000805	1.88%
B 249.677†	191.7	0.04146	mg/L	0.001378	0.04146	mg/L	0.001378	3.32%
Ba 233.527†	182.4	0.03760	mg/L	0.000302	0.03760	mg/L	0.000302	0.80%
Be 313.042†	38.5	0.00009	mg/L	0.000025	0.00009	mg/L	0.000025	26.21%
Ca 317.933†	2333255.9	318.9	mg/L	0.88	318.9	mg/L	0.88	0.28%
Cd 228.802†	20.2	0.00074	mg/L	0.000029	0.00074	mg/L	0.000029	3.90%
Co 228.616†	4416.0	0.1509	mg/L	0.00107	0.1509	mg/L	0.00107	0.71%
Cr 267.716†	32.2	0.00153	mg/L	0.000797	0.00153	mg/L	0.000797	51.97%
Cu 324.752†	2433.7	0.01254	mg/L	0.000185	0.01254	mg/L	0.000185	1.47%
Fe 273.955†	15838.7	20.36	mg/L	0.171	20.36	mg/L	0.171	0.84%
K 766.490†	8127.7	4.510	mg/L	0.0319	4.510	mg/L	0.0319	0.71%
Mg 279.077†	20286.5	29.04	mg/L	0.105	29.04	mg/L	0.105	0.36%
Mn 257.610†	135451.6	4.490	mg/L	0.0109	4.490	mg/L	0.0109	0.24%
Mo 202.031†	135.8	0.00474	mg/L	0.000256	0.00474	mg/L	0.000256	5.40%
Na 589.592†	342940.9	33.00	mg/L	0.061	33.00	mg/L	0.061	0.19%
Na 330.237†	837.6	32.06	mg/L	0.535	32.06	mg/L	0.535	1.67%
Ni 231.604†	192.2	0.06656	mg/L	0.000536	0.06656	mg/L	0.000536	0.81%
Pb 220.353†	-4.4	-0.00150	mg/L	0.000862	-0.00150	mg/L	0.000862	57.41%
Sb 206.836†	25.1	0.01238	mg/L	0.001880	0.01238	mg/L	0.001880	15.19%
Se 196.026†	36.3	0.02994	mg/L	0.006261	0.02994	mg/L	0.006261	20.91%
Si 288.158†	12796.2	12.73	mg/L	0.080	12.73	mg/L	0.080	0.63%
Sn 189.927†	689.9	0.2451	mg/L	0.00149	0.2451	mg/L	0.00149	0.61%
Sr 421.552†	470856.6	0.7251	mg/L	0.00033	0.7251	mg/L	0.00033	0.05%
Ti 334.903†	1343.1	0.05496	mg/L	0.000822	0.05496	mg/L	0.000822	1.50%
Tl 190.801†	57.0	0.04145	mg/L	0.002363	0.04145	mg/L	0.002363	5.70%
V 292.402†	454.4	0.00330	mg/L	0.000151	0.00330	mg/L	0.000151	4.57%
Zn 206.200†	84299.1	28.25	mg/L	0.176	28.25	mg/L	0.176	0.62%

Sequence No.: 28

Sample ID: XY02 MB1SPK TWC

Autosampler Location: 320

Date Collected: 2/10/2014 12:50:16 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: XY02 MB1SPK TWC

Analyte	Back Pressure	Flow
All	199.0 kPa	0.75 L/min

Mean Data: XY02 MB1SPK TWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Units		
ScA 357.253	2075929.8	98.78 %	0.917				0.93%	
ScR 361.383	225316.9	98.76 %	0.218				0.22%	
Ag 328.068†	102307.8	0.5345 mg/L	0.00584	0.5345 mg/L	0.00584		1.09%	
Al 308.215†	1722.0	2.088 mg/L	0.0057	2.088 mg/L	0.0057		0.27%	
As 188.979†	2271.1	2.048 mg/L	0.0153	2.048 mg/L	0.0153		0.75%	
B 249.677†	0.5	-0.00098 mg/L	0.000821	-0.00098 mg/L	0.000821	83.85%		
Ba 233.527†	9453.1	2.090 mg/L	0.0043	2.090 mg/L	0.0043		0.20%	
Be 313.042†	200677.3	0.5000 mg/L	0.00444	0.5000 mg/L	0.00444		0.89%	
Ca 317.933†	75922.1	10.38 mg/L	0.137	10.38 mg/L	0.137		1.32%	
Cd 228.802†	9893.9	0.5243 mg/L	0.00609	0.5243 mg/L	0.00609		1.16%	
Co 228.616†	15103.2	0.5162 mg/L	0.00444	0.5162 mg/L	0.00444		0.86%	
Cr 267.716†	2904.9	0.5382 mg/L	0.00157	0.5382 mg/L	0.00157		0.29%	
Cu 324.752†	107343.2	0.5139 mg/L	0.00395	0.5139 mg/L	0.00395		0.77%	
Fe 273.955†	1664.4	2.136 mg/L	0.0087	2.136 mg/L	0.0087		0.41%	
K 766.490†	18927.8	10.50 mg/L	0.138	10.50 mg/L	0.138		1.31%	
Mg 279.077†	7460.6	10.70 mg/L	0.025	10.70 mg/L	0.025		0.23%	
Mn 257.610†	15345.7	0.5092 mg/L	0.00551	0.5092 mg/L	0.00551		1.08%	
Mo 202.031†	34.0	0.00211 mg/L	0.000248	0.00211 mg/L	0.000248	11.78%		
Na 589.592†	111602.7	10.74 mg/L	0.147	10.74 mg/L	0.147		1.37%	
Na 330.237†	232.4	11.00 mg/L	0.264	11.00 mg/L	0.264		2.40%	
Ni 231.604†	1534.4	0.5306 mg/L	0.00400	0.5306 mg/L	0.00400		0.75%	
Pb 220.353†	14177.8	2.038 mg/L	0.0247	2.038 mg/L	0.0247		1.21%	
Sb 206.836†	18.2	0.00276 mg/L	0.000367	0.00276 mg/L	0.000367	13.31%		
Se 196.026†	2368.9	1.959 mg/L	0.0109	1.959 mg/L	0.0109		0.56%	
Si 288.158†	15.8	0.01811 mg/L	0.004897	0.01811 mg/L	0.004897		27.04%	
Sn 189.927†	-20.9	-0.00460 mg/L	0.001112	-0.00460 mg/L	0.001112	24.18%		
Sr 421.552†	342738.6	0.5278 mg/L	0.00722	0.5278 mg/L	0.00722		1.37%	
Ti 334.903†	33.9	0.00111 mg/L	0.000324	0.00111 mg/L	0.000324	29.18%		
Tl 190.801†	2957.2	2.049 mg/L	0.0134	2.049 mg/L	0.0134		0.65%	
V 292.402†	62614.7	0.5363 mg/L	0.00607	0.5363 mg/L	0.00607		1.13%	
Zn 206.200†	1590.5	0.5333 mg/L	0.00048	0.5333 mg/L	0.00048		0.09%	

Sequence No.: 29

Sample ID: CV 3

Autosampler Location: 7

Date Collected: 2/10/2014 12:54:17 PM

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	199.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	2105029.6	100.2	%	0.49			0.49%
ScR 361.383	230445.8	101.0	%	0.41			0.40%
Ag 328.068†	198280.7	1.036	mg/L	0.0032	1.036	mg/L	0.0032 0.31%
Al 308.215†	1662.3	1.991	mg/L	0.0209	1.991	mg/L	0.0209 1.05%
As 188.979†	2233.6	2.046	mg/L	0.0057	2.046	mg/L	0.0057 0.28%
B 249.677†	4628.9	1.008	mg/L	0.0034	1.008	mg/L	0.0034 0.33%
Ba 233.527†	4537.1	1.003	mg/L	0.0045	1.003	mg/L	0.0045 0.45%
Be 313.042†	415177.6	1.034	mg/L	0.0052	1.034	mg/L	0.0052 0.50%
Ca 317.933†	15137.6	2.069	mg/L	0.0104	2.069	mg/L	0.0104 0.50%
Cd 228.802†	19224.2	1.029	mg/L	0.0042	1.029	mg/L	0.0042 0.41%
Co 228.616†	29128.7	0.9943	mg/L	0.00454	0.9943	mg/L	0.00454 0.46%
Cr 267.716†	5540.9	1.028	mg/L	0.0063	1.028	mg/L	0.0063 0.62%
Cu 324.752†	217625.7	1.041	mg/L	0.0060	1.041	mg/L	0.0060 0.58%
Fe 273.955†	1609.5	2.062	mg/L	0.0062	2.062	mg/L	0.0062 0.30%
K 766.490†	35579.0	19.74	mg/L	0.016	19.74	mg/L	0.016 0.08%
Mg 279.077†	1370.1	1.971	mg/L	0.0013	1.971	mg/L	0.0013 0.06%
Mn 257.610†	29380.5	0.9746	mg/L	0.00118	0.9746	mg/L	0.00118 0.12%
Mo 202.031†	14776.9	0.9754	mg/L	0.00485	0.9754	mg/L	0.00485 0.50%
Na 589.592†	523005.2	50.33	mg/L	0.111	50.33	mg/L	0.111 0.22%
Na 330.237†	1053.6	50.52	mg/L	0.211	50.52	mg/L	0.211 0.42%
Ni 231.604†	2980.5	1.033	mg/L	0.0045	1.033	mg/L	0.0045 0.44%
Pb 220.353†	14001.2	2.013	mg/L	0.0096	2.013	mg/L	0.0096 0.48%
Sb 206.836†	4846.2	2.095	mg/L	0.0158	2.095	mg/L	0.0158 0.76%
Se 196.026†	2467.9	2.041	mg/L	0.0135	2.041	mg/L	0.0135 0.66%
Si 288.158†	2006.1	2.001	mg/L	0.0090	2.001	mg/L	0.0090 0.45%
Sn 189.927†	3465.5	1.013	mg/L	0.0017	1.013	mg/L	0.0017 0.16%
Sr 421.552†	651810.1	1.004	mg/L	0.0009	1.004	mg/L	0.0009 0.09%
Ti 334.903†	16839.2	0.9832	mg/L	0.00328	0.9832	mg/L	0.00328 0.33%
Tl 190.801†	3006.4	2.080	mg/L	0.0095	2.080	mg/L	0.0095 0.46%
V 292.402†	118205.6	1.013	mg/L	0.0028	1.013	mg/L	0.0028 0.28%
Zn 206.200†	3078.2	1.032	mg/L	0.0053	1.032	mg/L	0.0053 0.52%

Sequence No.: 30
 Sample ID: CB 3

Autosampler Location: 1
 Date Collected: 2/10/2014 12:58:19 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 199.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc.	Units		
ScA 357.253	2112936.0		100.5 %	0.45				0.45%
ScR 361.383	231386.8		101.4 %	0.71				0.70%
Ag 328.068†	8.8	0.00005	mg/L	0.000111	0.00005	mg/L	0.000111	240.36%
Al 308.215†	3.5	0.00422	mg/L	0.007504	0.00422	mg/L	0.007504	177.69%
As 188.979†	2.2	0.00197	mg/L	0.001683	0.00197	mg/L	0.001683	85.30%
B 249.677†	6.1	0.00132	mg/L	0.000932	0.00132	mg/L	0.000932	70.40%
Ba 233.527†	3.7	0.00083	mg/L	0.000033	0.00083	mg/L	0.000033	3.96%
Be 313.042†	38.2	0.00010	mg/L	0.000018	0.00010	mg/L	0.000018	19.24%
Ca 317.933†	35.8	0.00489	mg/L	0.000820	0.00489	mg/L	0.000820	16.79%
Cd 228.802†	-5.0	-0.00028	mg/L	0.000086	-0.00028	mg/L	0.000086	30.43%
Co 228.616†	3.6	0.00012	mg/L	0.000189	0.00012	mg/L	0.000189	153.67%
Cr 267.716†	1.5	0.00028	mg/L	0.001834	0.00028	mg/L	0.001834	654.19%
Cu 324.752†	-20.5	-0.00010	mg/L	0.000045	-0.00010	mg/L	0.000045	45.49%
Fe 273.955†	-1.1	-0.00141	mg/L	0.002360	-0.00141	mg/L	0.002360	167.13%
K 766.490†	13.4	0.00742	mg/L	0.002481	0.00742	mg/L	0.002481	33.46%
Mg 279.077†	-0.4	-0.00063	mg/L	0.005728	-0.00063	mg/L	0.005728	911.44%
Mn 257.610†	4.8	0.00016	mg/L	0.000154	0.00016	mg/L	0.000154	96.17%
Mo 202.031†	18.2	0.00120	mg/L	0.000379	0.00120	mg/L	0.000379	31.49%
Na 589.592†	101.1	0.00973	mg/L	0.001798	0.00973	mg/L	0.001798	18.48%
Na 330.237†	1.5	0.07298	mg/L	0.649995	0.07298	mg/L	0.649995	890.69%
Ni 231.604†	-2.1	-0.00073	mg/L	0.000964	-0.00073	mg/L	0.000964	132.34%
Pb 220.353†	2.6	0.00038	mg/L	0.000236	0.00038	mg/L	0.000236	62.35%
Sb 206.836†	6.0	0.00261	mg/L	0.000977	0.00261	mg/L	0.000977	37.48%
Se 196.026†	1.9	0.00157	mg/L	0.000633	0.00157	mg/L	0.000633	40.42%
Si 288.158†	0.4	0.00035	mg/L	0.001790	0.00035	mg/L	0.001790	514.74%
Sn 189.927†	0.9	0.00027	mg/L	0.000746	0.00027	mg/L	0.000746	274.61%
Sr 421.552†	58.3	0.00009	mg/L	0.000070	0.00009	mg/L	0.000070	77.98%
Ti 334.903†	-2.5	-0.00015	mg/L	0.000383	-0.00015	mg/L	0.000383	255.57%
Tl 190.801†	0.9	0.00063	mg/L	0.001705	0.00063	mg/L	0.001705	271.81%
V 292.402†	21.3	0.00018	mg/L	0.000091	0.00018	mg/L	0.000091	49.61%
Zn 206.200†	2.9	0.00097	mg/L	0.000312	0.00097	mg/L	0.000312	32.24%

Agri-Tech/Yakima Steel Wetland Sediment Evaluation

Appendix D

Solid-Phase TIE Test Data Sheets

Appendix D.1

10-Day Solid-Phase TIE Test with Hyalella azteca

10 DAY POREWATER-TEST - OBSERVATIONS

Sediment

CLIENT Parallon	PROJECT Yakima Steel	JOB NUMBER	PROJECT MAN. Bill Gardiner	LABORATORY Port Gamble, WA	PROTOCOL STAT 2007 - 13AF4007A-02/2004	SPECIES Hyalalela	ACCLM.MORT. #REF!
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ENDPOINT DATA & OBSERVATIONS

CLIENT/ NEWFIELDS ID	REP	JAR #	INITIAL #	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	NUMBER REMAINING	WEIGH BOAT NUMBER	TARE WEIGHT (mg)	TOTAL WEIGHT (mg)	ASH FREE DRY WEIGHT (mg)								
				2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6						2/6	2/6	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN	TECHNICIAN
Control / .	1		10	N	N	N	N	N	N	N	N	N	N	8	1	208.52	208.95									
	2		10	N	N	N	N	N	N	N	N	N	N	10	2	206.73	207.29									
	3		10	N	N	N	N	N	N	N	N	N	N	8	3	208.29	208.68									
	4		10	N	N	N	N	N	N	N	N	N	N	9	4	205.27	205.79									
WETSED1 / .	1		10	N	N	N	N	N	N	N	N	N	N	0	5	207.74	210.50 ^①									
	2		10	N	N	N	N	N	N	N	N	N	N	0	6	211.50										
	3		10	N	N	N	N	N	N	N	N	N	N	0	7	204.05										
	4		10	N	N	N	N	N	N	N	N	N	N	0	8	209.31										
WETSED1-SIR300 /	1		10	N	N	N	N	N	N	N	N	N	N	4	9	210.20	210.50									
	2		10	N	N	N	N	N	N	N	N	N	N	10	10	205.78	206.51									
	3		10	N	N	N	N	N	N	N	N	N	N	6	11	209.42	209.97									
	4		10	N	N	N	N	N	N	N	N	N	N	7	12	207.15	207.70									
WETSED1-CC / .	1		10	N	N	N	N	N	N	N	N	N	N	0	13	207.33										
	2		10	N	N	N	N	N	N	N	N	N	N	0	14	209.68										
	3		10	N	N	N	N	N	N	N	N	N	N	0	15	209.69										
	4		10	N	N	N	N	N	N	N	N	N	N	0	16	208.29										
R300 Blank / .	1		10	N	N	N	N	N	N	N	N	N	N	7 ^①	17	210.18	210.34									
	2		10	N	N	N	N	N	N	N	N	N	N	8	18	208.00	208.24									
	3		10	N	N	N	N	N	N	N	N	N	N	10	19	209.79	210.31									
	4		10	N	N	N	N	N	N	N	N	N	N	8	20	211.29	211.60									
CC-Blank / .	1		10	N	N	N	N	N	N	N	N	N	N	1	21	208.22	208.27									
	2		10	N	N	N	N	N	N	N	N	N	N	0	22	206.61										
	3		10	N	N	N	N	N	N	N	N	N	N	0	23	208.24	208.29									
	4		10	N	N	N	N	N	N	N	N	N	N	0	24	210.01										

① 5 animals in weighboat

② wt. Jc 2/13/14.

25 210.44
26 209.02
27 209.24

Sediment

CLIENT Farallon	PROJECT Yakima Steel
JOB NUMBER	PROJECT MANAGER Bill Gardiner

SPECIES Hyallela	LABORATORY Port Gamble, WA	PROTOCOL NSDA 2002 - 10A/00/01-9/04
TEST START DATE 31Jan14	TIME	TEST END DATE 10Feb14

WATER QUALITY DATA #1																	
				DO (mg/L) > 2.5		TEMP (C) 23±1		COND.(µS/cm) vary < 50%		pH 7.8-8.2		DILUTION WATER BATCH 0		TEMP.RECDR./HOBO# 0			
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
Control / .	0	WQ	Surr	7	8.9	8	22.0	2	197			8	7.7	KB			
Control / .	1	WQ	Surr	6	6.7	5	22.2	6	239			5	7.7	JL			
Control / .	2	WQ	Surr	6	6.4	5	22.3	6	205			5	7.4	JL			
Control / .	3	WQ	Surr	6	6.0	5	22.1	6	201			5	7.3	JL			
Control / .	4	WQ	Surr	6	5.7	5	22.1	6	202			5	7.7	MMB			
Control / .	5	WQ	Surr	7	6.9	8	21.9	2	200			8	7.2	MMB			
Control / .	6	WQ	Surr	6	6.5	5	21.6	6	203			5	7.8	MK			
Control / .	7	WQ	Surr	7	5.0	8	21.2	2	207			8	7.4	MK			
Control / .	8	WQ	Surr	6	5.0	5	21.7	6	200			5	7.3	JL			
Control / .	9	WQ	Surr	6	6.6	5	22.0	6	198			5	7.4	JL			
Control / .	10	WQ	Surr	6	6.8	5	22.3	6	189			5	7.4	MK			

① Wrong page. dr 2/10/14

Sediment

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallela	LABORATORY Port Gamble, WA	PROTOCOL USMFA 2000 - EPA/600/P-39/502
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TIME	TEST END DATE 10Feb14

WATER QUALITY DATA #1

				DO (mg/L) > 2.5	TEMP (C) 23±1	COND. (µS/cm) vary < 50%	pH 7.8-8.2	DILUTION WATER BATCH 0		TEMP. RECDR./HOB0# 0							
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
WETSED1 / .	0	WQ	Surr	7	8.4	7	22.0	2	316			8	6.9	MMS			
WETSED1 / .	1	WQ	Surr	6	7.4	5	22.5	6	326			5	7.0	JL			
WETSED1 / .	2	WQ	Surr	6	5.3	5	22.6	6	257			5	7.1	JL			
WETSED1 / .	3	WQ	Surr	6	7.7, 7.4 [Ⓛ]	5	22.0 [Ⓛ]	6	225 [Ⓛ]			5	7.1 [Ⓛ]	JL			
WETSED1 / .	4	WQ	Surr	6	4.8	5	22.0	6	214			5	7.5	MMS			
WETSED1 / .	5	WQ	Surr	7	5.0	8	21.7	2	203			8	6.8	MMS			
WETSED1 / .	6	WQ	Surr	6	5.5	5	21.6	6	201			5	7.6	MK			
WETSED1 / .	7	WQ	Surr	7	4.5	8	20.8	2	203			8	7.0	MK			
WETSED1 / .	8	WQ	Surr	6	5.3	5	21.8	6	192			5	7.3	JL			
WETSED1 / .	9	WQ	Surr	6	4.6	5	22.0	6	196			5	7.4	JL			
WETSED1 / .	10	WQ	Surr	6	4.8	5	22.1	6	186			5	7.3	MK			

① JL 2/03/14.

Sediment

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallolella	LABORATORY Port Gamble, WA	PROTOCOL CWSRA 2009 - EPA/600/R-10/044
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TIME	TEST END DATE 10Feb14

WATER QUALITY DATA #1

				DO (mg/L) > 2.5	TEMP (C) 23±1	COND. (µS/cm) vary < 50%	pH 7.8-8.2	DILUTION WATER BATCH 0		TEMP. RECDR./HOB0# 0							
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
WETSED1-SIR300 / .	0	WQ	Surr	7	8.3	7	22.0	2	430			8	7.1	KMB			BK
WETSED1-SIR300 / .	1	WQ	Surr	6	6.7	5	22.5	6	405	5		5	7.1	JL	JL		0
WETSED1-SIR300 / .	2	WQ	Surr	6	6.7	5	22.5	6	287	5		5	7.1	JL	JL		0
WETSED1-SIR300 / .	3	WQ	Surr	6	5.7	5	22.1	6	231	-		5	7.0	JL	JL		0
WETSED1-SIR300 / .	4	WQ	Surr	6	6.9	5	22.0	6	205			5	7.4	MMB	MMB		0
WETSED1-SIR300 / .	5	WQ	Surr	7	4.6	8	21.9	2	190			8	6.6	MMB	MMB		0
WETSED1-SIR300 / .	6	WQ	Surr	6	5.6	5	21.4	6	187			5	7.4	MK	MK		0
WETSED1-SIR300 / .	7	WQ	Surr	7	5.4	8	21.1	2	174			8	6.8	MK	MK		0
WETSED1-SIR300 / .	8	WQ	Surr	6	4.8	5	21.9	6	172			5	6.9	JL	JL		0
WETSED1-SIR300 / .	9	WQ	Surr	6	6.1	5	21.9	6	175			5	7.0	JL	JL		0
WETSED1-SIR300 / .	10	WQ	Surr	6	6.9	5	22.2	6	173			5	7.3	MK			

Sediment

CLIENT Farallon		PROJECT Yakima Steel		SPECIES Hyallella		LABORATORY Port Gamble, WA		PROTOCOL SDWA 2002 - EPA/600/P-07/004	
JOB NUMBER		PROJECT MANAGER Bill Gardiner		TEST START DATE 31Jan14		TIME		TEST END DATE 10Feb14	

WATER QUALITY DATA #1																	
				DO (mg/L) > 2.5		TEMP (C) 23±1		COND. (µS/cm) vary < 50%		pH 7.8-8.2		DILUTION WATER BATCH 0		TEMP. RECDR./HOB# 0			
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
WETSED1-CC / .	0	WQ	Surr	7	8.5	7	22.0	2	352			8	7.0	KMB			BH
WETSED1-CC / .	1	WQ	Surr	6	6.6	5	22.6	6	399			5	7.2	JL	JL		→
WETSED1-CC / .	2	WQ	Surr	6	6.8	5	22.3	6	262			5	7.2	JL	JL		→
WETSED1-CC / .	3	WQ	Surr	6	4.5.3	5	22.0	6	243			5	7.2	JL	JL		→
WETSED1-CC / .	4	WQ	Surr	6	6.0	5	22.0	6	224			6	7.4	MMS	MMS		→
WETSED1-CC / .	5	WQ	Surr	7	4.6	8	21.7	2	269			8	6.9	MMS	MMS		→
WETSED1-CC / .	6	WQ	Surr	6	4.6	5	21.6	6	204			5	7.4	MK	MK		→
WETSED1-CC / .	7	WQ	Surr	7	3.7	8	21.4	2	201			8	7.0	MK	MK		→
WETSED1-CC / .	8	WQ	Surr	6	5.7	5	21.7	6	189			5	7.2	JL	JL		→
WETSED1-CC / .	9	WQ	Surr	6	5.1	5	22.0	6	188			5	7.3	JL	JL		→
WETSED1-CC / .	10	WQ	Surr	6	5.3	5	22.1	6	184			5	7.2	MK			

① MR. JL 2/10/14.

Sediment

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallolela	LABORATORY Port Gamble, WA	PROTOCOL SQA 2009 - 10M6005-77264
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TEST END DATE 10Feb14	TIME

WATER QUALITY DATA #1

				DO (mg/L) > 2.5	TEMP (C) 23±1	COND.(µS/cm) vary < 50%	pH 7.8-8.2	DILUTION WATER BATCH 0		TEMP.RECDR./HOBO# 0							
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
SIR300 Blank / .	0	WQ	Surr	7	8.8	7	22.0	2235		8	7.4	KB	—	—	BH		
SIR300 Blank / .	1	WQ	Surr	6	6.0 [Ⓢ]	5	21.7	220		5	7.0	JL	JL	—	→		
SIR300 Blank / .	2	WQ	Surr	6	8.4	5	22.3	175		5	7.7	JL	JL	—	→		
SIR300 Blank / .	3	WQ	Surr	6	8.7	5	22.0	160		5	7.9	JL	JL	—	→		
SIR300 Blank / .	4	WQ	Surr	6	8.8	5	22.0	152		5	8.1	MMB	MMB	—	→		
SIR300 Blank / .	5	WQ	Surr	7	8.8	8	21.7	145		8	7.7	MMB	MMB	—	→		
SIR300 Blank / .	6	WQ	Surr	6	7.8	5	21.7	190		5	8.0	MK	MK	—	→		
SIR300 Blank / .	7	WQ	Surr	7	7.3	8	21.5	158		8	7.9	MK	MK	—	→		
SIR300 Blank / .	8	WQ	Surr	6	8.5	5	21.5	153		5	8.0	JL	JL	—	→		
SIR300 Blank / .	9	WQ	Surr	6	8.6	5	21.9	153		5	7.9	JL	JL	—	→		
SIR300 Blank / .	10	WQ	Surr	6	8.5	5	22.1	154		5	7.4	MK					

① Aeration initiated to all reps. JL 2/01/14.

Sediment

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallolela	LABORATORY Port Gambie, WA	PROTOCOL OSWER 2002 - 23A/02248-20/004
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TIME	TEST END DATE 10Feb14

WATER QUALITY DATA #1

				DO (mg/L) > 2.5	TEMP (C) 23±1	COND. (µS/cm) vary < 50%	pH 7.8-8.2	DILUTION WATER BATCH 0		TEMP.RECDR./HOBO# 0							
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
CC-Blank / .	0	WQ	Surr	7	8.9	7	22.0	2	236			7	7.4	KB			BH
CC-Blank / .	1	WQ	Surr	6	7.1	6	22.2	6	239			5	7.2	JL	JL		JL
CC-Blank / .	2	WQ	Surr	6	5.8	5	22.5	6	219			5	7.3	JL	JL		
CC-Blank / .	3	WQ	Surr	6	5.8	5	22.0	6	202			5	7.3	JL	JL		
CC-Blank / .	4	WQ	Surr	6	5.2	5	22.0	6	200			5	7.6	MMS	MMS		
CC-Blank / .	5	WQ	Surr	7	4.4	8	21.8	2	199			8	7.1	MMS	MMS		
CC-Blank / .	6	WQ	Surr	6	4.5	5	21.7	6	205			5	7.6	MK	MK		
CC-Blank / .	7	WQ	Surr	7	5.0	8	21.2	2	206			8	7.3	MK	MK		
CC-Blank / .	8	WQ	Surr	6	4.8	5	21.7	6	195			5	7.3	JL	JL		
CC-Blank / .	9	WQ	Surr	6	5.0	5	22.0	6	195			5	7.5	JL	JL		
CC-Blank / .	10	WQ	Surr	6	6.1	5	22.1	6	188			5	7.4	MK			

Agri-Tech/Yakima Steel Wetland Sediment Evaluation

Appendix E

Solid-Phase TIE Test Data Sheets

Appendix E.1

10-Day Solid-Phase TIE Test with Hyalella azteca

10 DAY POREWATER-TEST - OBSERVATIONS

Sediment

CLIENT Parallon	PROJECT Yakima Steel	JOB NUMBER	PROJECT MAN. Bill Gardiner	LABORATORY Port Gamble, WA	PROTOCOL 12/17/07 - 12/17/07-02/04	SPECIES Hyalalela	ACCLM.MORT. #REF!
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ENDPOINT DATA & OBSERVATIONS

CLIENT/ NEWFIELDS ID		REP	JAR #	INITIAL #	DATE 2/6/07 TECHNICIAN JL	DATE 2/07 TECHNICIAN JL	DATE 2/03 TECHNICIAN JL	DATE 2/14 TECHNICIAN MAB	DATE 2/15 TECHNICIAN MAB	DATE 2/6 TECHNICIAN MK	DATE 2/7 TECHNICIAN MK	DATE 2/08 TECHNICIAN JL	DATE 2/09 TECHNICIAN JL	DATE 2/10 TECHNICIAN CR	NUMBER REMAINING	WEIGH BOAT NUMBER	TARE WEIGHT (mg)	TOTAL WEIGHT (mg)	ASH FREE DRY WEIGHT (mg)
Control / .	1	10	N	N	N	N	N	N	N	N	N	N	N	N	8	1	208.52	208.95	
	2	10	N	N	N	N	N	N	N	N	N	N	N	N	10	2	206.73	207.29	
	3	10	N	N	N	N	N	N	N	N	N	N	N	N	8	3	208.29	208.68	
	4	10	N	N	N	N	N	N	N	N	N	N	N	N	9	4	205.27	205.79	
WETSED1 / .	1	10	N	N	N	N	N	N	N	N	N	N	N	N	0	5	207.74	210.50 ^①	
	2	10	N	N	N	N	N	N	N	N	N	N	N	0	6	211.50			
	3	10	N	N	N	N	N	N	N	N	N	N	N	0	7	204.05			
	4	10	N	N	N	N	N	N	N	N	N	N	N	0	8	209.31			
WETSED1-SIR300 /	1	10	N	N	N	N	N	N	N	N	N	N	N	N	4	9	210.20	210.50	
	2	10	N	N	N	N	N	N	N	N	N	N	N	10	10	205.78	206.51		
	3	10	N	N	N	N	N	N	N	N	N	N	N	6	11	209.42	209.97		
	4	10	N	N	N	N	N	N	N	N	N	N	N	7	12	207.15	207.70		
WETSED1-CC / .	1	10	N	N	N	N	N	N	N	N	N	N	N	N	0	13	207.33		
	2	10	N	N	N	N	N	N	N	N	N	N	N	0	14	209.68			
	3	10	N	N	N	N	N	N	N	N	N	N	N	0	15	209.69			
	4	10	N	N	N	N	N	N	N	N	N	N	N	0	16	208.29			
R300 Blank / .	1	10	N	N	N	N	N	N	N	N	N	N	N	N	7 ^①	17	210.18	210.34	
	2	10	N	N	N	N	N	N	N	N	N	N	N	8	18	208.00	208.24		
	3	10	N	N	N	N	N	N	N	N	N	N	N	10	19	209.79	210.31		
	4	10	N	N	N	N	N	N	N	N	N	N	N	8	20	211.29	211.60		
CC-Blank / .	1	10	N	N	N	N	N	N	N	N	N	N	N	N	1	21	208.22	208.27	
	2	10	N	N	N	N	N	N	N	N	N	N	N	0	22	206.61			
	3	10	N	N	N	N	N	N	N	N	N	N	N	0	23	208.24	208.29		
	4	10	N	N	N	N	N	N	N	N	N	N	N	0	24	210.01			

① 5 animals in weighboat

② wt. JL 2/13/14.

25 210.44
26 209.02
27 209.24

Sediment

CLIENT Farallon	PROJECT Yakima Steel
JOB NUMBER	PROJECT MANAGER Bill Gardiner

SPECIES Hyallela	LABORATORY Port Gamble, WA	PROTOCOL NSDA 2002 - 10A/00/01-9/04
TEST START DATE 31Jan14	TIME	TEST END DATE 10Feb14

WATER QUALITY DATA #1																	
				DO (mg/L) > 2.5	TEMP (C) 23±1	COND.(µS/cm) vary < 50%	pH 7.8-8.2	DILUTION WATER BATCH 0			TEMP.RECDR./HOBO# 0						
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
Control / .	0	WQ	Surr	7	8.9	8	22.0	2	197			8	7.7	KB			
Control / .	1	WQ	Surr	6	6.7	5	22.2	6	239			5	7.7	JL			
Control / .	2	WQ	Surr	6	6.4	5	22.3	6	205			5	7.4	JL			
Control / .	3	WQ	Surr	6	6.0	5	22.1	6	201			5	7.3	JL			
Control / .	4	WQ	Surr	6	5.7	5	22.1	6	202			5	7.7	MMB			
Control / .	5	WQ	Surr	7	6.9	8	21.9	2	200			8	7.2	MMB			
Control / .	6	WQ	Surr	6	6.5	5	21.6	6	203			5	7.8	MK			
Control / .	7	WQ	Surr	7	5.0	8	21.2	2	207			8	7.4	MK			
Control / .	8	WQ	Surr	6	5.0	5	21.7	6	200			5	7.3	JL			
Control / .	9	WQ	Surr	6	6.6	5	22.0	6	198			5	7.4	JL			
Control / .	10	WQ	Surr	6	6.8	5	22.3	6	189			5	7.4	MK			

Wrong page. dr 2/10/14

Sediment

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallolella	LABORATORY Port Gamble, WA	PROTOCOL US EPA 2002 - 1984/2002A-39/502
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TIME	TEST END DATE 10Feb14

WATER QUALITY DATA #1

				DO (mg/L) > 2.5	TEMP (C) 23±1	COND. (µS/cm) vary < 50%	pH 7.8-8.2	DILUTION WATER BATCH 0		TEMP. RECDR./HOB0# 0							
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
WETSED1 / .	0	WQ	Surr	7	8.4	7	22.0	2	316			8	6.9	MMS			
WETSED1 / .	1	WQ	Surr	6	7.4	5	22.5	6	326			5	7.0	JL			
WETSED1 / .	2	WQ	Surr	6	5.3	5	22.6	6	257			5	7.1	JL			
WETSED1 / .	3	WQ	Surr	6	7.7, 7.4 ^⓪	5	22.0, 22.0 ^⓪	6	225, 225 ^⓪			5	7.1, 7.1 ^⓪	JL			
WETSED1 / .	4	WQ	Surr	6	4.8	5	22.0	6	214			5	7.5	MMS			
WETSED1 / .	5	WQ	Surr	7	5.0	8	21.7	7	203			8	6.8	MMS			
WETSED1 / .	6	WQ	Surr	6	5.5	5	21.6	6	201			5	7.6	MK			
WETSED1 / .	7	WQ	Surr	7	4.5	8	20.8	2	203			8	7.0	MK			
WETSED1 / .	8	WQ	Surr	6	5.3	5	21.8	6	192			5	7.3	JL			
WETSED1 / .	9	WQ	Surr	6	4.6	5	22.0	6	196			5	7.4	JL			
WETSED1 / .	10	WQ	Surr	6	4.8	5	22.1	6	186			5	7.3	MK			

⓪ JL 2/03/14.

Sediment

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallolela	LABORATORY Port Gamble, WA	PROTOCOL CWSRA 2009 - EPA/600/R-10/044
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TIME	TEST END DATE 10Feb14

WATER QUALITY DATA #1

				DO (mg/L) > 2.5	TEMP (C) 23±1	COND. (µS/cm) vary < 50%	pH 7.8-8.2	DILUTION WATER BATCH 0		TEMP. RECDR./HOB0# 0							
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
WETSED1-SIR300 / .	0	WQ	Surr	7	8.3	7	22.0	2	430			8	7.1	KMB			BK
WETSED1-SIR300 / .	1	WQ	Surr	6	6.7	5	22.5	6	405	5		5	7.1	JL	JL		0
WETSED1-SIR300 / .	2	WQ	Surr	6	6.7	5	22.5	6	287	5		5	7.1	JL	JL		0
WETSED1-SIR300 / .	3	WQ	Surr	6	5.7	5	22.1	6	231	-		5	7.0	JL	JL		0
WETSED1-SIR300 / .	4	WQ	Surr	6	6.9	5	22.0	6	205			5	7.4	MMB	MMB		0
WETSED1-SIR300 / .	5	WQ	Surr	7	4.6	8	21.9	2	190			8	6.6	MMB	MMB		0
WETSED1-SIR300 / .	6	WQ	Surr	6	5.6	5	21.4	6	187			5	7.4	MK	MK		0
WETSED1-SIR300 / .	7	WQ	Surr	7	5.4	8	21.1	2	174			8	6.8	MK	MK		0
WETSED1-SIR300 / .	8	WQ	Surr	6	4.8	5	21.9	6	172			5	6.9	JL	JL		0
WETSED1-SIR300 / .	9	WQ	Surr	6	6.1	5	21.9	6	175			5	7.0	JL	JL		0
WETSED1-SIR300 / .	10	WQ	Surr	6	6.9	5	22.2	6	173			5	7.3	MK			

Sediment

CLIENT Farallon		PROJECT Yakima Steel		SPECIES Hyallella		LABORATORY Port Gamble, WA		PROTOCOL US EPA 2002 - EPA/600/R-02/004	
JOB NUMBER		PROJECT MANAGER Bill Gardiner		TEST START DATE 31Jan14		TEST END DATE 10Feb14		TIME	

WATER QUALITY DATA #1																	
				DO (mg/L) > 2.5		TEMP (C) 23±1		COND. (µS/cm) vary < 50%		pH 7.8-8.2		DILUTION WATER BATCH 0		TEMP. RECDR./HOB# 0			
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
WETSED1-CC / .	0	WQ	Surr	7	8.5	7	22.0	2	352			8	7.0	KMB			BH
WETSED1-CC / .	1	WQ	Surr	6	6.6	5	22.6	6	399			5	7.2	JL	JL		→
WETSED1-CC / .	2	WQ	Surr	6	6.8	5	22.3	6	262			5	7.2	JL	JL		→
WETSED1-CC / .	3	WQ	Surr	6	4.5.3	5	22.0	6	243			5	7.2	JL	JL		→
WETSED1-CC / .	4	WQ	Surr	6	6.0	5	22.0	6	224			6	7.4	MMS	MMS		→
WETSED1-CC / .	5	WQ	Surr	7	4.6	8	21.7	2	269			8	6.9	MMS	MMS		→
WETSED1-CC / .	6	WQ	Surr	6	4.6	5	21.6	6	204			5	7.4	MK	MK		→
WETSED1-CC / .	7	WQ	Surr	7	3.7	8	21.4	2	201			8	7.0	MK	MK		→
WETSED1-CC / .	8	WQ	Surr	6	5.7	5	21.7	6	189			5	7.2	JL	JL		→
WETSED1-CC / .	9	WQ	Surr	6	5.1	5	22.0	6	188			5	7.3	JL	JL		→
WETSED1-CC / .	10	WQ	Surr	6	5.3	5	22.1	6	184			5	7.2	MK			

① MR. JL 2/10/14.

Sediment

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallela	LABORATORY Port Gamble, WA	PROTOCOL SQA 2009 - 10M6005-77264
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TEST END DATE 10Feb14	TIME

WATER QUALITY DATA #1

CLIENT/NEWFIELDS ID	DAY	REP	JAR #	DO (mg/L)		TEMP (C)		COND. (µS/cm)		pH		DILUTION WATER BATCH		TEMP. RECDR./HOBO#		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit	TECHNICIAN	AM	
SIR300 Blank / .	0	WQ	Surr	7	8.8	7	22.0	2235		8	7.4					BH
SIR300 Blank / .	1	WQ	Surr	6	6.0 [Ⓢ]	5	22.7	220		5	7.0			JL	JL	→
SIR300 Blank / .	2	WQ	Surr	6	8.4	5	22.3	175		5	7.7			JL	JL	→
SIR300 Blank / .	3	WQ	Surr	6	8.7	5	22.0	160		5	7.9			JL	JL	→
SIR300 Blank / .	4	WQ	Surr	6	8.8	5	22.0	152		5	8.1			MMB	MMB	→
SIR300 Blank / .	5	WQ	Surr	7	8.8	8	21.7	145		8	7.7			MMB	MMB	→
SIR300 Blank / .	6	WQ	Surr	6	7.8	5	21.7	190		5	8.0			MK	MK	→
SIR300 Blank / .	7	WQ	Surr	7	7.3	8	21.5	158		8	7.9			MK	MK	→
SIR300 Blank / .	8	WQ	Surr	6	8.5	5	21.5	153		5	8.0			JL	JL	→
SIR300 Blank / .	9	WQ	Surr	6	8.6	5	21.9	153		5	7.9			JL	JL	→
SIR300 Blank / .	10	WQ	Surr	6	8.5	5	22.1	154		5	7.4			MK		

① Aeration initiated to all reps. JL 2/10/14.

Sediment

CLIENT Farallon	PROJECT Yakima Steel	SPECIES Hyallolela	LABORATORY Port Gambie, WA	PROTOCOL OSPEA 2002 - 23FA/02248-20/004
JOB NUMBER	PROJECT MANAGER Bill Gardiner	TEST START DATE 31Jan14	TIME	TEST END DATE 10Feb14

WATER QUALITY DATA #1

				DO (mg/L) > 2.5	TEMP (C) 23±1	COND. (µS/cm) vary < 50%	pH 7.8-8.2	DILUTION WATER BATCH 0		TEMP.RECDR./HOBO# 0							
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O.		TEMP		CONDUCTIVITY		Salinity		pH		TECHNICIAN	WATER RENEWAL		FEED-ING
				meter	mg/L	meter	°C	meter	µS/cm	meter	ppt	meter	unit		AM	PM	
CC-Blank / .	0	WQ	Surr	7	8.9	7	22.0	2	236			7	7.4	KB			BH
CC-Blank / .	1	WQ	Surr	6	7.1	6	22.2	6	239			5	7.2	JL	JL		JL
CC-Blank / .	2	WQ	Surr	6	5.8	5	22.5	6	219			5	7.3	JL	JL		
CC-Blank / .	3	WQ	Surr	6	5.8	5	22.0	6	202			5	7.3	JL	JL		
CC-Blank / .	4	WQ	Surr	6	5.2	5	22.0	6	200			5	7.6	MMS	MMS		S
CC-Blank / .	5	WQ	Surr	7	4.4	8	21.8	2	199			8	7.1	MMS	MMS		
CC-Blank / .	6	WQ	Surr	6	4.5	5	21.7	6	205			5	7.6	MK	MK		
CC-Blank / .	7	WQ	Surr	7	5.0	8	21.2	2	206			8	7.3	MK	MK		
CC-Blank / .	8	WQ	Surr	6	4.8	5	21.7	6	195			5	7.3	JL	JL		
CC-Blank / .	9	WQ	Surr	6	5.0	5	22.0	6	195			5	7.5	JL	JL		
CC-Blank / .	10	WQ	Surr	6	6.1	5	22.1	6	188			5	7.4	MK			

Agri-Tech/Yakima Steel Wetland Sediment Evaluation

Appendix F

Sediment Chemistry

Appendix F.1

Whole Sediment Chemistry

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: WETSED 1
SAMPLE

Lab Sample ID: XQ27A

QC Report No: XQ27-Newfields Northwest

LIMS ID: 13-26633

Project: AT/YS

Matrix: Sediment

Data Release Authorized: *df*

Date Sampled: 12/04/13

Reported: 12/06/13

Date Received: 12/05/13

Percent Total Solids: 46.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/kg-dry	Q
3050B	12/06/13	6010C	12/06/13	7440-43-9	Cadmium	0.4	6.5	
3050B	12/06/13	6010C	12/06/13	7439-92-1	Lead	4	147	
3050B	12/06/13	6010C	12/06/13	7439-96-5	Manganese	0.2	189	
3050B	12/06/13	6010C	12/06/13	7440-66-6	Zinc	2	2,240	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: WETSED 2

SAMPLE

Lab Sample ID: XQ27B

LIMS ID: 13-26634

Matrix: Sediment

Data Release Authorized: *RF*

Reported: 12/06/13

QC Report No: XQ27-Newfields Northwest

Project: AT/YS

Date Sampled: 12/04/13

Date Received: 12/05/13

Percent Total Solids: 46.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/kg-dry	Q
3050B	12/06/13	6010C	12/06/13	7440-43-9	Cadmium	0.4	7.4	
3050B	12/06/13	6010C	12/06/13	7439-92-1	Lead	4	146	
3050B	12/06/13	6010C	12/06/13	7439-96-5	Manganese	0.2	342	
3050B	12/06/13	6010C	12/06/13	7440-66-6	Zinc	2	2,940	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: WETSED 3
SAMPLE

Lab Sample ID: XQ27C

LIMS ID: 13-26635

Matrix: Sediment

Data Release Authorized: *af*

Reported: 12/06/13

QC Report No: XQ27-Newfields Northwest

Project: AT/YS

Date Sampled: 12/04/13

Date Received: 12/05/13

Percent Total Solids: 38.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/kg-dry	Q
3050B	12/06/13	6010C	12/06/13	7440-43-9	Cadmium	0.5	9.4	
3050B	12/06/13	6010C	12/06/13	7439-92-1	Lead	5	178	
3050B	12/06/13	6010C	12/06/13	7439-96-5	Manganese	0.3	324	
3050B	12/06/13	6010C	12/06/13	7440-66-6	Zinc	3	3,810	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: XQ27LCS

LIMS ID: 13-26635

Matrix: Sediment

Data Release Authorized: *AS*

Reported: 12/06/13

QC Report No: XQ27-Newfields Northwest

Project: AT/YS

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Cadmium	6010C	50.6	50.0	101%	
Lead	6010C	197	200	98.5%	
Manganese	6010C	47.5	50.0	95.0%	
Zinc	6010C	49	50	98.0%	

Reported in mg/kg-dry

N-Control limit not met

NA-Not Applicable, Analyte Not Spiked

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: XQ27MB

QC Report No: XQ27-Newfields Northwest

LIMS ID: 13-26635

Project: AT/YS

Matrix: Sediment

Data Release Authorized: *EF*

Date Sampled: NA

Reported: 12/06/13

Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/kg-dry	Q
3050B	12/06/13	6010C	12/06/13	7440-43-9	Cadmium	0.2	0.2	U
3050B	12/06/13	6010C	12/06/13	7439-92-1	Lead	2	2	U
3050B	12/06/13	6010C	12/06/13	7439-96-5	Manganese	0.1	0.1	U
3050B	12/06/13	6010C	12/06/13	7440-66-6	Zinc	1	1	U

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

Chain of Custody Documentation

ARI Job ID: XQ29

XQ29 : 00002

Appendix F.2

*AVS/SEM Chemistry, Dilution Series,
and Sediment Conventional*

Agri-Tech/Yakima Steel Wetland Sediment Chemistry - Dilution Series

ARI ID	Client ID	Sampled	Rec	Prep	Analyzed	Method	CAS	Compound	Value	Q	Units
13-27104-XR07A	9	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7440-43-9	Cadmium	10.5		mg/kg
13-27104-XR07ADP	9	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7440-43-9	Cadmium	9.2		mg/kg
13-27104-XR07AMS	9	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7440-43-9	Cadmium	132		mg/kg
13-27104-XR07A	9	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7439-92-1	Lead	173		mg/kg
13-27104-XR07ADP	9	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7439-92-1	Lead	176		mg/kg
13-27104-XR07AMS	9	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7439-92-1	Lead	631		mg/kg
13-27104-XR07A	9	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7439-96-5	Manganese	318		mg/kg
13-27104-XR07ADP	9	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7439-96-5	Manganese	320		mg/kg
13-27104-XR07AMS	9	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7439-96-5	Manganese	432		mg/kg
13-27104-XR07A	9	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7440-66-6	Zinc	4,050		mg/kg
13-27104-XR07ADP	9	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7440-66-6	Zinc	3,820		mg/kg
13-27104-XR07AMS	9	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7440-66-6	Zinc	3,840		mg/kg
13-27105-XR07B	6	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7440-43-9	Cadmium	5.1		mg/kg
13-27105-XR07B	6	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7439-92-1	Lead	97		mg/kg
13-27105-XR07B	6	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7439-96-5	Manganese	436		mg/kg
13-27105-XR07B	6	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7440-66-6	Zinc	2,150		mg/kg
13-27106-XR07C	3	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7440-43-9	Cadmium	2.9		mg/kg
13-27106-XR07C	3	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7439-92-1	Lead	48		mg/kg
13-27106-XR07C	3	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7439-96-5	Manganese	571		mg/kg
13-27106-XR07C	3	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7440-66-6	Zinc	1,140		mg/kg
13-27107-XR07D	1	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7440-43-9	Cadmium	1.1		mg/kg
13-27107-XR07D	1	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7439-92-1	Lead	20		mg/kg
13-27107-XR07D	1	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7439-96-5	Manganese	560		mg/kg
13-27107-XR07D	1	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7440-66-6	Zinc	451		mg/kg
13-27108-121313MB	Method Blank			12/13/13	12/17/13	SW6010C-Total	7440-43-9	Cadmium	0.2	U	mg/kg
13-27108-121313LCS	Lab Control			12/13/13	12/17/13	SW6010C-Total	7440-43-9	Cadmium	51.4		mg/kg
13-27108-XR07E	0	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7440-43-9	Cadmium	0.4	U	mg/kg
13-27108-121313MB	Method Blank			12/13/13	12/17/13	SW6010C-Total	7439-92-1	Lead	2	U	mg/kg
13-27108-121313LCS	Lab Control			12/13/13	12/17/13	SW6010C-Total	7439-92-1	Lead	199		mg/kg
13-27108-XR07E	0	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7439-92-1	Lead	4	U	mg/kg
13-27108-121313MB	Method Blank			12/13/13	12/17/13	SW6010C-Total	7439-96-5	Manganese	0.1	U	mg/kg
13-27108-121313LCS	Lab Control			12/13/13	12/17/13	SW6010C-Total	7439-96-5	Manganese	48.4		mg/kg
13-27108-XR07E	0	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7439-96-5	Manganese	507		mg/kg
13-27108-121313MB	Method Blank			12/13/13	12/17/13	SW6010C-Total	7440-66-6	Zinc	3		mg/kg
13-27108-121313LCS	Lab Control			12/13/13	12/17/13	SW6010C-Total	7440-66-6	Zinc	50		mg/kg
13-27108-XR07E	0	12/10/13	12/12/13	12/13/13	12/17/13	SW6010C-Total	7440-66-6	Zinc	48		mg/kg



Cooler Receipt Form

ARI Client: Newfields
 COC No(s): _____ NA
 Assigned ARI Job No: X679

Project Name: AT115
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No: 7977 1423 557 NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 7.6
 Time: 1:19

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 926 77557

Cooler Accepted by: JS Date: 12-5-13 Time: 16:26

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO
 What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other
 Was sufficient ice used (if appropriate)? NA YES NO
 Were all bottles sealed in individual plastic bags? YES NO
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... (NA) YES NO
 Were all VOC vials free of air bubbles? (NA) YES NO
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI... (NA)
 Was Sample Split by ARI: (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JS Date: 12-5-13 Time: 16:41

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Small → "sm" (< 2 mm)
 Peabubbles → "pb" (2 to < 4 mm)
 Large → "lg" (4 to < 6 mm)
 Headspace → "hs" (> 6 mm)



Case Narrative

Client: Newfields
Project: AT/YS
ARI Job No.: XQ29

Sample Receipt

Three sediment samples were received on December 5, 2013 under ARI job XQ29. The cooler temperature measured by IR thermometer following ARI SOP was 0.6°C. The samples were analyzed for AVS/SEM, TOC, and Grain Size. Total metals results have been reported under a separate cover. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

AVS/SEM Metals by SW6010C

The samples were digested and analyzed within the method recommended holding times.

The method blank was clean at the reporting limits. The LCS percent recoveries were within control limits.

The matrix spike percent recoveries and duplicate RPDs were within control limits.

General Chemistry Parameters

The samples were prepared and analyzed within method recommended holding times.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits.

The SRM percent recovery was in control.

The matrix spike percent recoveries of Acid Volatile Sulfide and Total Organic Carbon were outside the control limits for sample **WETSED 1**. All other quality control parameters were met for these analyses. No corrective action was taken.

Geotechnical Parameters

A laboratory-specific narrative follows this page.

Sample ID Cross Reference Report



ARI Job No: XQ29
Client: Newfields Northwest
Project Event: N/A
Project Name: AT/YS

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. WETSED 1	XQ29A	13-26636	Sediment	12/04/13 14:00	12/05/13 10:20
2. WETSED 2	XQ29B	13-26637	Sediment	12/04/13 14:00	12/05/13 10:20
3. WETSED 3	XQ29C	13-26638	Sediment	12/04/13 14:00	12/05/13 10:20



Spike Recovery Control Limits for Conventional Wet Chemistry

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. <http://www.arilabs.com/portal/downloads/ARI-CLs.zip>

Sample Matrix:	ARI's Control Limits	
	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 - 125	75 - 125
Chloride	75 - 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

Cover Page
INORGANIC ANALYSIS DATA PACKAGE



CLIENT: Newfields Northwest

PROJECT: AT/YS

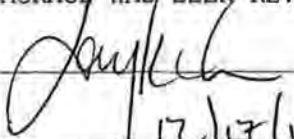
SDG: XQ29

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
WETSED 1	XQ29A	13-26636	
WETSED 1D	XQ29ADUF	13-26636	
WETSED 1S	XQ29ASPK	13-26636	
WETSED 2	XQ29B	13-26637	
PBS	XQ29MB1	13-26637	
LCSS	XQ29MB1SPK	13-26637	
WETSED 3	XQ29C	13-26638	

Were ICP interelement corrections applied ? Yes/No YES
Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before
application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature:  Name: Jay Kuhn
Date: 12/17/13 Title: Inorganics Director

INORGANICS ANALYSIS DATA SHEET

AVS/SEM METALS

Page 1 of 1

Sample ID: WETSED 2
SAMPLE

Lab Sample ID: XQ29B

LIMS ID: 13-26637

Matrix: Sediment

Data Release Authorized:

Reported: 12/17/13

QC Report No: XQ29-Newfields Northwest

Project: AT/YS

Date Sampled: 12/04/13

Date Received: 12/05/13

Percent Total Solids: 47.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/kg-dry	Q
6010C	12/13/13	6010C	12/16/13	7440-43-9	Cadmium	0.2	8.4	
6010C	12/13/13	6010C	12/16/13	7439-92-1	Lead	2	149	
6010C	12/13/13	6010C	12/16/13	7439-96-5	Manganese	0.1	160	
6010C	12/13/13	6010C	12/16/13	7440-66-6	Zinc	1	3,240	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

AVS/SEM METALS

Page 1 of 1

Sample ID: WETSED 1

MATRIX SPIKE

Lab Sample ID: XQ29A

LIMS ID: 13-26636

Matrix: Sediment

Data Release Authorized:

Reported: 12/17/13

QC Report No: XQ29-Newfields Northwest

Project: AT/YS

Date Sampled: 12/04/13

Date Received: 12/05/13

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Cadmium	6010C	6.6	66.4	52.7	113%	
Lead	6010C	183	391	211	98.6%	
Manganese	6010C	80.9	141	52.7	114%	
Zinc	6010C	4,790	5,490	52.7	1330%	H

Reported in mg/kg-dry

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

AVS/SEM METALS

Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: XQ29LCS

LIMS ID: 13-26637

Matrix: Sediment

Data Release Authorized:

Reported: 12/17/13

QC Report No: XQ29-Newfields Northwest

Project: AT/YS

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Cadmium	6010C	28.0	25.0	112%	
Lead	6010C	109	100	109%	
Manganese	6010C	25.6	25.0	102%	
Zinc	6010C	27.9	25.0	112%	

Reported in mg/kg-dry

N-Control limit not met

NA-Not Applicable, Analyte Not Spiked

Control Limits: 80-120%

Calibration Verification

CLIENT: Newfields Northwest

PROJECT: AT/YS

SDG: XQ29



UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Cadmium	CD	ICP	IP121671	1000.0	1030.59	103.1	1000.0	1027.39	102.7	1034.17	103.4	1023.32	102.3	1012.87	101.3		
Lead	PB	ICP	IP121671	2000.0	2015.66	100.8	2000.0	2068.85	103.4	2032.30	101.6	2011.05	100.6	2052.37	102.6		
Manganese	MN	ICP	IP121671	1000.0	978.39	97.8	1000.0	973.11	97.3	981.98	98.2	965.65	96.6	978.40	97.8		
Zinc	ZN	ICP	IP121671	1000.0	1010.11	101.0	1000.0	1021.82	102.2	1024.40	102.4	1012.97	101.3	1029.67	103.0		

XQ29: 00020

Control Limits: Mercury 80-120; Other Metals 90-110

Calibration Blanks

CLIENT: Newfields Northwest

PROJECT: AT/YS

SDG: XQ29



UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Cadmium	CD	ICP	IP121671	5.0	2.0	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U		
Lead	PB	ICP	IP121671	3.0	20.0	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U		
Manganese	MN	ICP	IP121671	15.0	1.0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Zinc	ZN	ICP	IP121671	20.0	10.0	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U		

XQ29:00022

**IDLs and ICP
Linear Ranges**



CLIENT: Newfields Northwest

PROJECT: AT/YS

SDG: XQ29

UNITS: ug/L

ANALYTE	EL METH	INSTRUMENT	WAVELENGTH (nm)	GFA BACK- GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
Cadmium	CD	ICP	OPTIMA ICP 2	228.80	5	2.0	4/1/2012	20000.0	6/10/2013
Lead	PB	ICP	OPTIMA ICP 2	220.35	3	20.0	4/1/2012	300000.0	6/10/2013
Manganese	MN	ICP	OPTIMA ICP 2	257.61	15	1.0	4/1/2012	30000.0	6/10/2013
Zinc	ZN	ICP	OPTIMA ICP 2	213.86	20	10.0	4/1/2012	100000.0	6/10/2013

ICP Interelement Correction Factors



CLIENT: Newfields Northwest

PROJECT: AT/YS

SDG: XQ29

IEC DATE: 10/22/1913

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.0000000	0.0000000	16.0812590	0.0000000	0.0000000	0.0000000	1.9531650	0.0000000	15.6704600	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.8263670	0.0000000	-3.8485090	0.0000000
Arsenic	188.98	0.0000000	0.0000000	3.4165090	0.0000000	0.0000000	0.0000000	-32.1596340	0.0000000	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.1266550	0.0000000	0.0000000	0.0000000	0.0000000	0.2235440	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0102770	0.0000000	0.2401990	0.0000000
Boron	249.67	0.0000000	0.0000000	-1.0759410	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0000000	-0.9387840	0.0000000	0.0000000	0.0000000	0.0000000	0.0597550	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0679630	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.3212800	0.0000000
Cobalt	228.62	0.0000000	0.0000000	-0.1256200	0.1682020	0.0000000	0.0000000	1.7253070	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0064738	0.0000000	0.3004190	0.0000000	0.0000000	0.0000000	0.1851800	0.0000000	0.0000000	0.0000000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	7.2530080	0.0000000
Lead	220.35	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	-5.2138260	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0021200	0.0000000	0.0000000	0.0000000	-0.1832430	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.5439300	0.0000000	0.4201630	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.5911140	0.0000000
Silicon	288.16	-0.1473260	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2887870	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	287.1603720	0.0000000	0.0000000	306.9999840
Thallium	190.80	0.0000000	0.0000000	-1.5891790	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	3.6439390	0.0000000
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.0384380	-0.4873020	-0.2074990	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.9474070	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	-0.1525200	-0.5409400	0.0000000	0.0000000	0.0000000	0.5527510	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.2376970	0.0000000	-0.0608720	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

XQ29: 00025

Analysis Run Log



CLIENT: Newfields Northwest
 PROJECT: AT/YS
 SDG: XQ29

INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP121671 METHOD: ICP

START DATE: 12/16/2013
 END DATE: 12/16/2013

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	EG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	08332									X																				X	
S2	S2	1.00	08373									X								X													
S3	S3	1.00	08392																						X								X
S4	S4	1.00	08420																														
S5	S5	1.00	08441																														
ICV	ICV	1.00	08520									X								X				X								X	
ICB	ICB	1.00	08561									X								X				X								X	
CRI	CRII	1.00	09002									X								X				X								X	
ICSA	ICSAI	1.00	09044									X								X				X								X	
ICSAB	ICSABI	1.00	09085									X								X				X								X	
ZZZZZZ	DICHECK	1.00	09142																														
CCV	CCV1	1.00	09183									X								X				X								X	
CCB	CCB1	1.00	09224									X								X				X								X	
PBW	XQ29MB1	1.00	09265									X								X				X								X	
WETSED 2	XQ29B	1.00	09311									X								X				X								X	
WETSED 3	XQ29C	1.00	09351									X								X				X								X	
WETSED 1D	XQ29ADUP	1.00	09393									X								X				X								X	
WETSED 1	XQ29A	1.00	09433									X								X				X								X	
WETSED 1S	XQ29ASP	1.00	09473									X								X				X								X	
LCSW	XQ29MB1SPK	1.00	09513																														
CCV	CCV2	1.00	09553									X								X				X								X	
CCB	CCB2	1.00	09593									X								X				X								X	
ZZZZZZ	XQ82MB	1.00	10035																														
ZZZZZZ	XQ47MB	5.00	10081																														
ZZZZZZ	XQ47ADUP	5.00	10124																														
ZZZZZZ	XQ47A	5.00	10170																														
ZZZZZZ	XQ47ASP	5.00	10211																														
ZZZZZZ	XQ82ADUP	1.00	10253																														
ZZZZZZ	XQ82A	1.00	10295																														
ZZZZZZ	XQ82ASP	1.00	10341																														
ZZZZZZ	XQ82MBSPK	1.00	10383																														
CCV	CCV3	1.00	10423									X								X				X								X	
CCB	CCB3	1.00	10463									X								X				X								X	
ZZZZZZ	XQ85MB	1.00	10505																														
ZZZZZZ	XQ85A	1.00	10550																														

XQ29: 00029



Sulfide Digestion Log

Balance ID:		Pretreatment Data						Sample Extraction Data						
Sample ID	Date	Sample Weight	Extract Method*	Acid	Required pH	mL DI Water	Observed mL acid	Date	Sample Weight	mL Acid Required	mL DI Water Required	Trap Volume (mL)	Spike ID	Spike Volume
BLK	NA	NA	PSEP	HCl+H ₂ O ₂	<3	NA	NA	12/11/13	NA	NA	100 mL	100 mL	NA	NA
LCS													001400	1 mL
XQ73A ¹									5.159				NA	NA
A1 dup									5.022				L	L
A1 MS									5.057				001400	1 mL
B1									5.068				NA	NA
C1									5.668				L	L
14:35 BLK	NA	NA	AUSSEN	HCl	<1	NA	NA	12/11/13	NA	NA	100 mL		NA	NA
LCS													001400	1 mL
XQ29 A1									5.134				NA	NA
A1 dup									5.068				L	L
A1 MS									5.054				001400	1 mL
B1									5.056				NA	NA
C1									5.001					
XQ66 A1			AUS						5.009					
B1									5.176					
C1									5.214					
APD 12/11/13														

* Extract Methods: PSEP = PSEP; 9030A = 9030A Acid Soluble; 9030AI = 9030A acid insoluble; AVS = Acid Volatile; Reactive = SW-846 reactive

Analyst Name: APD Date: 12/11/13 Time: 11:05

XQ29: 00030

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA

Analysis Date: 12-16-13

ICP2	Analyst BA 12-17-13	Peer ED 12-17-13	Comment
Logbook:			
Analyst, Date, Method info	✓	✓	
Sample ID's	✓	✓	
Standard/QC solution ID's recorded	✓	✓	
Prep codes	✓	✓	
Dilution factors	✓	✓	
Crossouts/Corrections/Deletions	✓	✓	
Calibration:			
Blank & Standard intensities	✓	✓	
Standard deviations	✓	✓	
Curve fit	✓	✓	
Calibration Verification:			
ICV/CCV	✓	✓	
ICB/CCB	✓	✓	
Samples:			
RSD's & SD's	✓	✓	see log
Internal Standards	✓	✓	↓
Carry-over	✓	✓	
Method QC:			
CRI/CRA	✓	✓	
ICSA/ICSAB	✓	✓	
Post Spikes/Serial Dilutions	✓	✓	
Analytic Spikes	✓	✓	
Matrix QC:			
SRM/LCS	✓	✓	
Matrix Spikes	✓	✓	
Matrix Duplicates	✓	✓	
Method Blanks	✓	✓	XR09
Data Distribution:			
Requested elements/isotope identified	✓	✓	
Correct samples identified for distribution	✓	✓	
Raw data match distributed data	✓	✓	
Data filename correct	✓	✓	
Necessary Analysts Notes and CAF's	✓	✓	AN-XR09



IEC Date:

Analysis Date: 12-16-13

Analyst: BA

LR Date:

Page: 2 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		XQ47 ADUP	LEN	5	✓
		↓ A	↓	↓	✓
		↓ ASPK	↓	↓	✓
		XQ82 ADUP	TWC		
		↓ A	↓		
		↓ ASPK	↓		✓
		↓ MBSPK	↓		✓
		CCV3			
		CCB3			
		XQ85 MB	TWC		
✓		↓ A	↓		Mg, Na, Sr > LR
✓		↓ B	↓		Mg, Na > LR ScB rising
✓		↓ C	↓		Mg, Na, Sr > LR
✓		↓ D	↓		↓
		↓ MBSPK	↓		✓
		↓ MBSPD	↓		✓
		XQ29 MBISPK	WMN		0.08 mL ICP Spk
		CCV4			
		CCB4			End XQ29
<hr/>					
		XQ01 MBI	SWC	2	
		↓ B	↓	↓	
		↓ A-L	↓	↓	BA ↓ 10 ² /11/13
		↓ A	↓	2	
		↓ ADUP	↓	↓	✓

Analysis Begun

Start Time: 12/16/2013 8:33:20 AM

Plasma On Time: 12/16/2013 7:13:48 AM

Logged In Analyst: Metals

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\BLKS.sif

Batch ID:

Results Data Set: I2131216

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 1

Autosampler Location: 1

Sample ID: Calib Blank 1

Date Collected: 12/16/2013 8:33:22 AM

Data Type: Original

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2762037.1	12153.35	0.44%	100.0	%
ScR 361.383	272684.3	1430.72	0.52%	100.0	%
Ag 328.068†	612.2	34.00	5.55%	[0.00]	mg/L
Al 308.215†	114.9	3.82	3.32%	[0.00]	mg/L
As 188.979†	-15.3	2.35	15.29%	[0.00]	mg/L
B 249.677†	56.4	3.22	5.70%	[0.00]	mg/L
Ba 233.527†	32.8	2.98	9.10%	[0.00]	mg/L
Be 313.042†	777.6	9.51	1.22%	[0.00]	mg/L
Ca 317.933†	-165.5	5.96	3.60%	[0.00]	mg/L
Cd 228.802†	252.0	2.83	1.12%	[0.00]	mg/L
Co 228.616†	-104.7	2.42	2.31%	[0.00]	mg/L
Cr 267.716†	-57.9	5.89	10.18%	[0.00]	mg/L
Cu 324.752†	3705.6	23.10	0.62%	[0.00]	mg/L
Fe 273.955†	-43.7	0.97	2.23%	[0.00]	mg/L
K 766.490†	480.6	24.06	5.01%	[0.00]	mg/L
Mg 279.077†	-60.3	4.29	7.10%	[0.00]	mg/L
Mn 257.610†	154.4	2.48	1.61%	[0.00]	mg/L
Mo 202.031†	72.4	1.51	2.08%	[0.00]	mg/L
Na 589.592†	-219.6	20.37	9.28%	[0.00]	mg/L
Na 330.237†	-101.9	7.72	7.58%	[0.00]	mg/L
Ni 231.604†	4.1	3.79	91.44%	[0.00]	mg/L
Pb 220.353†	16.4	2.19	13.33%	[0.00]	mg/L
Sb 206.836†	65.4	1.50	2.30%	[0.00]	mg/L
Se 196.026†	-38.3	4.75	12.41%	[0.00]	mg/L
Si 288.158†	-20.2	1.78	8.78%	[0.00]	mg/L
Sn 189.927†	-6.8	3.81	55.68%	[0.00]	mg/L
Sr 421.552†	2.7	30.89	>999.9%	[0.00]	mg/L
Ti 334.903†	130.2	3.44	2.64%	[0.00]	mg/L
Tl 190.801†	-36.1	3.94	10.90%	[0.00]	mg/L
V 292.402†	280.3	24.74	8.83%	[0.00]	mg/L
Zn 206.200†	-2.6	2.48	96.93%	[0.00]	mg/L

Sequence No.: 2

Autosampler Location: 2

Sample ID: STD2

Date Collected: 12/16/2013 8:37:38 AM

Data Type: Original

Nebulizer Parameters: STD2

Analyte	Back Pressure	Flow
All	209.0 kPa	0.75 L/min

Mean Data: STD2

Mean Corrected

Calib

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
ScA 357.253	2620005.4	13430.31	0.51%	94.86 %
ScR 361.383	271329.3	1131.80	0.42%	99.50 %
Al 308.215†	34622.4	113.98	0.33%	[30] mg/L
Ca 317.933†	258991.7	959.08	0.37%	[30] mg/L
Fe 273.955†	107274.4	691.04	0.64%	[100] mg/L
K 766.490†	224248.3	147.04	0.07%	[100] mg/L
Mg 279.077†	26308.4	91.40	0.35%	[30] mg/L
Na 330.237†	2474.7	9.39	0.38%	[100] mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	215300	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1154	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1555	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	6172	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	4420	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	532800	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	8633	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	26760	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	40500	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	5927	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	275800	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1073	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2242	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	876.9	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	38450	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	17820	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	13870	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	24.75	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	3763	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	8158	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	3038	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1401	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1449	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	3402	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	887800	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	19350	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	1961	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	142600	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	3597	0.00000	1.000000	

Sequence No.: 2
Sample ID: CB

Autosampler Location: 1
Date Collected: 12/16/2013 8:56:12 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
All 210.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	2807388.3		101.6 %	0.19			0.19%
ScR 361.383	280575.7		102.9 %	0.24			0.24%
Ag 328.068†	47.0	0.00022	mg/L	0.000095	0.00022	mg/L	0.000095 43.67%
Al 308.215†	-8.7	-0.00751	mg/L	0.003412	-0.00751	mg/L	0.003412 45.43%
As 188.979†	-0.2	-0.00011	mg/L	0.000875	-0.00011	mg/L	0.000875 826.95%
B 249.677†	13.6	0.00220	mg/L	0.000421	0.00220	mg/L	0.000421 19.19%
Ba 233.527†	-1.7	-0.00038	mg/L	0.000201	-0.00038	mg/L	0.000201 53.52%
Be 313.042†	1.5	0.00000	mg/L	0.000039	0.00000	mg/L	0.000039 >999.9%
Ca 317.933†	1.1	0.00013	mg/L	0.000894	0.00013	mg/L	0.000894 694.87%
Cd 228.802†	-0.5	-0.00002	mg/L	0.000019	-0.00002	mg/L	0.000019 111.13%
Co 228.616†	-2.7	-0.00007	mg/L	0.000126	-0.00007	mg/L	0.000126 190.27%
Cr 267.716†	7.6	0.00129	mg/L	0.000755	0.00129	mg/L	0.000755 58.50%
Cu 324.752†	-60.7	-0.00022	mg/L	0.000167	-0.00022	mg/L	0.000167 75.88%
Fe 273.955†	1.4	0.00134	mg/L	0.000316	0.00134	mg/L	0.000316 23.51%
K 766.490†	-10.6	-0.00471	mg/L	0.021961	-0.00471	mg/L	0.021961 466.52%
Mg 279.077†	7.0	0.00801	mg/L	0.002564	0.00801	mg/L	0.002564 32.01%
Mn 257.610†	-4.8	-0.00012	mg/L	0.000066	-0.00012	mg/L	0.000066 52.58%
Mo 202.031†	-0.8	-0.00005	mg/L	0.000339	-0.00005	mg/L	0.000339 741.69%
Na 589.592†	2.4	0.00017	mg/L	0.001460	0.00017	mg/L	0.001460 844.85%
Na 330.237†	-0.8	-0.03391	mg/L	0.274989	-0.03391	mg/L	0.274989 810.92%
Ni 231.604†	1.6	0.00044	mg/L	0.001607	0.00044	mg/L	0.001607 365.28%
Pb 220.353†	4.9	0.00061	mg/L	0.000431	0.00061	mg/L	0.000431 71.10%
Sb 206.836†	5.7	0.00185	mg/L	0.001727	0.00185	mg/L	0.001727 93.38%
Se 196.026†	0.1	0.00005	mg/L	0.001022	0.00005	mg/L	0.001022 >999.9%
Si 288.158†	-0.4	-0.00028	mg/L	0.004375	-0.00028	mg/L	0.004375 >999.9%
Sn 189.927†	1.3	0.00039	mg/L	0.000742	0.00039	mg/L	0.000742 191.59%
Sr 421.552†	32.9	0.00004	mg/L	0.000014	0.00004	mg/L	0.000014 38.05%
Ti 334.903†	2.5	0.00013	mg/L	0.000295	0.00013	mg/L	0.000295 225.02%
Tl 190.801†	-2.8	-0.00141	mg/L	0.000530	-0.00141	mg/L	0.000530 37.53%
V 292.402†	-13.1	-0.00009	mg/L	0.000033	-0.00009	mg/L	0.000033 38.19%
Zn 206.200†	2.4	0.00067	mg/L	0.000405	0.00067	mg/L	0.000405 60.74%

Sequence No.: 4
 Sample ID: ICSA

Autosampler Location: 302
 Date Collected: 12/16/2013 9:04:43 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte Back Pressure Flow
 All 209.0 kPa 0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2673580.6	96.80	%	0.485				0.50%
ScR 361.383	268883.7	98.61	%	0.247				0.25%
Ag 328.068†	-299.7	-0.00069	mg/L	0.000245	-0.00069	mg/L	0.000245	35.71%
Al 308.215†	232480.9	201.4	mg/L	0.23	201.4	mg/L	0.23	0.11%
As 188.979†	51.6	0.02629	mg/L	0.001167	0.02629	mg/L	0.001167	4.44%
B 249.677†	47.3	0.00766	mg/L	0.001398	0.00766	mg/L	0.001398	18.26%
Ba 233.527†	114.5	-0.00534	mg/L	0.000775	-0.00534	mg/L	0.000775	14.51%
Be 313.042†	20.0	0.00003	mg/L	0.000005	0.00003	mg/L	0.000005	14.11%
Ca 317.933†	877265.9	101.6	mg/L	0.36	101.6	mg/L	0.36	0.35%
Cd 228.802†	29.0	-0.00109	mg/L	0.000217	-0.00109	mg/L	0.000217	19.92%
Co 228.616†	79.2	0.00194	mg/L	0.000121	0.00194	mg/L	0.000121	6.25%
Cr 267.716†	14.3	0.00441	mg/L	0.000886	0.00441	mg/L	0.000886	20.08%
Cu 324.752†	-2512.3	0.00015	mg/L	0.000132	0.00015	mg/L	0.000132	87.23%
Fe 273.955†	214120.5	199.6	mg/L	0.71	199.6	mg/L	0.71	0.35%
K 766.490†	18.8	0.00840	mg/L	0.010363	0.00840	mg/L	0.010363	123.40%
Mg 279.077†	91232.1	103.9	mg/L	1.69	103.9	mg/L	1.69	1.63%
Mn 257.610†	68.1	0.00004	mg/L	0.000268	0.00004	mg/L	0.000268	652.68%
Mo 202.031†	81.6	0.00325	mg/L	0.000723	0.00325	mg/L	0.000723	22.27%
Na 589.592†	144.6	0.01043	mg/L	0.002763	0.01043	mg/L	0.002763	26.50%
Na 330.237†	-7.0	-0.2789	mg/L	0.17709	-0.2789	mg/L	0.17709	63.49%
Ni 231.604†	4.0	0.00108	mg/L	0.001586	0.00108	mg/L	0.001586	146.69%
Pb 220.353†	-378.9	-0.00588	mg/L	0.002552	-0.00588	mg/L	0.002552	43.39%
Sb 206.836†	56.3	0.01830	mg/L	0.003012	0.01830	mg/L	0.003012	16.46%
Se 196.026†	39.0	0.02230	mg/L	0.009765	0.02230	mg/L	0.009765	43.80%
Si 288.158†	-8.3	0.00960	mg/L	0.002335	0.00960	mg/L	0.002335	24.32%
Sn 189.927†	-91.3	-0.01248	mg/L	0.000859	-0.01248	mg/L	0.000859	6.88%
Sr 421.552†	4867.1	0.00548	mg/L	0.000045	0.00548	mg/L	0.000045	0.83%
Ti 334.903†	185.7	0.00263	mg/L	0.000333	0.00263	mg/L	0.000333	12.64%
Tl 190.801†	-31.7	0.00811	mg/L	0.008585	0.00811	mg/L	0.008585	105.85%
V 292.402†	1546.6	-0.00089	mg/L	0.000292	-0.00089	mg/L	0.000292	32.82%
Zn 206.200†	3.2	-0.00094	mg/L	0.000654	-0.00094	mg/L	0.000654	69.52%

Sequence No.: 6
 Sample ID: DI CHECK
 Dilution: 1.000000X

Autosampler Location: 304
 Date Collected: 12/16/2013 9:14:23 AM
 Data Type: Original

Nebulizer Parameters: DI CHECK

Analyte Back Pressure Flow
 All 209.0 kPa 0.75 L/min

Mean Data: DI CHECK

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2842886.1	102.9	%	0.39				0.38%
ScR 361.383	283818.0	104.1	%	0.84				0.80%
Ag 328.068†	11.5	0.00005	mg/L	0.000152	0.00005	mg/L	0.000152	286.06%
Al 308.215†	-3.7	-0.00316	mg/L	0.006317	-0.00316	mg/L	0.006317	199.83%
As 188.979†	5.4	0.00345	mg/L	0.003215	0.00345	mg/L	0.003215	93.16%
B 249.677†	3.9	0.00064	mg/L	0.000088	0.00064	mg/L	0.000088	13.78%
Ba 233.527†	-0.1	-0.00002	mg/L	0.000813	-0.00002	mg/L	0.000813	>999.9%
Be 313.042†	6.2	0.00001	mg/L	0.000009	0.00001	mg/L	0.000009	73.30%
Ca 317.933†	21.5	0.00249	mg/L	0.000863	0.00249	mg/L	0.000863	34.68%
Cd 228.802†	5.5	0.00019	mg/L	0.000124	0.00019	mg/L	0.000124	66.47%
Co 228.616†	16.6	0.00041	mg/L	0.000168	0.00041	mg/L	0.000168	40.88%
Cr 267.716†	7.1	0.00119	mg/L	0.000862	0.00119	mg/L	0.000862	72.21%
Cu 324.752†	-57.9	-0.00021	mg/L	0.000059	-0.00021	mg/L	0.000059	28.28%
Fe 273.955†	7.7	0.00719	mg/L	0.001319	0.00719	mg/L	0.001319	18.34%
K 766.490†	11.5	0.00514	mg/L	0.003079	0.00514	mg/L	0.003079	59.86%
Mg 279.077†	10.7	0.01216	mg/L	0.001306	0.01216	mg/L	0.001306	10.74%
Mn 257.610†	-9.5	-0.00025	mg/L	0.000090	-0.00025	mg/L	0.000090	36.22%
Mo 202.031†	-12.2	-0.00069	mg/L	0.000163	-0.00069	mg/L	0.000163	23.84%
Na 589.592†	30.7	0.00221	mg/L	0.004352	0.00221	mg/L	0.004352	196.90%
Na 330.237†	0.8	0.03339	mg/L	0.409354	0.03339	mg/L	0.409354	>999.9%
Ni 231.604†	3.5	0.00094	mg/L	0.000803	0.00094	mg/L	0.000803	65.45%
Pb 220.353†	2.3	0.00029	mg/L	0.000800	0.00029	mg/L	0.000800	278.18%
Sb 206.836†	-7.6	-0.00252	mg/L	0.000563	-0.00252	mg/L	0.000563	22.37%
Se 196.026†	13.7	0.00981	mg/L	0.001220	0.00981	mg/L	0.001220	12.43%
Si 288.158†	-6.2	-0.00427	mg/L	0.000975	-0.00427	mg/L	0.000975	22.84%
Sn 189.927†	2.8	0.00081	mg/L	0.000400	0.00081	mg/L	0.000400	49.26%
Sr 421.552†	-15.2	-0.00002	mg/L	0.000023	-0.00002	mg/L	0.000023	135.09%
Ti 334.903†	-3.9	-0.00020	mg/L	0.000242	-0.00020	mg/L	0.000242	119.50%
Tl 190.801†	11.7	0.00598	mg/L	0.001202	0.00598	mg/L	0.001202	20.08%
V 292.402†	5.2	0.00004	mg/L	0.000094	0.00004	mg/L	0.000094	231.11%
Zn 206.200†	1.7	0.00047	mg/L	0.000858	0.00047	mg/L	0.000858	181.17%

Sequence No.: 8
 Sample ID: CB |

Autosampler Location: 1
 Date Collected: 12/16/2013 9:22:42 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 209.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2787226.8	100.9	%	0.35				0.34%
ScR 361.383	275164.3	100.9	%	0.35				0.35%
Ag 328.068†	-4.5	-0.00002	mg/L	0.000050	-0.00002	mg/L	0.000050	239.62%
Al 308.215†	-4.0	-0.00345	mg/L	0.001494	-0.00345	mg/L	0.001494	43.37%
As 188.979†	-0.9	-0.00058	mg/L	0.001354	-0.00058	mg/L	0.001354	231.48%
B 249.677†	11.6	0.00188	mg/L	0.000484	0.00188	mg/L	0.000484	25.71%
Ba 233.527†	0.1	0.00002	mg/L	0.001074	0.00002	mg/L	0.001074	>999.9%
Be 313.042†	8.0	0.00002	mg/L	0.000014	0.00002	mg/L	0.000014	96.12%
Ca 317.933†	-5.2	-0.00061	mg/L	0.001545	-0.00061	mg/L	0.001545	254.28%
Cd 228.802†	0.4	0.00002	mg/L	0.000186	0.00002	mg/L	0.000186	>999.9%
Co 228.616†	-3.5	-0.00009	mg/L	0.000075	-0.00009	mg/L	0.000075	86.66%
Cr 267.716†	2.4	0.00040	mg/L	0.000675	0.00040	mg/L	0.000675	168.27%
Cu 324.752†	30.5	0.00011	mg/L	0.000099	0.00011	mg/L	0.000099	89.51%
Fe 273.955†	1.0	0.00095	mg/L	0.000978	0.00095	mg/L	0.000978	103.21%
K 766.490†	38.9	0.01736	mg/L	0.009271	0.01736	mg/L	0.009271	53.40%
Mg 279.077†	3.3	0.00372	mg/L	0.004625	0.00372	mg/L	0.004625	124.32%
Mn 257.610†	-0.4	-0.00001	mg/L	0.000036	-0.00001	mg/L	0.000036	309.10%
Mo 202.031†	1.0	0.00006	mg/L	0.000297	0.00006	mg/L	0.000297	525.80%
Na 589.592†	15.2	0.00110	mg/L	0.000915	0.00110	mg/L	0.000915	83.40%
Na 330.237†	2.5	0.1010	mg/L	0.14008	0.1010	mg/L	0.14008	138.76%
Ni 231.604†	1.3	0.00035	mg/L	0.000551	0.00035	mg/L	0.000551	159.22%
Pb 220.353†	0.9	0.00011	mg/L	0.000570	0.00011	mg/L	0.000570	536.83%
Sb 206.836†	8.5	0.00279	mg/L	0.001515	0.00279	mg/L	0.001515	54.34%
Se 196.026†	3.4	0.00244	mg/L	0.003980	0.00244	mg/L	0.003980	162.86%
Si 288.158†	0.5	0.00037	mg/L	0.004819	0.00037	mg/L	0.004819	>999.9%
Sn 189.927†	1.8	0.00054	mg/L	0.000620	0.00054	mg/L	0.000620	113.89%
Sr 421.552†	59.7	0.00007	mg/L	0.000019	0.00007	mg/L	0.000019	28.62%
Ti 334.903†	4.0	0.00021	mg/L	0.000135	0.00021	mg/L	0.000135	65.94%
Tl 190.801†	0.9	0.00046	mg/L	0.001519	0.00046	mg/L	0.001519	328.26%
V 292.402†	15.5	0.00011	mg/L	0.000081	0.00011	mg/L	0.000081	74.11%
Zn 206.200†	-1.0	-0.00029	mg/L	0.000115	-0.00029	mg/L	0.000115	39.62%

Sequence No.: 10
Sample ID: XQ29 B WMN

Autosampler Location: 306
Date Collected: 12/16/2013 9:31:14 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: XQ29 B WMN

Analyte Back Pressure Flow
All 210.0 kPa 0.75 L/min

Mean Data: XQ29 B WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2796992.5	101.3	%	0.15				0.15%
ScR 361.383	278577.2	102.2	%	0.22				0.21%
Ag 328.068†	-549.2	-0.00170	mg/L	0.000174	-0.00170	mg/L	0.000174	10.23%
Al 308.215†	45407.6	39.33	mg/L	0.107	39.33	mg/L	0.107	0.27%
As 188.979†	-44.6	0.04236	mg/L	0.001766	0.04236	mg/L	0.001766	4.17%
B 249.677†	293.4	0.04739	mg/L	0.000927	0.04739	mg/L	0.000927	1.96%
Ba 233.527†	4046.1	0.9022	mg/L	0.00215	0.9022	mg/L	0.00215	0.24%
Be 313.042†	2071.6	0.00376	mg/L	0.000025	0.00376	mg/L	0.000025	0.67%
Ca 317.933†	909422.1	105.3	mg/L	0.53	105.3	mg/L	0.53	0.50%
Cd 228.802†	2175.5	0.08062	mg/L	0.000412	0.08062	mg/L	0.000412	0.51%
Co 228.616†	2870.1	0.06657	mg/L	0.000033	0.06657	mg/L	0.000033	0.05%
Cr 267.716†	219.9	0.03925	mg/L	0.001553	0.03925	mg/L	0.001553	3.96%
Cu 324.752†	88532.0	0.3247	mg/L	0.00161	0.3247	mg/L	0.00161	0.49%
Fe 273.955†	92373.8	86.11	mg/L	0.952	86.11	mg/L	0.952	1.11%
K 766.490†	11894.0	5.304	mg/L	0.0066	5.304	mg/L	0.0066	0.12%
Mg 279.077†	15703.3	17.84	mg/L	0.073	17.84	mg/L	0.073	0.41%
Mn 257.610†	58723.6	1.527	mg/L	0.0142	1.527	mg/L	0.0142	0.93%
Mo 202.031†	89.2	0.00363	mg/L	0.000220	0.00363	mg/L	0.000220	6.06%
Na 589.592†	23733.3	1.711	mg/L	0.0031	1.711	mg/L	0.0031	0.18%
Na 330.237†	244.2	1.054	mg/L	0.2644	1.054	mg/L	0.2644	25.07%
Ni 231.604†	270.0	0.07174	mg/L	0.000461	0.07174	mg/L	0.000461	0.64%
Pb 220.353†	11550.6	1.421	mg/L	0.0030	1.421	mg/L	0.0030	0.21%
Sb 206.836†	6.8	0.00525	mg/L	0.004266	0.00525	mg/L	0.004266	81.32%
Se 196.026†	26.0	0.01251	mg/L	0.001562	0.01251	mg/L	0.001562	12.48%
Si 288.158†	46256.4	31.92	mg/L	0.135	31.92	mg/L	0.135	0.42%
Sn 189.927†	-57.8	-0.00157	mg/L	0.001968	-0.00157	mg/L	0.001968	125.60%
Sr 421.552†	282067.9	0.3177	mg/L	0.00119	0.3177	mg/L	0.00119	0.38%
Ti 334.903†	47216.5	2.432	mg/L	0.0136	2.432	mg/L	0.0136	0.56%
Tl 190.801†	18.0	0.01770	mg/L	0.002700	0.01770	mg/L	0.002700	15.25%
V 292.402†	61164.2	0.4229	mg/L	0.00283	0.4229	mg/L	0.00283	0.67%
Zn 206.200†	111446.9	30.99	mg/L	0.209	30.99	mg/L	0.209	0.67%

Sequence No.: 12
Sample ID: XQ29 ADUP WMN

Autosampler Location: 308
Date Collected: 12/16/2013 9:39:32 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: XQ29 ADUP WMN

Analyte Back Pressure Flow
All 210.0 kPa 0.75 L/min

Mean Data: XQ29 ADUP WMN

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2787693.8	100.9 %	0.35			0.34%
ScR 361.383	281188.4	103.1 %	0.81			0.79%
Ag 328.068†	-168.5	-0.00044 mg/L	0.000210	-0.00044 mg/L	0.000210	48.19%
Al 308.215†	23381.7	20.25 mg/L	0.058	20.25 mg/L	0.058	0.29%
As 188.979†	-3.5	0.04570 mg/L	0.002882	0.04570 mg/L	0.002882	6.31%
B 249.677†	148.7	0.02397 mg/L	0.001162	0.02397 mg/L	0.001162	4.85%
Ba 233.527†	2469.1	0.5489 mg/L	0.00513	0.5489 mg/L	0.00513	0.93%
Be 313.042†	1182.4	0.00214 mg/L	0.000034	0.00214 mg/L	0.000034	1.58%
Ca 317.933†	334190.2	38.71 mg/L	0.225	38.71 mg/L	0.225	0.58%
Cd 228.802†	1861.0	0.06897 mg/L	0.000154	0.06897 mg/L	0.000154	0.22%
Co 228.616†	2532.9	0.05976 mg/L	0.000203	0.05976 mg/L	0.000203	0.34%
Cr 267.716†	117.5	0.02182 mg/L	0.000741	0.02182 mg/L	0.000741	3.40%
Cu 324.752†	61561.5	0.2260 mg/L	0.00061	0.2260 mg/L	0.00061	0.27%
Fe 273.955†	66741.1	62.21 mg/L	0.278	62.21 mg/L	0.278	0.45%
K 766.490†	6870.1	3.064 mg/L	0.0081	3.064 mg/L	0.0081	0.26%
Mg 279.077†	9068.3	10.30 mg/L	0.097	10.30 mg/L	0.097	0.94%
Mn 257.610†	29581.3	0.7694 mg/L	0.00253	0.7694 mg/L	0.00253	0.33%
Mo 202.031†	82.8	0.00414 mg/L	0.000189	0.00414 mg/L	0.000189	4.57%
Na 589.592†	19641.7	1.416 mg/L	0.0073	1.416 mg/L	0.0073	0.52%
Na 330.237†	392.3	1.240 mg/L	0.2324	1.240 mg/L	0.2324	18.74%
Ni 231.604†	245.3	0.06519 mg/L	0.001253	0.06519 mg/L	0.001253	1.92%
Pb 220.353†	13258.5	1.627 mg/L	0.0037	1.627 mg/L	0.0037	0.23%
Sb 206.836†	7.1	0.00437 mg/L	0.002798	0.00437 mg/L	0.002798	64.07%
Se 196.026†	16.8	0.00969 mg/L	0.001620	0.00969 mg/L	0.001620	16.71%
Si 288.158†	30243.6	20.87 mg/L	0.058	20.87 mg/L	0.058	0.28%
Sn 189.927†	-22.3	-0.00071 mg/L	0.000726	-0.00071 mg/L	0.000726	101.77%
Sr 421.552†	140184.1	0.1579 mg/L	0.00048	0.1579 mg/L	0.00048	0.30%
Ti 334.903†	30498.2	1.573 mg/L	0.0061	1.573 mg/L	0.0061	0.39%
Tl 190.801†	7.4	0.00998 mg/L	0.002215	0.00998 mg/L	0.002215	22.19%
V 292.402†	38948.9	0.2688 mg/L	0.00095	0.2688 mg/L	0.00095	0.35%
Zn 206.200†	176499.1	49.08 mg/L	0.215	49.08 mg/L	0.215	0.44%

Sequence No.: 14
Sample ID: XQ29 ASPK WMN

Autosampler Location: 310
Date Collected: 12/16/2013 9:47:32 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: XQ29 ASPK WMN

Analyte Back Pressure Flow
All 210.0 kPa 0.75 L/min

Mean Data: XQ29 ASPK WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2780144.4	100.7	%	0.34				0.34%
ScR 361.383	278800.5	102.2	%	0.50				0.49%
Ag 328.068†	109941.2	0.5112	mg/L	0.00075	0.5112	mg/L	0.00075	0.15%
Al 308.215†	30886.3	26.75	mg/L	0.110	26.75	mg/L	0.110	0.41%
As 188.979†	3375.1	2.223	mg/L	0.0081	2.223	mg/L	0.0081	0.36%
B 249.677†	426.0	0.06779	mg/L	0.001303	0.06779	mg/L	0.001303	1.92%
Ba 233.527†	12055.0	2.715	mg/L	0.0193	2.715	mg/L	0.0193	0.71%
Be 313.042†	258996.2	0.4859	mg/L	0.00148	0.4859	mg/L	0.00148	0.30%
Ca 317.933†	428853.3	49.68	mg/L	0.215	49.68	mg/L	0.215	0.43%
Cd 228.802†	17182.2	0.6297	mg/L	0.00269	0.6297	mg/L	0.00269	0.43%
Co 228.616†	23734.2	0.5827	mg/L	0.00203	0.5827	mg/L	0.00203	0.35%
Cr 267.716†	3219.0	0.5448	mg/L	0.00175	0.5448	mg/L	0.00175	0.32%
Cu 324.752†	208037.1	0.7578	mg/L	0.00224	0.7578	mg/L	0.00224	0.30%
Fe 273.955†	83104.4	77.46	mg/L	0.191	77.46	mg/L	0.191	0.25%
K 766.490†	30396.0	13.55	mg/L	0.055	13.55	mg/L	0.055	0.40%
Mg 279.077†	19301.1	21.96	mg/L	0.064	21.96	mg/L	0.064	0.29%
Mn 257.610†	51365.3	1.336	mg/L	0.0022	1.336	mg/L	0.0022	0.17%
Mo 202.031†	89.1	0.00432	mg/L	0.000178	0.00432	mg/L	0.000178	4.11%
Na 589.592†	230646.2	16.63	mg/L	0.039	16.63	mg/L	0.039	0.23%
Na 330.237†	822.2	17.76	mg/L	0.190	17.76	mg/L	0.190	1.07%
Ni 231.604†	2109.4	0.5597	mg/L	0.00214	0.5597	mg/L	0.00214	0.38%
Pb 220.353†	30209.3	3.706	mg/L	0.0156	3.706	mg/L	0.0156	0.42%
Sb 206.836†	22.1	0.00449	mg/L	0.002713	0.00449	mg/L	0.002713	60.40%
Se 196.026†	3389.6	2.415	mg/L	0.0145	2.415	mg/L	0.0145	0.60%
Si 288.158†	39329.8	27.14	mg/L	0.077	27.14	mg/L	0.077	0.28%
Sn 189.927†	-35.0	-0.00278	mg/L	0.000394	-0.00278	mg/L	0.000394	14.19%
Sr 421.552†	598297.7	0.6739	mg/L	0.00219	0.6739	mg/L	0.00219	0.33%
Ti 334.903†	34371.0	1.772	mg/L	0.0080	1.772	mg/L	0.0080	0.45%
Tl 190.801†	4058.4	2.072	mg/L	0.0001	2.072	mg/L	0.0001	0.01%
V 292.402†	117551.5	0.8212	mg/L	0.00156	0.8212	mg/L	0.00156	0.19%
Zn 206.200†	187090.0	52.02	mg/L	0.312	52.02	mg/L	0.312	0.60%

Sequence No.: 16
Sample ID: CV 2

Autosampler Location: 7
Date Collected: 12/16/2013 9:55:35 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte Back Pressure Flow
All 210.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2722937.1	98.58	%	0.340			0.34%
ScR 361.383	268451.1	98.45	%	0.646			0.66%
Ag 328.068†	232446.5	1.080	mg/L	0.0105	1.080 mg/L	0.0105	0.97%
Al 308.215†	2432.6	2.074	mg/L	0.0092	2.074 mg/L	0.0092	0.44%
As 188.979†	3158.0	2.059	mg/L	0.0135	2.059 mg/L	0.0135	0.66%
B 249.677†	6308.4	1.021	mg/L	0.0052	1.021 mg/L	0.0052	0.51%
Ba 233.527†	4570.7	1.034	mg/L	0.0019	1.034 mg/L	0.0019	0.19%
Be 313.042†	528543.8	0.9918	mg/L	0.00401	0.9918 mg/L	0.00401	0.40%
Ca 317.933†	18543.9	2.148	mg/L	0.0068	2.148 mg/L	0.0068	0.32%
Cd 228.802†	27955.9	1.034	mg/L	0.0118	1.034 mg/L	0.0118	1.15%
Co 228.616†	40925.6	1.009	mg/L	0.0113	1.009 mg/L	0.0113	1.12%
Cr 267.716†	6222.4	1.049	mg/L	0.0049	1.049 mg/L	0.0049	0.47%
Cu 324.752†	282410.5	1.024	mg/L	0.0025	1.024 mg/L	0.0025	0.25%
Fe 273.955†	2283.9	2.123	mg/L	0.0011	2.123 mg/L	0.0011	0.05%
K 766.490†	45979.0	20.50	mg/L	0.064	20.50 mg/L	0.064	0.31%
Mg 279.077†	1794.8	2.053	mg/L	0.0057	2.053 mg/L	0.0057	0.28%
Mn 257.610†	37743.4	0.9820	mg/L	0.00333	0.9820 mg/L	0.00333	0.34%
Mo 202.031†	17858.5	1.002	mg/L	0.0133	1.002 mg/L	0.0133	1.33%
Na 589.592†	700143.5	50.47	mg/L	0.025	50.47 mg/L	0.025	0.05%
Na 330.237†	1303.8	52.66	mg/L	0.418	52.66 mg/L	0.418	0.79%
Ni 231.604†	3889.2	1.034	mg/L	0.0051	1.034 mg/L	0.0051	0.50%
Pb 220.353†	16572.5	2.032	mg/L	0.0301	2.032 mg/L	0.0301	1.48%
Sb 206.836†	6528.6	2.149	mg/L	0.0142	2.149 mg/L	0.0142	0.66%
Se 196.026†	2851.2	2.033	mg/L	0.0133	2.033 mg/L	0.0133	0.65%
Si 288.158†	3108.8	2.150	mg/L	0.0070	2.150 mg/L	0.0070	0.32%
Sn 189.927†	3454.3	1.017	mg/L	0.0094	1.017 mg/L	0.0094	0.93%
Sr 421.552†	897983.2	1.011	mg/L	0.0012	1.011 mg/L	0.0012	0.12%
Ti 334.903†	19729.5	1.018	mg/L	0.0011	1.018 mg/L	0.0011	0.11%
Tl 190.801†	4146.2	2.106	mg/L	0.0099	2.106 mg/L	0.0099	0.47%
V 292.402†	145848.9	1.027	mg/L	0.0116	1.027 mg/L	0.0116	1.13%
Zn 206.200†	3683.5	1.024	mg/L	0.0020	1.024 mg/L	0.0020	0.20%

Sequence No.: 18
Sample ID: XQ82 MB TWC

Autosampler Location: 312
Date Collected: 12/16/2013 10:03:55 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: XQ82 MB TWC

Analyte Back Pressure Flow
All 210.0 kPa 0.75 L/min

Mean Data: XQ82 MB TWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2780593.6	100.7	%	0.52				0.51%
ScR 361.383	275205.4	100.9	%	0.12				0.12%
Ag 328.068†	-5.3	-0.00002	mg/L	0.000160	-0.00002	mg/L	0.000160	655.21%
Al 308.215†	-6.2	-0.00537	mg/L	0.003305	-0.00537	mg/L	0.003305	61.53%
As 188.979†	0.9	0.00059	mg/L	0.002908	0.00059	mg/L	0.002908	492.57%
B 249.677†	2.9	0.00047	mg/L	0.001553	0.00047	mg/L	0.001553	327.05%
Ba 233.527†	0.4	0.00010	mg/L	0.000575	0.00010	mg/L	0.000575	603.77%
Be 313.042†	0.7	0.00000	mg/L	0.000013	0.00000	mg/L	0.000013	>999.9%
Ca 317.933†	16.4	0.00190	mg/L	0.000660	0.00190	mg/L	0.000660	34.81%
Cd 228.802†	2.0	0.00007	mg/L	0.000076	0.00007	mg/L	0.000076	108.01%
Co 228.616†	-6.7	-0.00017	mg/L	0.000129	-0.00017	mg/L	0.000129	77.76%
Cr 267.716†	5.4	0.00091	mg/L	0.000309	0.00091	mg/L	0.000309	33.84%
Cu 324.752†	53.3	0.00019	mg/L	0.000087	0.00019	mg/L	0.000087	45.11%
Fe 273.955†	1.2	0.00116	mg/L	0.002517	0.00116	mg/L	0.002517	216.39%
K 766.490†	32.9	0.01465	mg/L	0.009143	0.01465	mg/L	0.009143	62.41%
Mg 279.077†	4.6	0.00521	mg/L	0.001834	0.00521	mg/L	0.001834	35.16%
Mn 257.610†	0.2	0.00000	mg/L	0.000068	0.00000	mg/L	0.000068	>999.9%
Mo 202.031†	1.2	0.00007	mg/L	0.000080	0.00007	mg/L	0.000080	115.58%
Na 589.592†	161.5	0.01164	mg/L	0.004727	0.01164	mg/L	0.004727	40.61%
Na 330.237†	2.8	0.1109	mg/L	0.22947	0.1109	mg/L	0.22947	206.99%
Ni 231.604†	2.9	0.00078	mg/L	0.001487	0.00078	mg/L	0.001487	190.61%
Pb 220.353†	4.2	0.00051	mg/L	0.000392	0.00051	mg/L	0.000392	76.96%
Sb 206.836†	0.7	0.00023	mg/L	0.000719	0.00023	mg/L	0.000719	314.97%
Se 196.026†	1.3	0.00093	mg/L	0.002061	0.00093	mg/L	0.002061	222.53%
Si 288.158†	5.9	0.00409	mg/L	0.004957	0.00409	mg/L	0.004957	121.28%
Sn 189.927†	1.3	0.00038	mg/L	0.000238	0.00038	mg/L	0.000238	62.55%
Sr 421.552†	22.2	0.00002	mg/L	0.000004	0.00002	mg/L	0.000004	14.93%
Ti 334.903†	-2.1	-0.00011	mg/L	0.000524	-0.00011	mg/L	0.000524	473.00%
Tl 190.801†	-4.0	-0.00203	mg/L	0.001678	-0.00203	mg/L	0.001678	82.57%
V 292.402†	-0.9	-0.00000	mg/L	0.000099	-0.00000	mg/L	0.000099	>999.9%
Zn 206.200†	11.9	0.00331	mg/L	0.000494	0.00331	mg/L	0.000494	14.90%

Sequence No.: 20
Sample ID: XQ47 ADUP LEN

Autosampler Location: 314
Date Collected: 12/16/2013 10:12:44 AM
Data Type: Original

Dilution: 5.000000X

Nebulizer Parameters: XQ47 ADUP LEN

Analyte Back Pressure Flow
All 209.0 kPa 0.75 L/min

Mean Data: XQ47 ADUP LEN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.	
ScA 357.253	2710515.8	98.13 %	0.474				0.48%
ScR 361.383	271036.4	99.40 %	0.893				0.90%
Ag 328.068†	-6.3	0.00022 mg/L	0.000188	0.00108 mg/L	0.000939	87.38%	
Al 308.215†	116.1	0.1005 mg/L	0.00525	0.5024 mg/L	0.02624	5.22%	
As 188.979†	31.8	0.01811 mg/L	0.001700	0.09053 mg/L	0.008498	9.39%	
B 249.677†	236.4	0.03830 mg/L	0.000525	0.1915 mg/L	0.00263	1.37%	
Ba 233.527†	504.9	0.1143 mg/L	0.00068	0.5717 mg/L	0.00339	0.59%	
Be 313.042†	14.3	0.00003 mg/L	0.000020	0.00013 mg/L	0.000102	76.38%	
Ca 317.933†	304374.5	35.26 mg/L	0.109	176.3 mg/L	0.55	0.31%	
Cd 228.802†	20.4	0.00065 mg/L	0.000060	0.00327 mg/L	0.000300	9.16%	
Co 228.616†	175.0	0.00430 mg/L	0.000072	0.02151 mg/L	0.000358	1.66%	
Cr 267.716†	26.6	0.00413 mg/L	0.000122	0.02064 mg/L	0.000611	2.96%	
Cu 324.752†	6451.7	0.02341 mg/L	0.000384	0.1171 mg/L	0.00192	1.64%	
Fe 273.955†	760.4	0.7089 mg/L	0.00328	3.544 mg/L	0.0164	0.46%	
K 766.490†	10980.9	4.897 mg/L	0.0053	24.48 mg/L	0.026	0.11%	
Mg 279.077†	2139.2	2.434 mg/L	0.0185	12.17 mg/L	0.093	0.76%	
Mn 257.610†	22656.3	0.5891 mg/L	0.00255	2.946 mg/L	0.0127	0.43%	
Mo 202.031†	74.8	0.00374 mg/L	0.000169	0.01868 mg/L	0.000846	4.53%	
Na 589.592†	4116762.7	296.7 mg/L	2.33	1484 mg/L	11.64	0.78%	
Na 330.237†	7516.4	303.5 mg/L	1.10	1518 mg/L	5.48	0.36%	
Ni 231.604†	44.4	0.01179 mg/L	0.000600	0.05897 mg/L	0.003002	5.09%	
Pb 220.353†	453.7	0.05557 mg/L	0.001599	0.2779 mg/L	0.00799	2.88%	
Sb 206.836†	14.7	0.00467 mg/L	0.000445	0.02337 mg/L	0.002226	9.53%	
Se 196.026†	2.6	-0.00009 mg/L	0.002325	-0.00046 mg/L	0.011627	>999.9%	
Si 288.158†	1667.5	1.151 mg/L	0.0321	5.754 mg/L	0.1604	2.79%	
Sn 189.927†	-45.4	-0.00837 mg/L	0.001541	-0.04184 mg/L	0.007706	18.42%	
Sr 421.552†	307099.2	0.3459 mg/L	0.00073	1.730 mg/L	0.0036	0.21%	
Ti 334.903†	96.1	0.00255 mg/L	0.000803	0.01275 mg/L	0.004017	31.52%	
Tl 190.801†	20.4	0.01048 mg/L	0.001428	0.05239 mg/L	0.007140	13.63%	
V 292.402†	110.3	0.00084 mg/L	0.000178	0.00419 mg/L	0.000891	21.24%	
Zn 206.200†	2407.1	0.6688 mg/L	0.00570	3.344 mg/L	0.0285	0.85%	

Sequence No.: 22
Sample ID: XQ47 ASPK LEN

Autosampler Location: 316
Date Collected: 12/16/2013 10:21:19 AM
Data Type: Original

Dilution: 5.000000X

Nebulizer Parameters: XQ47 ASPK LEN

Analyte Back Pressure Flow
All 210.0 kPa 0.75 L/min

Mean Data: XQ47 ASPK LEN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2683268.5	97.15	%	0.550			0.57%
ScR 361.383	270462.1	99.19	%	0.372			0.38%
Ag 328.068†	45812.3	0.2131	mg/L	0.00124	1.066	mg/L	0.0062 0.58%
Al 308.215†	1056.2	0.9120	mg/L	0.00284	4.560	mg/L	0.0142 0.31%
As 188.979†	1341.7	0.8599	mg/L	0.00716	4.300	mg/L	0.0358 0.83%
B 249.677†	233.7	0.03742	mg/L	0.000564	0.1871	mg/L	0.00282 1.51%
Ba 233.527†	4097.6	0.9270	mg/L	0.00184	4.635	mg/L	0.0092 0.20%
Be 313.042†	98177.8	0.1842	mg/L	0.00086	0.9211	mg/L	0.00430 0.47%
Ca 317.933†	335226.1	38.83	mg/L	0.067	194.2	mg/L	0.33 0.17%
Cd 228.802†	5970.5	0.2185	mg/L	0.00162	1.092	mg/L	0.0081 0.74%
Co 228.616†	8409.8	0.2075	mg/L	0.00175	1.038	mg/L	0.0087 0.84%
Cr 267.716†	1232.4	0.2072	mg/L	0.00081	1.036	mg/L	0.0040 0.39%
Cu 324.752†	65489.4	0.2375	mg/L	0.00225	1.188	mg/L	0.0112 0.95%
Fe 273.955†	1611.5	1.501	mg/L	0.0089	7.505	mg/L	0.0444 0.59%
K 766.490†	20330.8	9.066	mg/L	0.0038	45.33	mg/L	0.019 0.04%
Mg 279.077†	5685.1	6.478	mg/L	0.0080	32.39	mg/L	0.040 0.12%
Mn 257.610†	29850.5	0.7763	mg/L	0.00186	3.882	mg/L	0.0093 0.24%
Mo 202.031†	78.9	0.00391	mg/L	0.000095	0.01953	mg/L	0.000477 2.44%
Na 589.592†	4111587.9	296.4	mg/L	1.39	1482	mg/L	6.97 0.47%
Na 330.237†	7762.6	313.4	mg/L	0.81	1567	mg/L	4.03 0.26%
Ni 231.604†	801.2	0.2126	mg/L	0.00061	1.063	mg/L	0.0030 0.28%
Pb 220.353†	7257.5	0.8898	mg/L	0.00826	4.449	mg/L	0.0413 0.93%
Sb 206.836†	21.1	0.00479	mg/L	0.001733	0.02395	mg/L	0.008667 36.18%
Se 196.026†	1193.8	0.8494	mg/L	0.00863	4.247	mg/L	0.0432 1.02%
Si 288.158†	1711.5	1.183	mg/L	0.0248	5.914	mg/L	0.1239 2.09%
Sn 189.927†	-50.0	-0.00919	mg/L	0.001050	-0.04595	mg/L	0.005249 11.42%
Sr 421.552†	482529.2	0.5435	mg/L	0.00092	2.718	mg/L	0.0046 0.17%
Ti 334.903†	83.3	0.00160	mg/L	0.000370	0.00802	mg/L	0.001850 23.06%
Tl 190.801†	1610.9	0.8196	mg/L	0.00305	4.098	mg/L	0.0152 0.37%
V 292.402†	28842.3	0.2031	mg/L	0.00172	1.016	mg/L	0.0086 0.85%
Zn 206.200†	3072.9	0.8539	mg/L	0.00493	4.270	mg/L	0.0246 0.58%

Sequence No.: 24
Sample ID: XQ82 A TWC

Autosampler Location: 318
Date Collected: 12/16/2013 10:29:55 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: XQ82 A TWC

Analyte Back Pressure Flow
All 211.0 kPa 0.75 L/min

Mean Data: XQ82 A TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2728002.7	98.77	%	0.106				0.11%
ScR 361.383	270513.9	99.20	%	0.304				0.31%
Ag 328.068†	-53.9	-0.00015	mg/L	0.000083	-0.00015	mg/L	0.000083	56.16%
Al 308.215†	34.0	0.02935	mg/L	0.005130	0.02935	mg/L	0.005130	17.48%
As 188.979†	14.9	0.00856	mg/L	0.000713	0.00856	mg/L	0.000713	8.33%
B 249.677†	14116.5	2.287	mg/L	0.0142	2.287	mg/L	0.0142	0.62%
Ba 233.527†	10.2	0.00238	mg/L	0.000859	0.00238	mg/L	0.000859	36.10%
Be 313.042†	20.6	0.00004	mg/L	0.000024	0.00004	mg/L	0.000024	63.14%
Ca 317.933†	128263.7	14.86	mg/L	0.056	14.86	mg/L	0.056	0.38%
Cd 228.802†	2.5	0.00004	mg/L	0.000017	0.00004	mg/L	0.000017	38.89%
Co 228.616†	7.5	0.00018	mg/L	0.000035	0.00018	mg/L	0.000035	18.99%
Cr 267.716†	2.1	0.00014	mg/L	0.000325	0.00014	mg/L	0.000325	233.75%
Cu 324.752†	17734.4	0.06429	mg/L	0.000263	0.06429	mg/L	0.000263	0.41%
Fe 273.955†	60.6	0.05646	mg/L	0.002166	0.05646	mg/L	0.002166	3.84%
K 766.490†	18472.3	8.237	mg/L	0.0612	8.237	mg/L	0.0612	0.74%
Mg 279.077†	1626.9	1.853	mg/L	0.0076	1.853	mg/L	0.0076	0.41%
Mn 257.610†	61.0	0.00152	mg/L	0.000082	0.00152	mg/L	0.000082	5.35%
Mo 202.031†	101.5	0.00550	mg/L	0.000562	0.00550	mg/L	0.000562	10.22%
Na 589.592†	1793793.5	129.3	mg/L	0.33	129.3	mg/L	0.33	0.26%
Na 330.237†	3277.0	132.4	mg/L	1.22	132.4	mg/L	1.22	0.92%
Ni 231.604†	5.4	0.00144	mg/L	0.001033	0.00144	mg/L	0.001033	71.93%
Pb 220.353†	6.3	0.00069	mg/L	0.000519	0.00069	mg/L	0.000519	75.60%
Sb 206.836†	4.9	0.00154	mg/L	0.000398	0.00154	mg/L	0.000398	25.79%
Se 196.026†	2.0	0.00064	mg/L	0.001729	0.00064	mg/L	0.001729	269.85%
Si 288.158†	3040.3	2.098	mg/L	0.0049	2.098	mg/L	0.0049	0.24%
Sn 189.927†	-22.8	-0.00461	mg/L	0.001379	-0.00461	mg/L	0.001379	29.89%
Sr 421.552†	173817.0	0.1958	mg/L	0.00064	0.1958	mg/L	0.00064	0.33%
Ti 334.903†	25.7	0.00030	mg/L	0.000246	0.00030	mg/L	0.000246	80.92%
Tl 190.801†	4.4	0.00226	mg/L	0.001398	0.00226	mg/L	0.001398	61.92%
V 292.402†	55.6	0.00039	mg/L	0.000055	0.00039	mg/L	0.000055	14.05%
Zn 206.200†	40.8	0.01143	mg/L	0.000330	0.01143	mg/L	0.000330	2.89%

Sequence No.: 26
 Sample ID: XQ82 MBSPK TWC

Autosampler Location: 320
 Date Collected: 12/16/2013 10:38:30 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: XQ82 MBSPK TWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: XQ82 MBSPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2758115.7	99.86 %	0.589			0.59%
ScR 361.383	272076.8	99.78 %	0.369			0.37%
Ag 328.068†	112328.3	0.5220 mg/L	0.00331	0.5220 mg/L	0.00331	0.63%
Al 308.215†	2401.8	2.073 mg/L	0.0192	2.073 mg/L	0.0192	0.92%
As 188.979†	3160.6	2.031 mg/L	0.0120	2.031 mg/L	0.0120	0.59%
B 249.677†	48.4	0.00679 mg/L	0.000938	0.00679 mg/L	0.000938	13.81%
Ba 233.527†	9092.1	2.057 mg/L	0.0207	2.057 mg/L	0.0207	1.01%
Be 313.042†	244076.2	0.4580 mg/L	0.00143	0.4580 mg/L	0.00143	0.31%
Ca 317.933†	87787.4	10.17 mg/L	0.031	10.17 mg/L	0.031	0.31%
Cd 228.802†	13905.5	0.5088 mg/L	0.00227	0.5088 mg/L	0.00227	0.45%
Co 228.616†	20046.0	0.4947 mg/L	0.00091	0.4947 mg/L	0.00091	0.18%
Cr 267.716†	3102.3	0.5226 mg/L	0.00459	0.5226 mg/L	0.00459	0.88%
Cu 324.752†	139839.1	0.5072 mg/L	0.00088	0.5072 mg/L	0.00088	0.17%
Fe 273.955†	2241.4	2.086 mg/L	0.0108	2.086 mg/L	0.0108	0.52%
K 766.490†	22973.4	10.24 mg/L	0.050	10.24 mg/L	0.050	0.49%
Mg 279.077†	9287.9	10.59 mg/L	0.082	10.59 mg/L	0.082	0.78%
Mn 257.610†	18738.1	0.4876 mg/L	0.00133	0.4876 mg/L	0.00133	0.27%
Mo 202.031†	29.6	0.00150 mg/L	0.000330	0.00150 mg/L	0.000330	21.95%
Na 589.592†	140630.3	10.14 mg/L	0.049	10.14 mg/L	0.049	0.48%
Na 330.237†	268.7	10.70 mg/L	0.365	10.70 mg/L	0.365	3.41%
Ni 231.604†	1934.0	0.5131 mg/L	0.00412	0.5131 mg/L	0.00412	0.80%
Pb 220.353†	16503.4	2.024 mg/L	0.0036	2.024 mg/L	0.0036	0.18%
Sb 206.836†	16.0	0.00010 mg/L	0.000505	0.00010 mg/L	0.000505	529.62%
Se 196.026†	2795.0	1.993 mg/L	0.0094	1.993 mg/L	0.0094	0.47%
Si 288.158†	7.5	0.00903 mg/L	0.006773	0.00903 mg/L	0.006773	75.03%
Sn 189.927†	-16.2	-0.00325 mg/L	0.000881	-0.00325 mg/L	0.000881	27.10%
Sr 421.552†	442496.0	0.4984 mg/L	0.00207	0.4984 mg/L	0.00207	0.42%
Ti 334.903†	22.4	0.00036 mg/L	0.000329	0.00036 mg/L	0.000329	91.18%
Tl 190.801†	3955.4	2.012 mg/L	0.0085	2.012 mg/L	0.0085	0.42%
V 292.402†	71830.9	0.5058 mg/L	0.00090	0.5058 mg/L	0.00090	0.18%
Zn 206.200†	1829.9	0.5087 mg/L	0.00305	0.5087 mg/L	0.00305	0.60%

Sequence No.: 28
 Sample ID: CB 3

Autosampler Location: 1
 Date Collected: 12/16/2013 10:46:36 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 209.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2751312.6	99.61	%	0.402				0.40%
ScR 361.383	275380.3	101.0	%	0.22				0.22%
Ag 328.068†	40.0	0.00019	mg/L	0.000179	0.00019	mg/L	0.000179	96.36%
Al 308.215†	-1.3	-0.00113	mg/L	0.001360	-0.00113	mg/L	0.001360	119.89%
As 188.979†	-0.8	-0.00051	mg/L	0.002941	-0.00051	mg/L	0.002941	576.50%
B 249.677†	23.4	0.00379	mg/L	0.000971	0.00379	mg/L	0.000971	25.64%
Ba 233.527†	1.5	0.00034	mg/L	0.000508	0.00034	mg/L	0.000508	151.43%
Be 313.042†	31.2	0.00006	mg/L	0.000027	0.00006	mg/L	0.000027	45.98%
Ca 317.933†	3.5	0.00040	mg/L	0.000270	0.00040	mg/L	0.000270	67.25%
Cd 228.802†	5.9	0.00022	mg/L	0.000058	0.00022	mg/L	0.000058	26.21%
Co 228.616†	-0.9	-0.00002	mg/L	0.000178	-0.00002	mg/L	0.000178	767.54%
Cr 267.716†	-0.6	-0.00010	mg/L	0.000296	-0.00010	mg/L	0.000296	282.38%
Cu 324.752†	33.9	0.00012	mg/L	0.000213	0.00012	mg/L	0.000213	173.27%
Fe 273.955†	2.0	0.00187	mg/L	0.000715	0.00187	mg/L	0.000715	38.33%
K 766.490†	-0.8	-0.00037	mg/L	0.011949	-0.00037	mg/L	0.011949	>999.9%
Mg 279.077†	3.1	0.00350	mg/L	0.004659	0.00350	mg/L	0.004659	133.00%
Mn 257.610†	0.1	0.00000	mg/L	0.000064	0.00000	mg/L	0.000064	>999.9%
Mo 202.031†	1.9	0.00011	mg/L	0.000243	0.00011	mg/L	0.000243	226.04%
Na 589.592†	320.6	0.02311	mg/L	0.005549	0.02311	mg/L	0.005549	24.01%
Na 330.237†	-8.0	-0.3244	mg/L	0.47312	-0.3244	mg/L	0.47312	145.87%
Ni 231.604†	3.8	0.00102	mg/L	0.001629	0.00102	mg/L	0.001629	160.43%
Pb 220.353†	6.4	0.00079	mg/L	0.000320	0.00079	mg/L	0.000320	40.58%
Sb 206.836†	10.1	0.00334	mg/L	0.001740	0.00334	mg/L	0.001740	52.14%
Se 196.026†	-0.2	-0.00012	mg/L	0.001838	-0.00012	mg/L	0.001838	>999.9%
Si 288.158†	-0.3	-0.00019	mg/L	0.004646	-0.00019	mg/L	0.004646	>999.9%
Sn 189.927†	3.3	0.00097	mg/L	0.000563	0.00097	mg/L	0.000563	58.31%
Sr 421.552†	90.1	0.00010	mg/L	0.000033	0.00010	mg/L	0.000033	32.59%
Ti 334.903†	11.3	0.00058	mg/L	0.000152	0.00058	mg/L	0.000152	25.95%
Tl 190.801†	-0.2	-0.00012	mg/L	0.002846	-0.00012	mg/L	0.002846	>999.9%
V 292.402†	-6.7	-0.00005	mg/L	0.000265	-0.00005	mg/L	0.000265	555.68%
Zn 206.200†	-1.2	-0.00035	mg/L	0.000130	-0.00035	mg/L	0.000130	37.53%

Sequence No.: 30
 Sample ID: XQ85 A TWC
 Dilution: 1.000000X

Del

Autosampler Location: 322
 Date Collected: 12/16/2013 10:55:08 AM
 Data Type: Original

Nebulizer Parameters: XQ85 A TWC
 Analyte Back Pressure Flow
 All 209.0 kPa 0.75 L/min

Mean Data: XQ85 A TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2157093.3	78.10 %	0.394			0.51%
ScR 361.383	236446.5	86.71 %	1.236			1.43%
Ag 328.068†	-542.0	0.00043 mg/L	0.000265	0.00043 mg/L	0.000265	62.00%
Al 308.215†	3393.8	2.940 mg/L	0.0250	2.940 mg/L	0.0250	0.85%
As 188.979†	102.0	0.04217 mg/L	0.002584	0.04217 mg/L	0.002584	6.13%
B 249.677†	16414.4	2.659 mg/L	0.0261	2.659 mg/L	0.0261	0.98%
Ba 233.527†	737.9	0.1690 mg/L	0.00134	0.1690 mg/L	0.00134	0.79%
Be 313.042†	106.6	0.00020 mg/L	0.000024	0.00020 mg/L	0.000024	12.41%
Ca 317.933†	3668679.4	425.0 mg/L	4.45	425.0 mg/L	4.45	1.05%
Cd 228.802†	27.2	0.00063 mg/L	0.000229	0.00063 mg/L	0.000229	36.22%
Co 228.616†	142.5	0.00315 mg/L	0.000140	0.00315 mg/L	0.000140	4.45%
Cr 267.716†	514.1	0.02124 mg/L	0.001067	0.02124 mg/L	0.001067	5.02%
Cu 324.752†	4781.4	0.01147 mg/L	0.000414	0.01147 mg/L	0.000414	3.61%
Fe 273.955†	3566.4	3.325 mg/L	0.0252	3.325 mg/L	0.0252	0.76%
K 766.490†	681153.4	303.7 mg/L	1.43	303.7 mg/L	1.43	0.47%
Mg 279.077†	810798.7	924.5 mg/L	1.45	924.5 mg/L	1.45	0.16%
Mn 257.610†	5905.6	0.1499 mg/L	0.00140	0.1499 mg/L	0.00140	0.94%
Mo 202.031†	395.6	0.01663 mg/L	0.000528	0.01663 mg/L	0.000528	3.18%
Na 589.592†	Saturated3					
Na 330.237†	199115.6	8046 mg/L	22.78	8046 mg/L	22.78	0.28%
Ni 231.604†	37.0	0.00982 mg/L	0.000564	0.00982 mg/L	0.000564	5.75%
Pb 220.353†	-26.5	-0.00255 mg/L	0.001302	-0.00255 mg/L	0.001302	51.09%
Sb 206.836†	32.1	0.00921 mg/L	0.004180	0.00921 mg/L	0.004180	45.36%
Se 196.026†	47.6	0.01086 mg/L	0.005886	0.01086 mg/L	0.005886	54.20%
Si 288.158†	15034.4	10.51 mg/L	0.334	10.51 mg/L	0.334	3.18%
Sn 189.927†	-144.2	0.01762 mg/L	0.003073	0.01762 mg/L	0.003073	17.44%
Sr 421.552†	5166484.4	5.819 mg/L	0.0709	5.819 mg/L	0.0709	1.22%
Ti 334.903†	4078.5	0.1816 mg/L	0.00141	0.1816 mg/L	0.00141	0.77%
Tl 190.801†	34.2	0.01781 mg/L	0.002596	0.01781 mg/L	0.002596	14.57%
V 292.402†	1254.2	0.00886 mg/L	0.000079	0.00886 mg/L	0.000079	0.90%
Zn 206.200†	32.9	0.00332 mg/L	0.000205	0.00332 mg/L	0.000205	6.18%

Sequence No.: 32
 Sample ID: XQ85 C TWC
 Dilution: 1.000000X

D21

Autosampler Location: 324
 Date Collected: 12/16/2013 11:03:58 AM
 Data Type: Original

Nebulizer Parameters: XQ85 C TWC

Analyte Back Pressure Flow
 All 210.0 kPa 0.75 L/min

Mean Data: XQ85 C TWC

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2327045.7	84.25 %	0.664			0.79%
ScR 361.383	247119.6	90.62 %	0.614			0.68%
Ag 328.068†	-486.9	0.00032 mg/L	0.000135	0.00032 mg/L	0.000135	42.24%
Al 308.215†	4797.5	4.156 mg/L	0.0383	4.156 mg/L	0.0383	0.92%
As 188.979†	91.9	0.04000 mg/L	0.003873	0.04000 mg/L	0.003873	9.68%
B 249.677†	14761.6	2.392 mg/L	0.0312	2.392 mg/L	0.0312	1.30%
Ba 233.527†	4872.0	1.103 mg/L	0.0116	1.103 mg/L	0.0116	1.05%
Be 313.042†	65.0	0.00012 mg/L	0.000029	0.00012 mg/L	0.000029	24.39%
Ca 317.933†	3215354.2	372.4 mg/L	1.27	372.4 mg/L	1.27	0.34%
Cd 228.802†	12.6	0.00008 mg/L	0.000223	0.00008 mg/L	0.000223	274.82%
Co 228.616†	112.8	0.00230 mg/L	0.000082	0.00230 mg/L	0.000082	3.58%
Cr 267.716†	469.8	0.02400 mg/L	0.000831	0.02400 mg/L	0.000831	3.46%
Cu 324.752†	3690.7	0.00866 mg/L	0.000344	0.00866 mg/L	0.000344	3.97%
Fe 273.955†	8314.0	7.750 mg/L	0.1228	7.750 mg/L	0.1228	1.58%
K 766.490†	471398.2	210.2 mg/L	0.97	210.2 mg/L	0.97	0.46%
Mg 279.077†	686030.9	782.2 mg/L	0.67	782.2 mg/L	0.67	0.09%
Mn 257.610†	228923.6	5.951 mg/L	0.0906	5.951 mg/L	0.0906	1.52%
Mo 202.031†	212.7	0.00705 mg/L	0.000526	0.00705 mg/L	0.000526	7.46%
Na 589.592†	Saturated3					
Na 330.237†	136953.7	5534 mg/L	86.63	5534 mg/L	86.63	1.57%
Ni 231.604†	49.8	0.01322 mg/L	0.002011	0.01322 mg/L	0.002011	15.21%
Pb 220.353†	-28.4	-0.00269 mg/L	0.000469	-0.00269 mg/L	0.000469	17.44%
Sb 206.836†	12.2	0.00283 mg/L	0.002855	0.00283 mg/L	0.002855	100.85%
Se 196.026†	45.3	0.01209 mg/L	0.001800	0.01209 mg/L	0.001800	14.88%
Si 288.158†	28318.6	19.65 mg/L	0.285	19.65 mg/L	0.285	1.45%
Sn 189.927†	-134.3	0.01312 mg/L	0.000599	0.01312 mg/L	0.000599	4.56%
Sr 421.552†	4835106.5	5.446 mg/L	0.0175	5.446 mg/L	0.0175	0.32%
Ti 334.903†	4415.2	0.2026 mg/L	0.00361	0.2026 mg/L	0.00361	1.78%
Tl 190.801†	28.3	0.01533 mg/L	0.002943	0.01533 mg/L	0.002943	19.20%
V 292.402†	1564.3	0.01161 mg/L	0.000120	0.01161 mg/L	0.000120	1.03%
Zn 206.200†	27.9	0.00445 mg/L	0.000947	0.00445 mg/L	0.000947	21.29%

Sequence No.: 34
 Sample ID: XQ85 MBSPK TWC

Autosampler Location: 326
 Date Collected: 12/16/2013 11:12:33 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: XQ85 MBSPK TWC

Analyte Back Pressure Flow
 All 211.0 kPa 0.75 L/min

Mean Data: XQ85 MBSPK TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2892595.4	104.7	%	0.34				0.33%
ScR 361.383	286379.0	105.0	%	0.63				0.60%
Ag 328.068†	112592.6	0.5232	mg/L	0.00165	0.5232	mg/L	0.00165	0.31%
Al 308.215†	2369.9	2.046	mg/L	0.0246	2.046	mg/L	0.0246	1.20%
As 188.979†	3190.7	2.051	mg/L	0.0072	2.051	mg/L	0.0072	0.35%
B 249.677†	42.2	0.00578	mg/L	0.000354	0.00578	mg/L	0.000354	6.12%
Ba 233.527†	9047.5	2.047	mg/L	0.0188	2.047	mg/L	0.0188	0.92%
Be 313.042†	247394.7	0.4642	mg/L	0.00025	0.4642	mg/L	0.00025	0.05%
Ca 317.933†	89589.2	10.38	mg/L	0.032	10.38	mg/L	0.032	0.31%
Cd 228.802†	14007.1	0.5125	mg/L	0.00187	0.5125	mg/L	0.00187	0.36%
Co 228.616†	20289.1	0.5007	mg/L	0.00100	0.5007	mg/L	0.00100	0.20%
Cr 267.716†	3133.6	0.5278	mg/L	0.00525	0.5278	mg/L	0.00525	1.00%
Cu 324.752†	140331.8	0.5090	mg/L	0.00193	0.5090	mg/L	0.00193	0.38%
Fe 273.955†	2276.4	2.119	mg/L	0.0220	2.119	mg/L	0.0220	1.04%
K 766.490†	23558.5	10.51	mg/L	0.090	10.51	mg/L	0.090	0.86%
Mg 279.077†	9430.9	10.75	mg/L	0.122	10.75	mg/L	0.122	1.14%
Mn 257.610†	18897.7	0.4918	mg/L	0.00143	0.4918	mg/L	0.00143	0.29%
Mo 202.031†	19.4	0.00092	mg/L	0.000007	0.00092	mg/L	0.000007	0.76%
Na 589.592†	163210.4	11.76	mg/L	0.286	11.76	mg/L	0.286	2.43%
Na 330.237†	295.6	11.79	mg/L	0.301	11.79	mg/L	0.301	2.55%
Ni 231.604†	1938.2	0.5143	mg/L	0.00706	0.5143	mg/L	0.00706	1.37%
Pb 220.353†	16694.8	2.047	mg/L	0.0029	2.047	mg/L	0.0029	0.14%
Sb 206.836†	15.3	-0.00019	mg/L	0.001488	-0.00019	mg/L	0.001488	764.09%
Se 196.026†	2812.8	2.006	mg/L	0.0038	2.006	mg/L	0.0038	0.19%
Si 288.158†	159.2	0.1137	mg/L	0.02379	0.1137	mg/L	0.02379	20.92%
Sn 189.927†	-16.8	-0.00339	mg/L	0.000491	-0.00339	mg/L	0.000491	14.49%
Sr 421.552†	444961.3	0.5012	mg/L	0.00091	0.5012	mg/L	0.00091	0.18%
Ti 334.903†	28.6	0.00066	mg/L	0.000184	0.00066	mg/L	0.000184	27.77%
Tl 190.801†	3961.4	2.015	mg/L	0.0061	2.015	mg/L	0.0061	0.30%
V 292.402†	72755.6	0.5123	mg/L	0.00190	0.5123	mg/L	0.00190	0.37%
Zn 206.200†	1851.1	0.5147	mg/L	0.00526	0.5147	mg/L	0.00526	1.02%

Sequence No.: 36
 Sample ID: XQ29 MB1SPK WMN

Autosampler Location: 328
 Date Collected: 12/16/2013 11:20:35 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: XQ29 MB1SPK WMN

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: XQ29 MB1SPK WMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2921276.2	105.8	%	0.42				0.40%
ScR 361.383	289792.5	106.3	%	0.74				0.70%
Ag 328.068†	114852.1	0.5337	mg/L	0.00545	0.5337	mg/L	0.00545	1.02%
Al 308.215†	2489.9	2.149	mg/L	0.0083	2.149	mg/L	0.0083	0.38%
As 188.979†	3535.6	2.272	mg/L	0.0097	2.272	mg/L	0.0097	0.43%
B 249.677†	30.5	0.00382	mg/L	0.000631	0.00382	mg/L	0.000631	16.53%
Ba 233.527†	9477.7	2.144	mg/L	0.0111	2.144	mg/L	0.0111	0.52%
Be 313.042†	269648.5	0.5060	mg/L	0.00309	0.5060	mg/L	0.00309	0.61%
Ca 317.933†	92248.4	10.69	mg/L	0.051	10.69	mg/L	0.051	0.48%
Cd 228.802†	15297.2	0.5595	mg/L	0.00466	0.5595	mg/L	0.00466	0.83%
Co 228.616†	21552.2	0.5319	mg/L	0.00474	0.5319	mg/L	0.00474	0.89%
Cr 267.716†	3286.5	0.5536	mg/L	0.00229	0.5536	mg/L	0.00229	0.41%
Cu 324.752†	143898.5	0.5219	mg/L	0.00441	0.5219	mg/L	0.00441	0.85%
Fe 273.955†	2386.4	2.221	mg/L	0.0145	2.221	mg/L	0.0145	0.65%
K 766.490†	24301.6	10.84	mg/L	0.037	10.84	mg/L	0.037	0.34%
Mg 279.077†	9714.2	11.08	mg/L	0.082	11.08	mg/L	0.082	0.74%
Mn 257.610†	19658.5	0.5116	mg/L	0.00385	0.5116	mg/L	0.00385	0.75%
Mo 202.031†	6.6	0.00021	mg/L	0.000104	0.00021	mg/L	0.000104	50.53%
Na 589.592†	229802.6	16.56	mg/L	0.042	16.56	mg/L	0.042	0.25%
Na 330.237†	427.2	17.09	mg/L	0.139	17.09	mg/L	0.139	0.81%
Ni 231.604†	1989.5	0.5278	mg/L	0.00491	0.5278	mg/L	0.00491	0.93%
Pb 220.353†	17722.2	2.173	mg/L	0.0137	2.173	mg/L	0.0137	0.63%
Sb 206.836†	7.0	-0.00319	mg/L	0.001241	-0.00319	mg/L	0.001241	38.87%
Se 196.026†	3526.9	2.515	mg/L	0.0052	2.515	mg/L	0.0052	0.21%
Si 288.158†	53.3	0.04093	mg/L	0.002136	0.04093	mg/L	0.002136	5.22%
Sn 189.927†	-17.6	-0.00359	mg/L	0.000117	-0.00359	mg/L	0.000117	3.24%
Sr 421.552†	458116.7	0.5160	mg/L	0.00181	0.5160	mg/L	0.00181	0.35%
Ti 334.903†	28.9	0.00066	mg/L	0.000309	0.00066	mg/L	0.000309	47.04%
Tl 190.801†	4222.0	2.148	mg/L	0.0172	2.148	mg/L	0.0172	0.80%
V 292.402†	75551.0	0.5320	mg/L	0.00557	0.5320	mg/L	0.00557	1.05%
Zn 206.200†	2007.2	0.5580	mg/L	0.00483	0.5580	mg/L	0.00483	0.86%

Sequence No.: 38

Autosampler Location: 1

Sample ID: CB 4

Date Collected: 12/16/2013 11:28:40 AM

Dilution: 1.000000X

Data Type: Original

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 212.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2867534.1	103.8	%	1.04			1.00%
ScR 361.383	283725.4	104.0	%	1.36			1.30%
Ag 328.068†	7.0	0.00003	mg/L	0.000284	0.00003 mg/L	0.000284	873.78%
Al 308.215†	-8.3	-0.00719	mg/L	0.004668	-0.00719 mg/L	0.004668	64.91%
As 188.979†	-2.2	-0.00141	mg/L	0.000980	-0.00141 mg/L	0.000980	69.61%
B 249.677†	23.6	0.00383	mg/L	0.000535	0.00383 mg/L	0.000535	13.99%
Ba 233.527†	-2.6	-0.00059	mg/L	0.000272	-0.00059 mg/L	0.000272	46.47%
Be 313.042†	-18.6	-0.00003	mg/L	0.000010	-0.00003 mg/L	0.000010	28.74%
Ca 317.933†	11.1	0.00129	mg/L	0.001393	0.00129 mg/L	0.001393	107.87%
Cd 228.802†	-4.9	-0.00017	mg/L	0.000102	-0.00017 mg/L	0.000102	58.53%
Co 228.616†	7.0	0.00017	mg/L	0.000077	0.00017 mg/L	0.000077	44.46%
Cr 267.716†	3.0	0.00051	mg/L	0.000014	0.00051 mg/L	0.000014	2.70%
Cu 324.752†	43.0	0.00016	mg/L	0.000137	0.00016 mg/L	0.000137	87.52%
Fe 273.955†	1.9	0.00179	mg/L	0.002764	0.00179 mg/L	0.002764	154.26%
K 766.490†	150.7	0.06719	mg/L	0.020926	0.06719 mg/L	0.020926	31.14%
Mg 279.077†	5.8	0.00661	mg/L	0.007386	0.00661 mg/L	0.007386	111.78%
Mn 257.610†	-6.5	-0.00017	mg/L	0.000046	-0.00017 mg/L	0.000046	27.14%
Mo 202.031†	-4.0	-0.00022	mg/L	0.000149	-0.00022 mg/L	0.000149	66.20%
Na 589.592†	6413.6	0.4623	mg/L	0.00317	0.4623 mg/L	0.00317	0.69%
Na 330.237†	7.6	0.3068	mg/L	0.20049	0.3068 mg/L	0.20049	65.34%
Ni 231.604†	2.7	0.00072	mg/L	0.001105	0.00072 mg/L	0.001105	153.13%
Pb 220.353†	6.8	0.00083	mg/L	0.000450	0.00083 mg/L	0.000450	53.95%
Sb 206.836†	2.6	0.00086	mg/L	0.000301	0.00086 mg/L	0.000301	35.15%
Se 196.026†	2.5	0.00178	mg/L	0.002593	0.00178 mg/L	0.002593	145.87%
Si 288.158†	17.4	0.01203	mg/L	0.004842	0.01203 mg/L	0.004842	40.24%
Sn 189.927†	2.1	0.00061	mg/L	0.000755	0.00061 mg/L	0.000755	124.76%
Sr 421.552†	54.8	0.00006	mg/L	0.000020	0.00006 mg/L	0.000020	32.32%
Ti 334.903†	-3.2	-0.00017	mg/L	0.000233	-0.00017 mg/L	0.000233	138.57%
Tl 190.801†	-2.0	-0.00101	mg/L	0.001079	-0.00101 mg/L	0.001079	106.35%
V 292.402†	-11.7	-0.00008	mg/L	0.000205	-0.00008 mg/L	0.000205	254.93%
Zn 206.200†	-1.3	-0.00036	mg/L	0.000782	-0.00036 mg/L	0.000782	216.99%

SAMPLE RESULTS-CONVENTIONALS
XQ29-Newfields Northwest



Matrix: Sediment
Data Release Authorized: *AZ*
Reported: 12/13/13

Project: AT/YS
Event: NA
Date Sampled: 12/04/13
Date Received: 12/05/13

Client ID: WETSED 1
ARI ID: 13-26636 XQ29A

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/06/13 120613#1	SM2540G	Percent	0.01	46.92
Acid Volatile Sulfide	12/11/13 121113#1	EPA 1991	mg/kg	104	1,570
Total Organic Carbon	12/11/13 121113#1	Plumb, 1981	Percent	0.020	5.15

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
XQ29-Newfields Northwest



Matrix: Sediment
Data Release Authorized:
Reported: 12/13/13

A handwritten signature in black ink, appearing to be 'J. J.', written over the 'Data Release Authorized' line.

Project: AT/YS
Event: NA
Date Sampled: 12/04/13
Date Received: 12/05/13

Client ID: WETSED 3
ARI ID: 13-26638 XQ29C

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/06/13 120613#1	SM2540G	Percent	0.01	38.67
Acid Volatile Sulfide	12/11/13 121113#1	EPA 1991	mg/kg	25.9	231
Total Organic Carbon	12/11/13 121113#1	Plumb, 1981	Percent	0.020	4.37

RL Analytical reporting limit
U Undetected at reported detection limit

REPLICATE RESULTS-CONVENTIONALS
XQ29-Newfields Northwest



Matrix: Sediment
Data Release Authorized:
Reported: 12/13/13

A handwritten signature in black ink, appearing to be 'JW', is written over the 'Data Release Authorized' line.

Project: AT/YS
Event: NA
Date Sampled: 12/04/13
Date Received: 12/05/13

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: XQ29A Client ID: WETSED 1					
Total Solids	12/06/13	Percent	46.92	47.05 45.32	2.1%
Acid Volatile Sulfide	12/11/13	mg/kg	1,570	1,780	12.5%
Total Organic Carbon	12/11/13	Percent	5.15	4.70 5.60	8.7%

METHOD BLANK RESULTS-CONVENTIONALS
XQ29-Newfields Northwest



Matrix: Sediment
Data Release Authorized:
Reported: 12/13/13

A handwritten signature in black ink, appearing to be 'J. J. ...', is written over the 'Data Release Authorized:' line.

Project: AT/YS
Event: NA
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	Blank	QC ID
Total Solids	12/06/13	Percent	< 0.01 U	ICB
Acid Volatile Sulfide	12/11/13	mg/kg	< 0.05 U	PREP
Total Organic Carbon	12/11/13	Percent	< 0.020 U	ICB

**Geotechnical Analysis
Report and Summary QC Forms**

ARI Job ID: XQ29

Newfields Northwest
AT/YS

Apparent Grain Size Distribution Summary
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	< -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	> 10	> 4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (<62)
WETSED 2	0.5	1.9	3.0	5.6	6.6	5.8	8.7	22.0	15.2	10.8	6.7	4.8	8.5	76.6
	0.1	1.8	2.9	5.4	6.5	5.4	9.6	20.4	16.1	11.0	6.4	5.2	9.2	78.0
	0.1	1.8	2.8	5.6	6.3	5.6	10.2	20.5	16.1	10.5	7.0	5.3	8.2	77.8
WETSED 1	1.8	3.8	10.8	20.3	15.5	6.1	4.6	8.8	8.1	6.8	5.0	3.4	5.0	41.8
WETSED 3	0.1	2.9	1.3	1.9	3.0	2.6	7.1	23.3	18.4	14.8	9.3	6.3	9.1	88.2

Notes to the Testing:

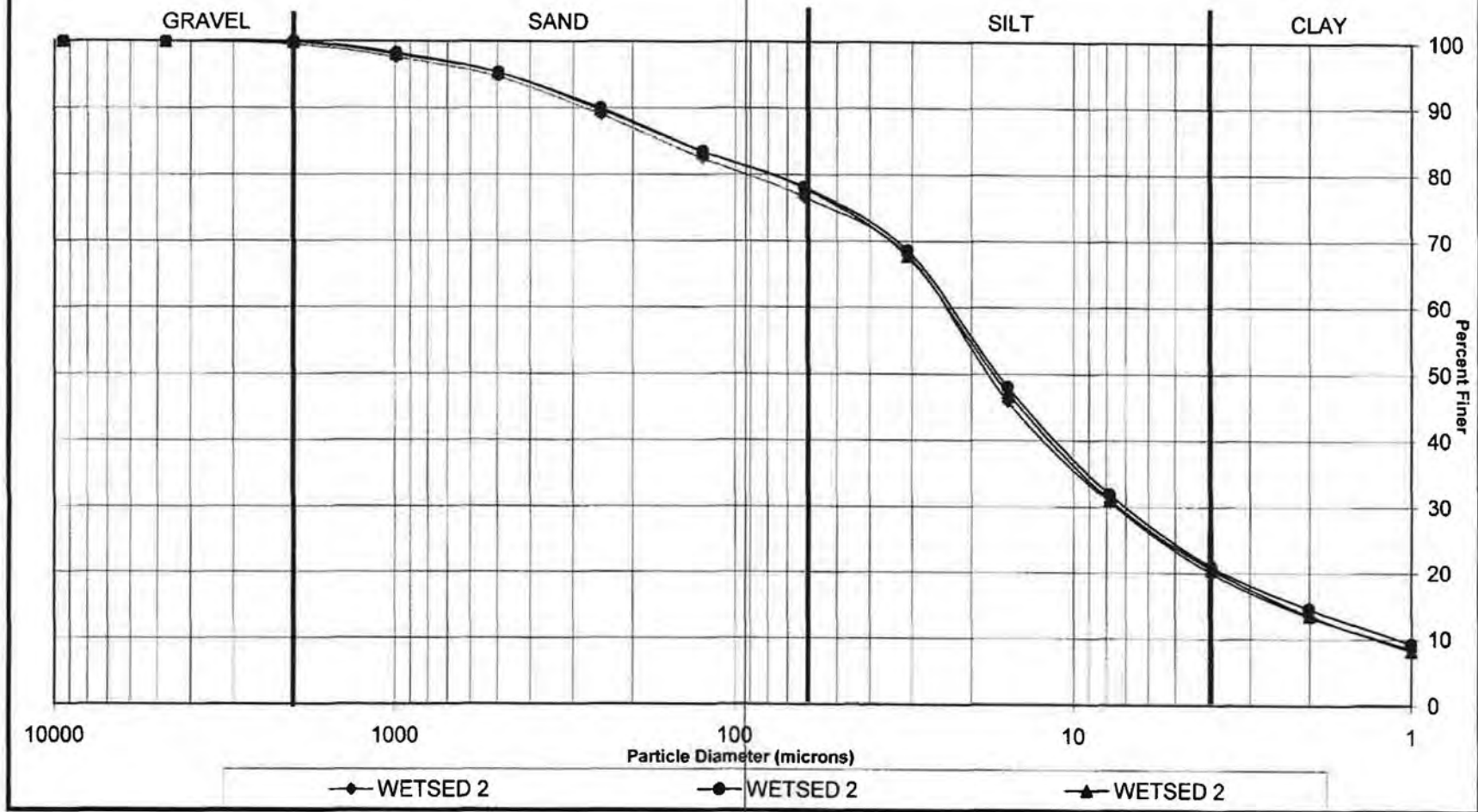
- Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

XQ29

XQ29 : 000000

PSEP Grain Size Distribution

Triplicate Sample Plot



X029:00092

Total Solids

ARI Job ID: XQ29

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET
SOLIDS (dry at 104 (12-24 hr) then combust at 550 (30 min))

DATE: 12/6/13 (C)
 ANALYST: KE / RR 10:28

Instrumentation **Drying Ovens: 1**
Muffle Furnace: N/A

Analytical Balance: 1123230597

Batch drying time record times as mm/dd/yy hh:mm	TS (%) calculated as: Final dry wt (g) = (Dry Wt - Tare Wt) TS = (Final Dry Wt)/(grams Sample-Tare)	TVS (mg/kg dry wt) calculated as: Final ash wt (g) = (min ash wt - tare wt) TVS (mg/kg) = [(Dry wt-Ash wt)/(dry weight)] *1,000,000 if ash wt > dry wt, "Chk for Err" if dry wt-ash wt < 0.001 g, "< (1/dry wt)*1,000,000
12/6/2013 10:28 date/time in oven KE		
12/7/2013 11:00 date/time out RR		
elapsed hrs = 24.5 >24hr		

Cal Weight ID	CV-02	CV-02	CV-02	CV-02						
Date & Time	12/6/13 8:02 KE	12/6/13 7:40 KE	12/7/13 11:15 RR							
Cal Wt (g)	10.0000	10.0000	10.0000							
record weights to 4 places	Cal OK!	Cal OK!	Cal OK!							

SAMPLE ID	DISH #	SAMPLE (grams)	TARE WT (grams)	DRY WT 104C (grams)			dry Wt (g)	TS (%)	ASH WT 550C (grams)			Ash Wt (g)	TVS (mg/kg) (%)	
				1					1	2				
Blank			1.1840	1.1838			0.00							
XQ29 A3		7.3470	1.1313	4.0479			2.92	46.92%						
XQ29 A3 dup		7.4381	1.1111	4.0880			2.98	47.05%						

RPD = 0.27% RPD = NA

XQ29 A3 trp 7.7302 1.1286 4.1204 2.99 45.32% RSD = 2.08% RSD = NA

XQ29 B2		8.0765	1.1516	4.4235			3.27	47.25%						
XQ29 C2		6.6620	1.1178	3.2617			2.14	38.67%						
XQ28 M6		8.1643	1.1593	6.4566			5.30	75.62%						
XQ28 N6		8.8053	1.1372	6.1660			5.03	65.58%						
XQ28 O6		6.8210	1.1064	3.9186			2.81	49.21%						
XQ28 P6		9.4070	1.1242	7.8712			6.75	81.46%						
XQ28 Q6		6.3501	1.1208	5.2709			4.15	79.36%						
XQ28 R6		8.1509	1.1071	6.7539			5.65	80.17%						

XQ29: 000011

W
12-9-13

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET										DATE: 12/6/13 (C)				
SOLIDS (dry at 104 (12-24 hr) then combust at 550 (30 min))										ANALYST: KE / RR 10:28				
Instrumentation					Drying Ovens: 1					Analytical Balance: 1123230597				
					Muffle Furnace: N/A									
Batch drying time				TS (%) calculated as:				TVS (mg/kg dry wt) calculated as:						
record times as mm/dd/yy hh:mm				Final dry wt (g) = (Dry Wt - Tare Wt)				Final ash wt (g) = (min ash wt - tare wt)						
12/6/2013 10:28	date/time in oven	KE		TS = (Final Dry Wt) / (grams Sample-Tare)				TVS (mg/kg) = [(Dry wt-Ash wt) / (dry weight)] *1,000,000						
12/7/2013 11:00	date/time out	RR						if ash wt > dry wt, "Chk for Err"						
elapsed hrs =	24.5	>24hr						if dry wt-ash wt < 0.001 g, "< (1/dry wt)*1,000,000"						
Cal Weight ID		CV-02	CV-02	CV-02	CV-02			CV-02	CV-02					
Date & Time		12/6/13 8:02 KE	12/6/13 7:40 KE	12/7/13 11:15 RR										
Cal Wt (g)		10.0000	10.0000	10.0000										
record weights to 4 places		Cal OK!	Cal OK!	Cal OK!										
SAMPLE ID	DISH #	SAMPLE (grams)	TARE WT (grams)	DRY WT 104C (grams)			dry Wt (g)	TS (%)	ASH WT 550C (grams)			Ash Wt (g)	TVS (mg/kg) (%)	
				1					1	2				
Blank			1.1840	1.1838			0.00							
XQ29 A3		7.3470	1.1313	4.0479			2.92	46.92%						
XQ29 A3 dup		7.4381	1.1111	4.0880			2.98	47.05%						
							RPD =	0.27%					RPD =	NA
XQ29 A3 ttp		7.7302	1.1286	4.1204			2.99	45.32%						
							RSD =	2.08%					RSD =	NA
XQ29 B2		8.0765	1.1516	4.4235			3.27	47.25%						
XQ29 C2		6.6620	1.1178	3.2617			2.14	38.67%						
XQ28 M6		8.1643	1.1593	6.4566			5.30	75.62%						
XQ28 N6		8.8053	1.1372	6.1660			5.03	65.68%						
XQ28 O6		6.8210	1.1064	3.9186			2.81	49.21%						
XQ28 P6		9.4070	1.1242	7.8712			6.75	81.46%						
XQ28 Q6		6.3501	1.1208	5.2709			4.15	79.36%						
XQ28 R6		8.1509	1.1071	6.7539			5.65	80.17%						

XQ29: 00000

W
12-11-13

TOC Solids Prep Log						DATE:	12/6/2013
<i>acid purging to remove IC and drying at 70°C for TOC analysis</i> <i>General notes regarding prep method and samples (identify the acid used)</i>						ANALYST:	KE 10:28 (C)
						Balance ID:	
						HCL ID:	
<i>make no entry to shaded cells, they are calculated</i>							
Sample ID		IC Test + / -	Gravimetric Data (grams)			% Solids	Sample description & notes (homogeneity and exclusions)
ARI #	Client		Tare Wt.	Wet wt.	70°C dry wt		
Blank			12.9201		12.9203	0.2 mg	
XQ29 A2			12.9686	21.0084	16.8089	47.77%	
XQ29 A2 dup		-	13.2330	21.1975	17.0142	47.48%	RPD = 0.61%
XQ29 A2 trip		-	12.9280	20.7182	16.7306	48.81%	RSD = 1.46%
XQ29 B2		-	13.0108	20.8481	16.9390	50.12%	
XQ29 C2		-	12.9462	21.1884	16.3297	41.05%	
XQ28 M6		-	13.0137	21.7936	19.8318	77.66%	
XQ28 N6		-	12.9509	19.2232	17.1341	66.69%	
XQ28 O6		-	13.3254	19.5459	16.7582	55.19%	
XQ28 P6			12.9647	21.0039	20.0241	87.81%	
XQ28 Q6		-	13.3376	20.7565	19.8558	87.86%	
XQ28 R6			13.3610	21.1279	20.2196	88.31%	

W
12-12-13

TOC, Solids Data Analysis					DATE:	12/11/2013			
Instrument: Apollo 1					ANALYST:	KE 6:08			
Mode: NPOC Inlet: Boat					Balance ID:				
Spike Std = 2,500 ppm C									
Calibration Data									
Cal Curve ID: 11/20/2013					Conc: 5,000 ppm				
Calibration Curve Standard: 00139-03					Curve Date: 11/20/13				
CalFact: 1.550E+05 intercept: 502459					r2: 0.99452				
Curve Range (ppm) 200 to 2,500									
Curve Range (µgC): 8 to 100					40 µL injections of designated standard				
Verification Standard									
Source: ERA# 0408-13-02					Conc: 5,000 ppm				
dilution: 10 mL to 50					1,000 ppm				
Standard Reference Material									
Source: NIST 8704					Conc: 33,510 ppm				
Source: NIST 1941B					Conc: 29,900 ppm				
Silica Blanks									
Replicate determinations					Mean	RSD	condition		
Sample Data									
"C corr" (with dilution) = ("C obs" - (Mean silica Blank * %Silica)) * Dilution Factor									
Sample ID	Dilution Data				Spike (µL Std)	Combustion Data			comments
	Sample wt. (mg)	Final wt. (mg)	Silica (%)	Dilution Factor		Burn wt. (mg)	C obs (ppm C)	C corr (ppm C)	
ICV				1.00		40.0	903	903	90.30%
Blank				1.00		40.0	-78.03	-78	Blank OK
NIST 1941B				1.00		1.2	28591	28,591	95.62%
XQ29 A2				1.00		1.0	58803	58,803	Range OK!
XQ29 A2				1.00		0.8	50555	50,555	Range OK!
XQ29 A2 dup				1.00		0.7	46157	46,157	RPD=9.1%
XQ29 A2 trp				1.00		0.9	55011	55,011	RSD=8.8%
XQ29 A2 ms				1.00	20	0.8	65427	65,427	Range OK!
Spike = 0.05 mg C to 0.8 mg samp = 62,500 ppm								24%	
XQ29 A2 ms				1.00	20	1.1	54898	54,898	Range OK!
Spike = 0.05 mg C to 1.1 mg samp = 45,455 ppm								40%	
XQ29 B2				1.00		0.9	35700	35,700	Range OK!
XQ29 C2				1.00		0.9	41161	41,161	Range OK!
XP31 M7				1.00		3.1	10809	10,809	Range OK!
CCV				1.00		40.0	945	945	94.50%
Blank				1.00		40.0	-62.32	-62	Blank OK
Samples XP31 E7 Had 10% O-Phosphoric Acid added to sample in the boat prior to combustion. Amount (how many drops) shown after condition of the run.									
XP31 E7				1.00		1.6	16973	16,973	Range OK! 7 Drops Acid



① 12-11-13 ②

TOC Solids Sample Run Log
Apollo 9000

Page 1 of 2

Set-Up Parameters MODE: NPOC			INLET: Boat Sampler			
Standards:	Source	Conc (ppm)	Analyst: (K)			
Calibration:	ARI-00137-03	5000	Date: 12-11-13			
Verification:	ERA-0408-13-02	5000 to 1000 for CVS	Time: 6:08			
SRM:	NBS-1941b or 8704	Method: PSEP 1986-MOD	Balance ID	B146454145		
Sample Sequence:						
Sample ID	Dilution Data (mg)		Burn Wt	Matrix Spike Data		Comments
	Sample	+ Silica Gel	mg	mg/L	µL added	
100			40			
100			40			
NBS 1941 B			1.2			
XQ29 A2			1.0			(top Mat A) Run
↓ A2			0.8			
↓ A2			0.7			
↓ A2			0.9	2500	20	
ms A2			0.8	2500	20	
ms A2			1.1	2500	20	
↓ B2			0.9			
↓ C2			0.9			
XP31 M7			3.1			
cew			40			
CCB			40			
XP31 E7	Drops 10% Acid		1.6			Acidify in Boat
XQ88 A2			1.5			
↓ A2			1.4			
↓ A2			1.5			
ms A2			1.2	2500	10	
↓ B2			1.4			
↓ C2			6.2			
XQ41 A1			0.7			
XP58 A7			2.6			
↓ B7			0.2	2.1		
cew			40			
cew			40			
XP58 D7			2.9			
↓ E7			2.7			
↓ F7			2.1			
↓ G7			2.7			
↓ H7			4.2			
↓ I7			2.9			

12-11-13
④

Sample ID: ICV/CCV BOAT Mode: TOC
 Method: Boat Sampler Filename: 12110352
 Cal. Curve: 112013 BOAT CAL Timestamp: 2013/12/11 03:57
 Operator ID: KE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	903.0636	36.1225	6102406	123.225	124.225	182

Sample ID: ICB/CCB BOAT Mode: TOC
 Method: Boat Sampler Filename: 12110408
 Cal. Curve: 112013 BOAT CAL Timestamp: 2013/12/11 04:11
 Operator ID: KE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-78.0344	-3.1214	18564	123.159	123.242	120

Last Message: Low Sample Detected

Sample ID: NBS 1941B Mode: TOC
 Method: Boat Sampler Filename: 12110419
 Cal. Curve: 112013 BOAT CAL Timestamp: 2013/12/11 04:26
 Operator ID: KE Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	28591.1445	34.3094	5821317	123.240	124.235	232

Sample ID: XQ29 A2 Mode: TOC
 Method: Boat Sampler Filename: 12110445
 Cal. Curve: 112013 BOAT CAL Timestamp: 2013/12/11 04:49
 Operator ID: KE Sample Type: Sample

Top Not OK, null
12-11-13 (W)

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	58802.9141	58.8029	9116002	123.230	124.223	182

Sample ID: XQ29 A2 Mode: TOC
 Method: Boat Sampler Filename: 12110502
 Cal. Curve: 112013 BOAT CAL Timestamp: 2013/12/11 05:05
 Operator ID: KE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	50555.0195	40.4440	6269889	123.313	124.312	159

Sample ID: XQ29 A2 DP Mode: TOC
 Method: Boat Sampler Filename: 12110512
 Cal. Curve: 112013 BOAT CAL Timestamp: 2013/12/11 05:16
 Operator ID: KE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	46157.1016	32.3100	5008897	123.512	124.510	130

Sample ID: XQ29 A2 DP Mode: TOC
 Method: Boat Sampler Filename: 12110523
 Cal. Curve: 112013 BOAT CAL Timestamp: 2013/12/11 05:26
 Operator ID: KE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-62.3212	-2.4928	116002	132.410	133.407	71

Sample ID: XP31 E7 (Acid in Boat 7 Drops) Mode: TOC
Method: Boat Sampler Filename: 12110746
Cal. Curve: 112013 BOAT CAL Timestamp: 2013/12/11 07:52
Operator ID: KE Sample Type: Sample

Last Message: Max Integration Time Reached

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	25677.5254	38.5163	5971040	133.836	134.827	155

Sample ID: XQ88 A2 Mode: TOC
Method: Boat Sampler Filename: 12110756
Cal. Curve: 112013 BOAT CAL Timestamp: 2013/12/11 08:06
Operator ID: KE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	23503.4121	32.9048	5101108	134.317	135.316	142

Sample ID: XQ88 A2 Mode: TOC
Method: Boat Sampler Filename: 12110809
Cal. Curve: 112013 BOAT CAL Timestamp: 2013/12/11 08:12
Operator ID: KE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	25216.7773	37.8252	5863898	134.677	135.674	150

Sample ID: XQ88 A2 TRIP Mode: TOC
Method: Boat Sampler Filename: 12110821
Cal. Curve: 112013 BOAT CAL Timestamp: 2013/12/11 08:25
Operator ID: KE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	41423.5312	49.7082	7706087	135.097	136.096	161

Sample ID: XQ88 A2 MS Mode: TOC
Method: Boat Sampler Filename: 12110829
Cal. Curve: 112013 BOAT CAL Timestamp: 2013/12/11 08:33
Operator ID: KE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	20893.6172	29.2511	4534686	135.583	136.582	154

Sample ID: XQ88 B2 Mode: TOC
Method: Boat Sampler Filename: 12110839
Cal. Curve: 112013 BOAT CAL Timestamp: 2013/12/11 08:43
Operator ID: KE Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	20893.6172	29.2511	4534686	135.583	136.582	154

Sample ID: XQ88 C2 Mode: TOC
Method: Boat Sampler Filename: 12110856
Cal. Curve: 112013 BOAT CAL Timestamp: 2013/12/11 09:02
Operator ID: KE Sample Type: Sample

Cal. Curve: 112013 BOAT CAL
Operator ID: KE

Timestamp: 2013/12/11 11:34
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	17207.2480	46.4596	7202458	138.104	139.103	144

Sample ID: XP58 F7
Method: Boat Sampler
Cal. Curve: 112013 BOAT CAL
Operator ID: KE

Mode: TOC
Filename: 12111143
Timestamp: 2013/12/11 11:47
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	8610.7373	18.0825	2803272	137.087	138.077	121

Sample ID: XP58 G1
Method: Boat Sampler
Cal. Curve: 112013 BOAT CAL
Operator ID: KE

Mode: TOC
Filename: 12111149
Timestamp: 2013/12/11 11:54
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1902.8452	5.1377	796476	136.496	137.491	85

Sample ID: XP58 H7
Method: Boat Sampler
Cal. Curve: 112013 BOAT CAL
Operator ID: KE

Mode: TOC
Filename: 12111159
Timestamp: 2013/12/11 12:02
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	15115.7695	63.4862	9842039	136.183	137.181	169

Sample ID: XP58 I7
Method: Boat Sampler
Cal. Curve: 112013 BOAT CAL
Operator ID: KE

Mode: TOC
Filename: 12111213
Timestamp: 2013/12/11 12:17
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	9393.8955	27.2423	4223274	135.758	136.757	152

Sample ID: XP58 J7
Method: Boat Sampler
Cal. Curve: 112013 BOAT CAL
Operator ID: KE

Mode: TOC
Filename: 12111226
Timestamp: 2013/12/11 12:29
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2025.5780	8.3049	1287474	136.072	137.065	104

Sample ID: XP58 K7
Method: Boat Sampler
Cal. Curve: 112013 BOAT CAL
Operator ID: KE

Mode: TOC
Filename: 12111233
Timestamp: 2013/12/11 12:37
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	10364.4580	59.0774	9158556	136.631	137.625	185

Sample ID: XP58 L7
Method: Boat Sampler
Cal. Curve: 112013 BOAT CAL

Mode: TOC
Filename: 12111241
Timestamp: 2013/12/11 12:44

11-20
(a)

Cal. Curve ID: 112013 BOAT CAL
Created: 2013/11/20 07:12
Calibration Factor (m): 1.550e+05
Y Intercept (b): 502459
r-squared: 0.99452

Standard ID	Y	X Expected	Measured	Message	Date & Time
DI Water	57228	0.000	-2.872	Low Sample De	2013/11/20 03:45
200 ppm	1537968	8.000	6.680		2013/11/20 04:09
500 ppm	3906464	20.000	21.958	Max Integrati	2013/11/20 04:56
2500 ppm	15700260	100.000	98.034		2013/11/20 06:10
1000 ppm	7354804	40.000	44.201		2013/11/20 07:08

11-20-13
④

Sample ID: DI Water Mode: TOC
 Method: Boat Sampler Filename: 11200258
 Cal. Curve: 112013 BOAT CAL Timestamp: 2013/11/20 03:21
 Operator ID: KE Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			67362	148.946	149.940	46
2			73884	148.851	149.848	59
3			40482	148.907	149.904	42

<<<Statistics>>> Mean: 60575 Std Dev: 17704 RSD: 29.23

Sample ID: DI Water Mode: TOC
 Method: Boat Sampler Filename: 11200328
 Cal. Curve: 112013 BOAT CAL Timestamp: 2013/11/20 03:45
 Operator ID: KE Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			69016	148.696	149.692	46
2			50393	148.725	149.725	45
3			52274	148.992	148.971	120

Last Message: Low Sample Detected
 <<<Statistics>>> Mean: 57228 Std Dev: 10252 RSD: 17.91

Sample ID: 200 ppm Mode: TOC
 Method: Boat Sampler Filename: 11200347
 Cal. Curve: 112013 BOAT CAL Timestamp: 2013/11/20 04:09
 Operator ID: KE Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			1529311	149.028	150.026	92
2			1599522	149.325	150.324	112
3			1485071	149.798	150.794	92

<<<Statistics>>> Mean: 1537968 Std Dev: 57715 RSD: 3.75

Sample ID: 500 ppm Mode: TOC
 Method: Boat Sampler Filename: 11200412
 Cal. Curve: 112013 BOAT CAL Timestamp: 2013/11/20 04:56
 Operator ID: KE Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			3563746	150.330	151.329	170
2			3613394	152.138	153.135	213
3			4542252	154.193	158.302	300

Last Message: Max Integration Time Reached
 <<<Statistics>>> Mean: 3906464 Std Dev: 551168 RSD: 14.11

Sample ID: 1000 ppm Mode: TOC
 Method: Boat Sampler Filename: 11200459
 Cal. Curve: 112013 BOAT CAL Timestamp: 2013/11/20 05:36
 Operator ID: KE Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			8123309	160.143	165.653	301
2			7574211	168.982	171.911	301
3			8539931	176.210	182.469	300

Last Message: Max Integration Time Reached
 <<<Statistics>>> Mean: 8079150 Std Dev: 484372 RSD: 6.00

12-13-13

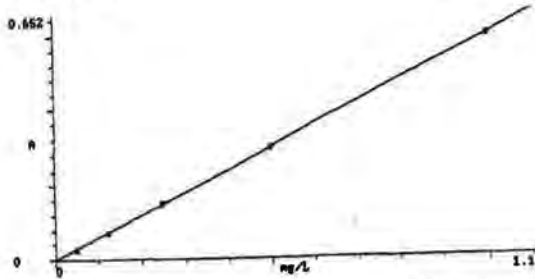
SULFIDE BENCHSHEET (Spectrophotometric, EPA 376.2)		Date Time	Analyst		
Soils, sediments and solid phase samples		Distillation	APD		
		Finish	APD		
If distilled, specify Procedure: AVS		ZnOAc: 10398C	Balance: 19350128		
1. Standardization of sodium thiosulfate titrant		Buret used for titrations: S2			
Thiosulfate ID: 10187C		Titration of bi-iodate with thiosulfate			
Bi-iodate ID: 10096C					
Stock bi-iodate = 0.8116 grams to 1000 mL		mL bi-iodate =	3.00	3.00	
Normality = 0.025		mL thiosulfate =	3.07	3.07	
Normality thiosulfate = (mL bi-iodate * normbio) / mL thiosulfate =			0.024	0.024	
2. Normality of Iodine		Titration of Iodine with thiosulfate			
Iodine ID: 10151C					
		mL Iodine =	3.00	3.00	
		mL thiosulfate =	3.10	3.11	
Normality Iodine = (mL thiosulfate * nthio) / mL Iodine =			0.025	0.025	
3. Standardization of Sodium Sulfide Stock		Titration of standard with thiosulfate			
Stock ID = 00144-10					
Approx conc in 100ml		mL Standard =	1.00	1.00	
g Na ₂ S = 0.7351 mg/mL = 0.981		mL Iodine =	3.00	3.00	
Sulfide (mg/mL) = [(mL Iodine * ni) - (mL thio * nthio)] * 16 / mL standard =		mL thiosulfate =	1.56	1.56	
			0.603	0.603	
Intermediate Standard		mL required for for 0.025 mg/mL 10.3			
Add 10.3 mL stk to 250		mL 0.2N ZnOAc = 0.025 mg/mL			
4. Calibration Standard Curve		spectrophotometer used:		SPEC #1	
Inter Std	Final Volume (mL)	Calc Conc (mg S/L)	Absorbance @650 nm	AVG ABS	Regression Data intercept = -0.002 slope = 0.595 r = 1.0000 Comment: Calibration OK! maxabs = 0.593
0.00	50	0.000	0.000	0.000	
0.10	50	0.050	0.025	0.025	
0.25	50	0.125	0.071	0.071	
0.50	50	0.250	0.149	0.149	
1.00	50	0.500	0.294	0.294	
2.00	50	1.000	0.593	0.593	
Calib Verif Std =	1.0	ml INT to	50	ml ZnOAc =	0.500 mg/l
Distillation Std =	1.0	ml stk to	100	=	6.07 mg/l

SAMPLE DATA

SAMPLE ID	Distillation Data			Spectrophotometric Data			SAMPLE DATA	
	SAMPLE SIZE	% Solids	TRAP VOLUME (ml)	Dilution Factor	Abs @ 650 nm	regressed Conc (mg S/L)	CORR CONC (ppm)	
ICB		na	na	1.00	0.000	0.004	< 0.05	OK!
ICV		na	na	1.00	0.286	0.484	0.484	96.89%
Distilled samples								
Dist Blk	100	100%	100	1.00	-0.012	-0.016	< 0.05	OK!
Diet Chk	400	100%	400	20.00	0.484	0.308	6.157	101.50%
Soil Samples								
XQ29 A1	5.134	46.92%	100	50.00	0.449	0.758	1573.587	
XQ29 A1 dup	5.088	46.92%	100	50.00	0.503	0.849	1777.842	RPD=12.19%
XQ29 A1 ms	5.054	46.92%	100	50.00	0.557	0.940	1981.110	159.32%
Spike at 1.00 ml stock to 2.371 g dry wt = 255.783 mg/kg								
XQ29 B1	5.056	47.25%	100	20.00	0.207	0.352	294.304	
XQ29 C1	5.001	38.67%	100	10.00	0.264	0.447	231.304	
XQ88 A1	5.009	32.63%	100	20.00	0.322	0.545	666.628	
XQ88 B1	5.176	48.87%	100	20.00	0.311	0.526	416.096	
XQ88 C1	5.214	74.86%	100	10.00	0.196	0.333	85.327	
CCB		na	na	1.00	-0.002	0.000	< 0.05	OK!
CCV		na	na	1.00	0.289	0.489	0.489	97.90%
Dist Chk	100	100%	100	10.00	0.344	0.582	5.817	95.90%
CCB		na	na	1.00	-0.004	-0.003	< 0.05	OK!
CCV		na	na	1.00	0.294	0.498	0.498	99.58%

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Standard Curve 14:16 12Dec13
 Test Name SULFIDE[Saved]
 Date Standards Measured 12Dec13
 Wavelength 650nm
 Ref. Wavelength Correction Off
 Curve Fit Linear
 Number of Standards 6
 Units mg/L
 ID# (0=OFF) Off
 Low/High Limits 0.050/1.000
 Statistics Off
 Auto Print On



Curve Fit Linear
 Slope 0.595
 Intercept -0.0022
 Std Dev 0.002
 Corr Coeff 1.000

Conc. mg/L	Abs 650nm
0.000	0.000
0.050	0.025
0.125	0.071
0.250	0.149
0.500	0.294
1.000	0.593

*APD
12/2/13*

3 -0.012

4 0.181

5 0.449

6 0.503

7 0.557

8 0.207

9 0.264

10 0.322

11 0.311

12 0.196

13 -0.002

14 0.289

~~15 0.665~~

miss prep.

16 0.344

17 -0.004

18 0.294

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Advanced A-RT-C 14:17 12Dec13
 Test Name SULFIDE[Saved]
 Measurement Mode Absorbance
 Wavelength 650nm
 Ref. Wavelength Correction Off
 Delay Time (min:sec) 0:00
 ID# (0=OFF) 1
 Low/High Limits 0.000/0.800
 Statistics Off
 Auto Print On

ID#	Abs 650nm
1	0.000

2 0.286

APPENDIX E
BAY CHEMICAL GROUNDWATER MONITORING REPORT

FEASIBILITY STUDY REPORT
Agri-Tech and Yakima Steel Fabricators
6 and 10½ East Washington Avenue
Yakima, Washington

Farallon PN: 765-001

April 9, 2018

Mr. Chris Wend
Washington State Department of Ecology
Central Regional Office
1250 West Alder Street
Union Gap, Washington 98903

BY EMAIL AND MAIL

**RE: MARCH 2018—QUARTERLY GROUNDWATER MONITORING AND SAMPLING
AND ANNUAL CONTAINMENT AREA INSPECTION PROGRESS REPORT
BAY CHEMICAL SITE
YAKIMA, WASHINGTON
FARALLON PN: 683-024**

Dear Mr. Wend:

Farallon Consulting, L.L.C. (Farallon) has prepared this letter report on behalf of BNSF Railway Company (BNSF) to document the March 2018 quarterly groundwater monitoring and sampling activities and annual Containment Area inspection at the Bay Chemical Site in Yakima, Washington (herein referred to as the Site) (Figure 1). The quarterly groundwater monitoring and sampling was conducted under Consent Decree No. 07-2-01906 dated June 6, 2007 entered into by BNSF and the Washington State Department of Ecology (Ecology). The quarterly groundwater monitoring and sampling event was conducted in accordance with the *Compliance Monitoring Plan, Bay Chemical Site, Yakima, Washington* dated August 9, 2007, prepared by Farallon, to monitor groundwater quality and the performance of the Containment Area constructed on the Site as part of the cleanup action.

This letter report presents a brief Site background, a description of the quarterly groundwater monitoring and sampling activities, groundwater analytical results, a summary of the Containment Area inspection, and conclusions.

BACKGROUND

The Site is located in a mixed-use light industrial and commercial area of Yakima, Washington (Figure 2). A cleanup action was conducted at the Site from December 2006 to September 2009, which included excavation of soil with arsenic, cadmium, chromium, copper, lead, manganese, and mercury at concentrations exceeding the Site-specific cleanup levels defined in the *Cleanup Action Plan, Bay Chemical Site, Yakima, Washington* dated February 2006, prepared for the Site by Ecology (CAP). The excavated soil was removed from the Site and consolidated in a Containment Area constructed as part of the cleanup action. The Containment Area was constructed with an engineered cap on a portion of the Site that comprises the Former Bay Chemical Leased Property and the BNSF Property (Figure 2).



Details regarding the cleanup action are provided in the *Completion and Compliance Monitoring Report, Bay Chemical Site, Yakima, Washington* dated November 17, 2009, prepared by Farallon (Compliance Monitoring Report). The contaminants of concern for groundwater are total and dissolved cadmium, lead, manganese, and zinc, as outlined in the CAP.

GROUNDWATER MONITORING AND SAMPLING

Groundwater monitoring and sampling activities were conducted at monitoring wells MW-1 and MW-10 through MW-13, and piezometer PZ-1 on March 6, 2018. The locations of the monitoring wells are shown on Figure 2. Piezometer PZ-1 was used to collect water-level measurements only. Groundwater samples were collected in accordance with the Compliance Monitoring Report, and the *Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells* dated July 30, 1996, revised January 19, 2010, prepared by U.S. Environmental Protection Agency (EPA) Region 1.

The locking well cap was removed from each monitoring well, and the groundwater level was allowed to equilibrate with atmospheric pressure for at least 15 minutes. The depth to groundwater was measured at each monitoring well from the northern side on the top of each well casing to the nearest 0.01 foot using an electronic water-level measuring device. The groundwater-level measurements for the monitoring wells were taken within a 1-hour period between the first and last measurements (Table 1). Reusable equipment was decontaminated prior to initial use and between uses at each monitoring well.

Monitoring wells MW-1 and MW-10 through MW-13 were purged using a peristaltic pump and dedicated polyethylene tubing. Before the monitoring wells were purged, the dedicated polyethylene tubing intake was placed at the approximate center of the screened interval in each monitoring well. Groundwater was purged from each monitoring well at a flow rate of 100 milliliters per minute. Prior to sampling, field measurements for pH, temperature, specific conductivity, dissolved oxygen, and oxidation-reduction potential were collected during purging of groundwater at each monitoring well using a Yellow Springs Instrument model Pro-DDS multi-parameter display system water-quality meter equipped with a flow-through cell. Turbidity was measured using a Hach 2100Q turbidity meter. Groundwater quality parameters and field measurements are presented in Table 2. Groundwater samples were collected after the parameters for pH, temperature, specific conductivity, oxidation-reduction potential, dissolved oxygen, and turbidity had stabilized. Stabilization is defined for pH as a change of ± 0.1 pH unit between readings for three consecutive measurements; for temperature and specific conductivity as a relative percent difference of less than 3 percent between readings for three consecutive measurements; for oxidation-reduction potential as a change of ± 10 millivolts between readings for three consecutive measurements; for dissolved oxygen as a relative percent difference of less than 10 percent for readings greater than 0.5 milligram per liter, or three consecutive readings of less than 0.5 milligram per liter; and for turbidity as a relative percent difference of less than 10 percent for readings greater than 5 nephelometric turbidity units, or three consecutive readings of less than 5 nephelometric turbidity units.



Following stabilization of groundwater quality parameters, groundwater samples were collected directly from the pump outlet. Groundwater samples were placed directly into laboratory-supplied sample containers preserved with nitric acid, with care taken to minimize turbulence and to prevent handling of the seal and/or lid of the container when the sample was placed into the containers. The samples collected for analysis for dissolved metals were filtered in the field using a 0.45-micron filter. The containers were filled, and the seal and/or lid was secured. The groundwater samples were placed on ice in a cooler and transported under standard chain-of-custody protocols to TestAmerica Laboratories, Inc. of Tacoma, Washington. The samples collected from each monitoring well included both a filtered and an unfiltered portion. Groundwater samples were collected and submitted for laboratory analysis for dissolved (filtered) and total (unfiltered) cadmium, lead, manganese, and zinc by EPA 6000/7000 Series Methods.

GROUNDWATER RESULTS

The results from the groundwater monitoring and sampling are summarized below. Groundwater elevation and groundwater quality parameters measured during each of the groundwater monitoring events are summarized in Tables 1 and 2, respectively. Analytical results were compared to Site-specific cleanup levels defined in the CAP, which are summarized in Table 3 and on Figure 3. The laboratory analytical report is provided in Attachment A. The depth to groundwater ranged from 8.09 (monitoring well MW-11) to 13.28 feet below the top of the monitoring well casing (monitoring well MW-1), with a groundwater flow direction to the south-southeast at an average hydraulic gradient of approximately 0.00437 foot per foot (Figure 3).

Total and dissolved cadmium were reported at concentrations exceeding the cleanup level in groundwater samples collected from monitoring wells MW-11 and MW-12. Cadmium was not reported at concentrations exceeding the cleanup level in the remaining groundwater samples collected from the Site. Total and dissolved zinc, lead, and manganese were reported at concentrations less than cleanup levels in all of the monitoring wells sampled during the March 2018 sampling event (Figure 3).

CONTAINMENT AREA ANNUAL INSPECTION

Annual inspections of the Containment Area are conducted for evidence of erosion, animal intrusion, and/or physical impacts such as vandalism. Following each inspection, impacts to the engineered cap are corrected, if necessary, to prevent possible exposure to the materials within the Containment Area.

The annual inspection of the Containment Area was performed on March 6, 2018. The inspection included observation of the Containment Area erosion layer, drainage provisions, and impacts to the surface of the Containment Area. Documentation of the inspection included photographs and field notes to document the condition of the Containment Area. Photographs taken during the inspection are provided in Attachment B. Figure 4 shows the location and perspective of each photograph taken during the inspection.



During the inspection, the erosion layer was found to be consistent with the original constructed condition. Tire tracks were observed on the northern portion of the Containment Area and on the eastern portion of the Containment Area near monitoring wells MW-11 and MW-12. The tire tracks were less than 1 inch in depth and did not appear to affect the integrity of the Containment Area. Minor evidence of animal intrusion was observed on the Containment Area near monitoring well MW-12. The animal intrusion was inspected and determined to be shallow (less than 6 inches), and did not penetrate the quarry spall layer. Farallon backfilled the shallow intrusions with gravel. Minor amounts of rubble and rock remain on the northern boundary of the Containment Area. These materials originally were stockpiled by BNSF during proximate track repairs conducted in 2011 and have not entirely been removed. No visible settlement or erosion was observed. No areas of runoff pooling or subsidence were observed.

The southern portion of the Containment Area was observed to have a similar amount of vegetation as observed during the March 2017 inspection. Drainage provisions around the cap were observed to be unobstructed, with no areas of runoff pooling or erosion observed. The cap and drainage provisions were determined to be in excellent condition. Other than placing gravel in the shallow burrows, no maintenance activities were performed in March 2018. The next Containment Area inspection is scheduled for March 2019.

CONCLUSIONS

Concentrations of total and dissolved cadmium and zinc reported in monitoring wells MW-11 and MW-12 have varied seasonally over time (Table 3). Total cadmium and zinc concentrations reported at the Site generally have been highest when the groundwater elevation has been historically higher in late summer and early fall, corresponding with irrigation in the region, and have been lowest when groundwater elevation has been lower in late winter and early spring. Groundwater elevations at the Site have increased by 1 to 2 feet across the Site since December 2015. Trends will continue to be monitored on a quarterly basis. The next groundwater monitoring and sampling event will be conducted in June 2018.



CLOSING

Please contact either of the undersigned at (425) 295-0800 if you have questions or need additional details.

Sincerely,

Farallon Consulting, L.L.C.

Emerald Erickson-Mulanax, L.G., R.G.
Associate Geologist

Amy Essig Desai
Principal Scientist

Attachments: Figure 1, *Site Vicinity Map*
Figure 2, *Site Plan*
Figure 3, *Groundwater Elevation Contour Map and Analytical Data for March 2018*
Figure 4, *Site Plan, 2018 Annual Cap Inspection Photograph Locations*
Table 1, *Summary of Groundwater Elevations*
Table 2, *Groundwater Quality Data*
Table 3, *Summary of Groundwater Analytical Results*
Attachment A, *Laboratory Analytical Results*
Attachment B, *Site Photographs*

cc: Shane DeGross, BNSF Railway Company (by email)

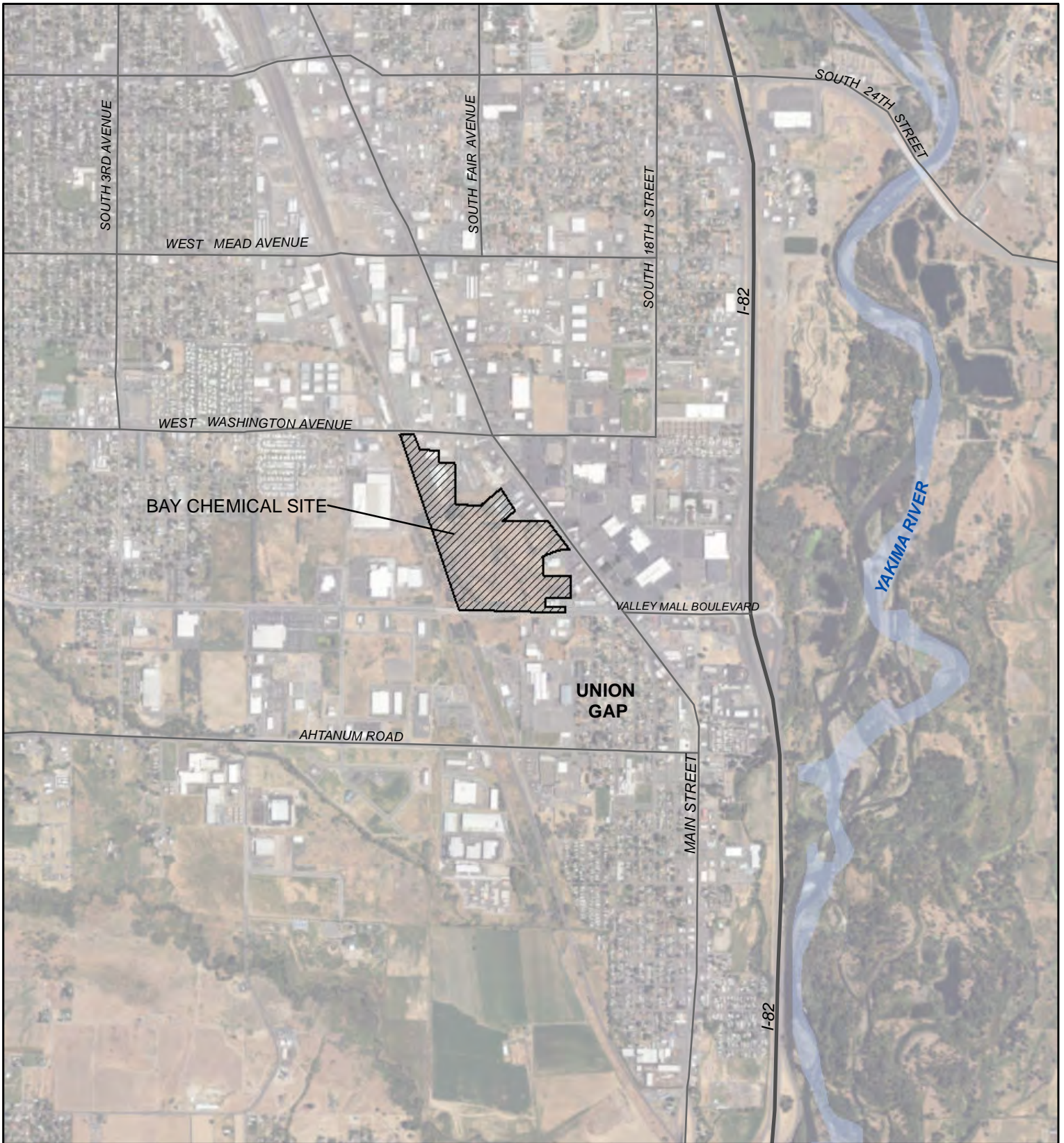
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FIGURES


MARCH 2018—QUARTERLY GROUNDWATER MONITORING AND SAMPLING AND ANNUAL CONTAINMENT AREA INSPECTION PROGRESS REPORT

**Bay Chemical Site
Yakima, Washington**

Farallon PN: 683-024



LEGEND

 APPROXIMATE PROPERTY BOUNDARY



Washington
Issaquah | Bellingham | Seattle

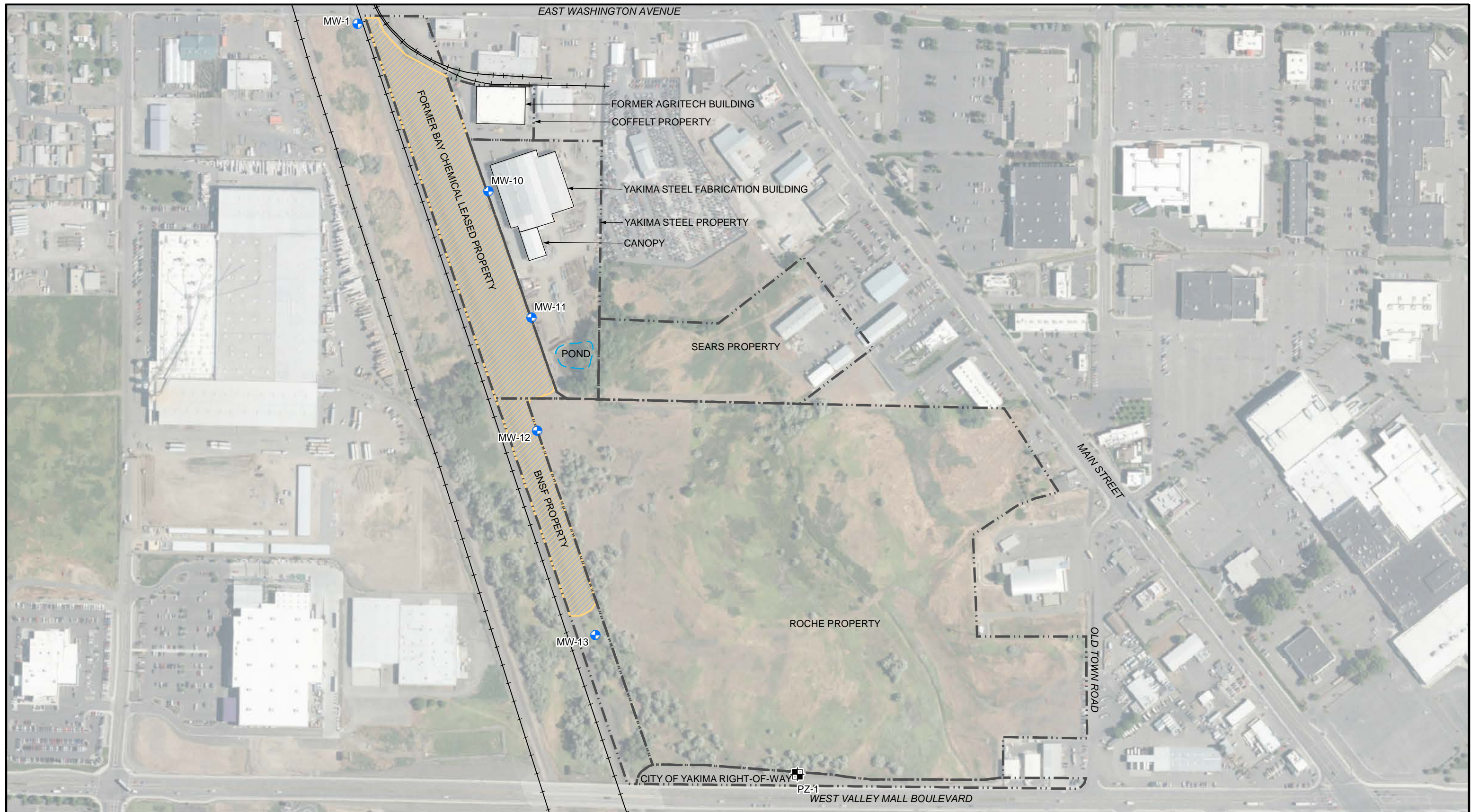
Oregon
Portland | Bend | Baker City

California
Oakland | Sacramento | Irvine

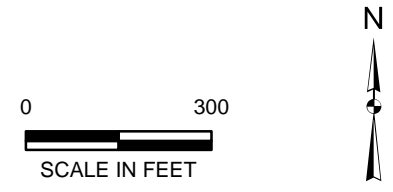
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FIGURE 1
SITE VICINITY MAP
BAY CHEMICAL SITE
YAKIMA, WASHINGTON

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- LEGEND**
- MW-1 BAY CHEMICAL SITE MONITORING WELL
 - PZ1 BAY CHEMICAL SITE PIEZOMETER
 - RAILROAD TRACKS
 - APPROXIMATE PROPERTY BOUNDARY
 - EXISTING BUILDINGS
 - CONTAINMENT AREA



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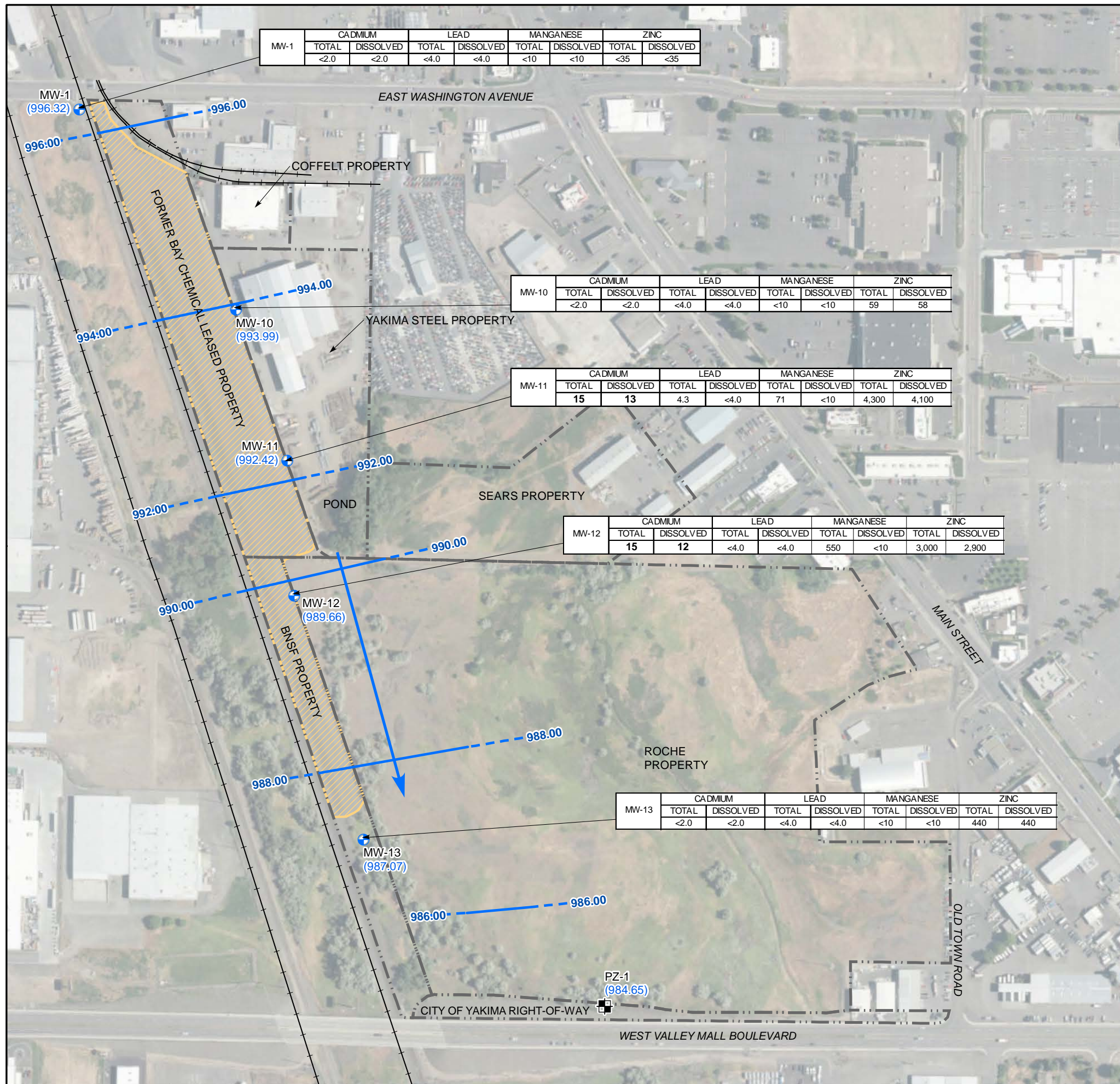
Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

California
Oakland | Sacramento | Irvine

FIGURE 2
SITE PLAN
BAY CHEMICAL SITE
YAKIMA, WASHINGTON

FARALLON PN: 683-024



MW-1	CADMIUM		LEAD		MANGANESE		ZINC	
	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED
	<2.0	<2.0	<4.0	<4.0	<10	<10	<35	<35

MW-10	CADMIUM		LEAD		MANGANESE		ZINC	
	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED
	<2.0	<2.0	<4.0	<4.0	<10	<10	59	58

MW-11	CADMIUM		LEAD		MANGANESE		ZINC	
	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED
	15	13	4.3	<4.0	71	<10	4,300	4,100

MW-12	CADMIUM		LEAD		MANGANESE		ZINC	
	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED
	15	12	<4.0	<4.0	550	<10	3,000	2,900

MW-13	CADMIUM		LEAD		MANGANESE		ZINC	
	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED
	<2.0	<2.0	<4.0	<4.0	<10	<10	440	440

LEGEND

- MW-1 BAY CHEMICAL SITE MONITORING WELL
- PZ-1 BAY CHEMICAL SITE PIEZOMETER

RAILROAD TRACKS

INTERPRETED GROUNDWATER ELEVATION CONTOUR
DASHED WHERE INFERRED

APPROXIMATE PROPERTY BOUNDARY

CONTAINMENT AREA

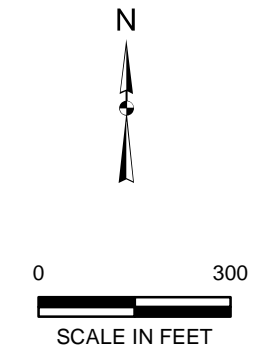
APPROXIMATE DIRECTION OF GROUNDWATER FLOW

GROUNDWATER LEVEL ELEVATION IN FEET ABOVE MEAN SEA LEVEL (NGVD 29)

ALL GROUNDWATER ANALYTICAL RESULTS IN MICROGRAMS PER LITER

BOLD = ANALYTICAL RESULT REPORTED ABOVE THE SITE-SPECIFIC CLEANUP LEVEL
 < = DENOTES RESULT IS LESS THAN LABORATORY PRACTICAL QUANTITATION OR ANALYTE NOT DETECTED AT OR ABOVE THE REPORTING LIMIT

NGVD 29 = NATIONAL GEODETIC VERTICAL DATUM OF 1929



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California
Oakland | Sacramento | Irvine

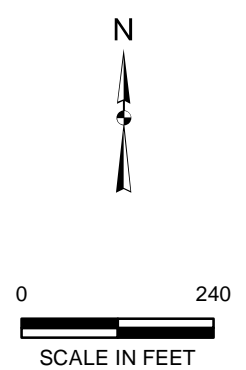
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FIGURE 3
 GROUNDWATER ELEVATION CONTOUR MAP
 AND ANALYTICAL DATA FOR MARCH 2018
 BAY CHEMICAL SITE
 YAKIMA, WASHINGTON

FARALLON PN: 683-024



- LEGEND**
- APPROXIMATE ORIGIN AND DIRECTION OF PHOTO (FARALLON, 3/06/2018)
 - RAILROAD TRACKS
 - APPROXIMATE PROPERTY BOUNDARY
 - EXISTING BUILDINGS
 - CONTAINMENT AREA



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FIGURE 4
SITE PLAN
2018 ANNUAL CAP INSPECTION
PHOTOGRAPH LOCATIONS
BAY CHEMICAL SITE
YAKIMA, WASHINGTON

FARALLON PN: 683-024

TABLES

MARCH 2018—QUARTERLY GROUNDWATER MONITORING AND SAMPLING AND ANNUAL CONTAINMENT AREA INSPECTION PROGRESS REPORT

**Bay Chemical Site
Yakima, Washington**

Farallon PN: 683-024

Table 1
Summary of Groundwater Elevations
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024

Monitoring Well Location	Sample Date	Well Casing Elevation¹	Total Depth²	Depth to Groundwater²	Groundwater Elevation¹
MW-1	12/1/2008	1009.6	23.20	10.24	999.36
	3/2/2009			11.86	997.74
	6/4/2009			10.95	998.65
	9/15/2009			8.70	1,000.90
	12/4/2009			10.94	998.66
	3/18/2010			12.39	997.21
	6/22/2010			10.52	999.08
	10/11/2010			9.23	1,000.37
	12/28/2010			11.57	998.03
	3/25/2011			12.65	996.95
	6/23/2011			11.00	998.60
	10/24/2011			9.35	1,000.25
	1/4/2012			12.25	997.35
	3/9/2012			12.93	996.67
	6/14/2012			11.11	998.49
	9/25/2012			9.05	1,000.55
	12/11/2012			11.17	998.43
	3/21/2013			13.18	996.42
	6/20/2013			11.08	998.52
	9/4/2013			8.82	1,000.78
	12/11/2013			12.12	997.48
	3/6/2014			13.40	996.20
	6/5/2014			12.10	997.50
	9/11/2014			9.54	1,000.06
	12/17/2014			11.81	997.79
	3/10/2015			13.10	996.50
	6/9/2015			11.55	998.05
	9/8/2015			9.34	1,000.26
	12/17/2015			11.07	998.53
	3/10/2016			11.26	998.34
6/9/2016	10.55	999.05			
9/13/2016	8.90	1,000.70			
12/6/2016	11.11	998.49			
3/2/2017	11.45	998.15			
6/6/2017	11.30	998.30			
9/6/2017	8.76	1,000.84			
12/20/2017	12.01	997.59			
3/6/2018	13.28	996.32			
MW-3	6/6/2017	1000.81	29.00	6.21	994.60
	9/6/2017			3.88	996.93

Table 1
Summary of Groundwater Elevations
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024

Monitoring Well Location	Sample Date	Well Casing Elevation¹	Total Depth²	Depth to Groundwater²	Groundwater Elevation¹
MW-10	12/1/2008	1002.99	19.33	6.55	996.44
	3/2/2009			7.8	995.19
	6/4/2009			7.10	995.89
	9/15/2009			4.93	998.06
	12/4/2009			6.84	996.15
	3/18/2010			8.21	994.78
	6/22/2010			6.63	996.36
	10/11/2010			5.53	997.46
	12/28/2010			7.5	995.49
	3/25/2011			8.53	994.46
	6/23/2011			7.29	995.70
	10/24/2011			5.59	997.40
	1/4/2012			8.20	994.79
	3/9/2012			8.76	994.23
	6/14/2012			7.41	995.58
	9/25/2012			5.40	997.59
	12/11/2012			7.25	995.74
	3/21/2013			8.92	994.07
	6/20/2013			7.39	995.60
	9/4/2013			5.44	997.55
	12/11/2013			8.15	994.84
	3/6/2014			9.13	993.86
	6/5/2014			8.28	994.71
	9/11/2014			5.79	997.20
	12/17/2014			7.90	995.09
	3/10/2015			8.92	994.07
	6/9/2015			7.55	995.44
	9/8/2015			5.42	997.57
	12/17/2015			6.93	996.06
	3/10/2016			7.11	995.88
6/9/2016	6.73	996.26			
9/13/2016	4.60	998.39			
12/6/2016	7.06	995.93			
3/2/2017	7.41	995.58			
6/6/2017	7.42	995.57			
9/6/2017	5.02	997.97			
12/20/2017	7.66	995.33			
3/6/2018	9.00	993.99			

Table 1
Summary of Groundwater Elevations
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024

Monitoring Well Location	Sample Date	Well Casing Elevation¹	Total Depth²	Depth to Groundwater²	Groundwater Elevation¹
MW-11	12/1/2008	1000.51	20.25	5.76	994.75
	3/2/2009			6.9	993.61
	6/4/2009			6.41	994.10
	9/15/2009			3.99	996.52
	12/4/2009			5.98	994.53
	3/18/2010			7.35	993.16
	6/22/2010			6.01	994.50
	10/11/2010			4.70	995.81
	12/28/2010			6.68	993.83
	3/25/2011			7.70	992.81
	6/23/2011			6.79	993.72
	10/24/2011			4.69	995.82
	1/4/2012			7.45	993.06
	3/9/2012			7.93	992.58
	6/14/2012			6.89	993.62
	9/25/2012			4.90	995.61
	12/11/2012			6.68	993.83
	3/21/2013			8.06	992.45
	6/20/2013			6.90	993.61
	9/4/2013			4.97	995.54
	12/11/2013			7.40	993.11
	3/6/2014			8.20	992.31
	6/5/2014			7.60	992.91
	9/11/2014			5.42	995.09
	12/17/2014			7.11	993.40
	3/10/2015			8.05	992.46
	6/9/2015			6.94	993.57
	9/8/2015			4.95	995.56
	12/17/2015			6.15	994.36
	3/10/2016			6.30	994.21
6/9/2016	6.15	994.36			
9/13/2016	3.90	996.61			
12/6/2016	6.33	994.18			
3/2/2017	6.64	993.87			
6/6/2017	6.90	993.61			
9/6/2017	4.58	995.93			
12/20/2017	7.06	993.45			
3/6/2018	8.09	992.42			

Table 1
Summary of Groundwater Elevations
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024

Monitoring Well Location	Sample Date	Well Casing Elevation¹	Total Depth²	Depth to Groundwater²	Groundwater Elevation¹
MW-12	12/1/2008	997.98	23.30	6.75	991.23
	3/2/2009			7.68	990.30
	6/4/2009			7.35	990.63
	9/15/2009			5.42	992.56
	12/4/2009			6.51	991.47
	3/18/2010			7.68	990.30
	6/22/2010			6.74	991.24
	10/11/2010			5.78	992.20
	12/28/2010			6.95	991.03
	3/25/2011			8.05	989.93
	6/23/2011			7.48	990.50
	10/24/2011			5.8	992.18
	1/4/2012			7.85	990.13
	3/9/2012			8.22	989.76
	6/14/2012			7.48	990.50
	9/25/2012			5.70	992.28
	12/11/2012			7.13	990.85
	3/21/2013			8.39	989.59
	6/20/2013			7.63	990.35
	9/4/2013			6.04	991.94
	12/11/2013			7.85	990.13
	3/6/2014			8.43	989.55
	6/5/2014			8.23	989.75
	9/11/2014			6.38	991.60
	12/17/2014			7.52	990.46
	3/10/2015			8.38	989.60
	6/9/2015			7.85	990.13
	9/8/2015			5.95	992.03
	12/17/2015			6.49	991.49
	3/10/2016			6.51	991.47
6/9/2016	6.89	991.09			
9/13/2016	5.37	992.61			
12/6/2016	6.98	991.00			
3/2/2017	7.05	990.93			
6/6/2017	7.55	990.43			
9/6/2017	5.36	992.62			
12/20/2017	7.35	990.63			
3/6/2018	8.32	989.66			

Table 1
Summary of Groundwater Elevations
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024

Monitoring Well Location	Sample Date	Well Casing Elevation¹	Total Depth²	Depth to Groundwater²	Groundwater Elevation¹
MW-13	12/1/2008	995.36	23.02	6.75	988.61
	3/2/2009			7.68	987.68
	6/4/2009			7.84	987.52
	9/15/2009			6.20	989.16
	12/4/2009			6.90	988.46
	3/18/2010			7.90	987.46
	6/22/2010			7.22	988.14
	10/11/2010			6.38	988.98
	12/28/2010			7.22	988.14
	3/25/2011			8.20	987.16
	6/23/2011			7.80	987.56
	10/24/2011			6.4	988.96
	1/4/2012			7.98	987.38
	3/9/2012			8.34	987.02
	6/14/2012			7.77	987.59
	9/25/2012			6.25	989.11
	12/11/2012			7.33	988.03
	3/21/2013			8.46	986.90
	6/20/2013			7.91	987.45
	9/4/2013			6.73	988.63
	12/11/2013			8.01	987.35
	3/6/2014			8.55	986.81
	6/5/2014			8.46	986.90
	9/11/2014			6.69	988.67
	12/17/2014			7.71	987.65
	3/10/2015			8.45	986.91
	6/9/2015			8.17	987.19
	9/8/2015			6.68	988.68
	12/17/2015			6.83	988.53
	3/10/2016			6.80	988.56
6/9/2016	7.38	987.98			
9/13/2016	6.28	989.08			
12/6/2016	7.23	988.13			
3/2/2017	7.14	988.22			
6/6/2017	7.80	987.56			
9/6/2017	6.16	989.20			
12/20/2017	7.51	987.85			
3/6/2018	8.29	987.07			

Table 1
Summary of Groundwater Elevations
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024

Monitoring Well Location	Sample Date	Well Casing Elevation¹	Total Depth²	Depth to Groundwater²	Groundwater Elevation¹
PZ-1	12/1/2008	994.5	23.30	8.49	986.01
	3/2/2009			8.32	986.18
	6/4/2009			9.46	985.04
	9/15/2009			8.01	986.49
	12/4/2009			8.63	985.87
	3/18/2010			9.48	985.02
	6/22/2010			8.95	985.55
	10/11/2010			8.23	986.27
	12/28/2010			8.85	985.65
	3/25/2011			9.71	984.79
	6/23/2011			9.37	985.13
	10/24/2011			8.25	986.25
	1/4/2012			9.56	984.94
	3/9/2012			9.85	984.65
	6/14/2012			9.40	985.10
	9/25/2012			8.15	986.35
	12/11/2012			8.91	985.59
	3/21/2013			9.95	984.55
	6/20/2013			9.47	985.03
	9/4/2013			8.55	985.95
	12/11/2013			9.51	984.99
	3/6/2014			10.04	984.46
	6/5/2014			9.99	984.51
	9/11/2014			8.70	985.80
	12/17/2014			9.20	985.30
	3/10/2015			9.91	984.59
	6/9/2015			9.69	984.81
	9/8/2015			8.56	985.94
	12/17/2015			8.65	985.85
	3/10/2016			8.65	985.85
6/9/2016	9.14	985.36			
9/13/2016	8.14	986.36			
12/6/2016	8.86	985.64			
3/2/2017	8.76	985.74			
6/6/2017	9.34	985.16			
9/6/2017	8.15	986.35			
12/20/2017	9.15	985.35			
3/6/2018	9.85	984.65			

NOTES:

¹Elevation in feet above mean sea level (National Geodetic Vertical Datum of 1929).

²Feet below top of well casing.

Table 2
Groundwater Quality Data
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024

Sample Location	Sample Date	Field Measurements					
		pH	Temperature (°C)	Dissolved Oxygen (mg/l)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU) ¹
MW-1	12/1/2008	6.89	11.87	0.09	0.158	140.1	—
	3/2/2009	6.37	8.67	5.59	0.053	92.1	—
	6/4/2009	6.61	15.68	5.87	0.730	71.5	—
	9/15/2009	6.76	19.35	5.08	0.255	185.2	—
	12/4/2009	7.07	12.88	6.45	0.260	255.8	—
	3/18/2010	6.99	12.41	6.10	0.269	178.2	—
	6/22/2010	-	14.00	6.25	0.136	237.5	—
	10/11/2010	6.47	17.09	3.53	0.244	61.1	—
	12/28/2010	6.69	13.35	5.55	0.257	158.6	—
	3/25/2011	6.90	12.24	6.28	0.278	210.9	—
	6/23/2011	6.75	14.20	4.99	0.187	23.3	—
	10/24/2011	6.75	15.60	3.05	0.287	204.2	—
	1/4/2012	6.75	13.72	5.53	0.439	146.0	—
	3/9/2012	6.80	13.26	5.56	0.314	106.3	—
	6/14/2012	6.77	14.76	5.84	0.160	144.9	—
	9/25/2012	6.13	19.40	3.40	0.286	126.9	—
	12/11/2012	7.5	13.95	4.32	0.254	212.7	—
	3/21/2013	6.59	12.21	5.73	0.284	143.8	1.1
	6/20/2013	6.33	14.28	4.12	0.218	116	1.73
	9/4/2013	6.84	20.40	5.61	0.234	160.4	18
	12/11/2013	6.81	12.37	5.25	0.307	175	19.2
	3/6/2014	6.22	16.28	5.68	0.308	123	0.0
	6/5/2014	6.33	20.26	4.01	0.220	40	0.08
	9/11/2014	6.75	18.44	2.89	0.303	86	0.30
	12/17/2014	6.54	13.75	4.17	0.282	213	0.40
	3/10/2015	6.48	15.79	3.86	0.294	191	0.11
	6/9/2015	5.99	21.46	2.75	0.273	155	0.06
	9/8/2015	6.27	20.14	3.70	0.275	225	0.52
	12/17/2015	6.75	13.96	3.84	0.276	281	0.33
	3/10/2016	6.67	13.28	3.81	0.318	131	0.23
	6/9/2016	6.84	16.19	4.47	0.278	43.2	0.25
	9/13/2016	6.68	19.3	3.98	0.282	110.9	0.1
12/6/2016	6.72	13.5	4.66	0.301	151.1	0.11	
3/2/2017	6.66	12.4	5.94	0.353	196.2	0.19	
6/6/2017	6.92	16.3	4.53	0.335	147.2	0.31	
9/6/2017	6.95	19.2	3.45	0.228	101.4	0.30	
12/20/2017	6.80	13.8	5.51	0.313	119.2	0.29	
3/6/2018	6.73	12.3	5.73	0.322	166.1	0.20	

Table 2
Groundwater Quality Data
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024

Sample Location	Sample Date	Field Measurements					
		pH	Temperature (°C)	Dissolved Oxygen (mg/l)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU) ¹
MW-10	12/1/2008	6.79	12.02	0.10	0.166	154.7	—
	3/2/2009	6.37	8.51	6.07	0.049	95.8	—
	6/4/2009	6.57	15.94	7.00	0.874	71.9	—
	9/15/2009	6.68	19.99	5.03	0.298	219.7	—
	12/4/2009	7.06	13.38	6.59	0.275	287.4	—
	3/18/2010	7.09	11.93	6.40	0.271	179.2	—
	6/22/2010	-	16.30	6.66	0.205	263	—
	10/11/2010	6.38	18.24	3.97	0.279	79.4	—
	12/28/2010	6.68	13.04	6.23	0.274	186.5	—
	3/25/2011	6.88	11.86	6.89	0.283	217.7	—
	6/23/2011	6.83	16.66	5.91	0.291	27.7	—
	10/24/2011	6.66	16.96	3.50	0.363	221.5	—
	1/4/2012	6.66	12.98	5.99	0.439	156.1	—
	3/9/2012	7.60	12.40	5.76	0.311	-7.7	—
	6/14/2012	6.77	17.17	6.23	0.231	116.7	—
	9/25/2012	6.06	19.39	3.78	0.346	158.3	—
	12/11/2012	7.5	14.20	4.65	0.273	232.1	—
	3/21/2013	6.59	11.65	6.40	0.288	166.6	0.9
	6/20/2013	6.90	17.44	5.38	0.289	326	1.3
	9/4/2013	6.74	21.17	6.13	0.310	139.1	18
	12/11/2013	6.82	12.71	6.16	0.334	207	0.0
	3/6/2014	6.39	15.14	6.36	0.306	122	0.0
	6/5/2014	6.33	20.35	4.71	0.289	75	0.08
	9/11/2014	6.79	20.98	3.03	0.344	118	0.28
	12/17/2014	6.74	14.14	4.48	0.310	208	0.46
	3/10/2015	6.77	14.85	4.19	0.299	154	0.05
	6/9/2015	6.47	26.58	2.60	0.268	158	0.11
	9/8/2015	6.40	21.67	3.58	0.326	236	0.76
	12/17/2015	6.85	14.43	4.95	0.300	308.2	0.48
	3/10/2016	6.93	13.08	4.62	0.321	55.4	0.41
	6/9/2016	6.77	17.91	6.08	0.317	60.7	0.32
	9/13/2016	6.66	19.9	4.98	0.34	166.3	0.44
12/6/2016	6.72	14.8	5.76	0.339	182.2	0.27	
3/2/2017	6.76	11.2	7.46	0.353	188.7	0.58	
6/6/2017	6.79	16.4	5.12	0.396	140.2	0.35	
9/6/2017	6.78	19.8	4.51	0.263	112.6	0.44	
12/20/2017	6.84	14.2	6.60	0.324	167.8	0.46	
3/6/2018	6.76	13.0	7.07	0.329	160.4	0.42	

Table 2
Groundwater Quality Data
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024

Sample Location	Sample Date	Field Measurements					
		pH	Temperature (°C)	Dissolved Oxygen (mg/l)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU) ¹
MW-11	12/1/2008	6.59	13.23	0.16	13.230	164.5	—
	3/2/2009	6.27	11.18	1.44	0.263	109.1	—
	6/4/2009	6.09	14.70	3.79	1.058	82.2	—
	9/15/2009	6.45	20.77	2.61	0.579	215.9	—
	12/4/2009	6.80	14.65	2.42	0.485	292.1	—
	3/18/2010	6.68	15.60	3.12	0.303	141	—
	6/22/2010	-	15.31	4.79	0.270	260.2	—
	10/11/2010	6.19	18.60	4.04	0.433	94.8	—
	12/28/2010	6.53	15.70	3.10	0.498	175.5	—
	3/25/2011	6.63	14.00	3.18	0.361	214.1	—
	6/23/2011	6.65	15.70	3.74	0.364	82.3	—
	10/24/2011	6.46	17.39	3.20	0.548	232.5	—
	1/4/2012	6.57	15.84	2.60	0.537	162.1	—
	3/9/2012	6.59	15.95	4.78	0.299	16.5	—
	6/14/2012	6.50	16.66	4.47	0.293	95.8	—
	9/25/2012	6.23	21.39	6.09	0.590	130.1	—
	12/11/2012	6.5	16.17	2.51	0.326	240.6	—
	3/21/2013	6.44	13.88	5.21	0.286	168.3	1.6
	6/20/2013	6.73	18.17	3.9	0.340	347	1.4
	9/4/2013	6.56	23.19	4.24	0.515	138.0	19
	12/11/2013	6.64	14.04	1.99	0.412	223.0	0.0
	3/6/2014	6.35	17.56	4.40	0.302	119.0	0.0
	6/5/2014	6.22	20.75	3.70	0.285	82	0.13
	9/11/2014	6.63	20.17	2.29	0.581	124	0.31
	12/17/2014	6.72	17.74	2.20	0.373	201	0.40
	3/10/2015	6.28	17.26	3.35	0.294	170	0.10
	6/9/2015	6.27	21.66	2.69	0.297	162	0.27
	9/8/2015	6.22	21.23	5.47	0.734	241	0.83
	12/17/2015	6.47	13.89	2.03	0.571	323.4	0.51
	3/10/2016	6.41	15.16	2.01	0.533	49.7	0.41
	6/9/2016	6.45	16.80	3.46	0.435	70.1	0.33
	9/13/2016	6.46	20.1	3.14	0.559	185.4	0.51
12/6/2016	6.44	16.5	2.71	0.472	193.8	0.39	
3/2/2017	6.61	14.5	5.02	0.746	216.1	0.77	
6/6/2017	6.50	15.8	4.05	0.496	163.3	0.27	
9/6/2017	6.57	18.2	3.22	0.321	135.6	0.41	
12/20/2017	6.58	16.3	2.79	0.412	107.1	0.46	
3/6/2018	6.58	15.5	5.25	0.328	183.1	0.87	

Table 2
Groundwater Quality Data
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024

Sample Location	Sample Date	Field Measurements					
		pH	Temperature (°C)	Dissolved Oxygen (mg/l)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU) ¹
MW-12	12/1/2008	6.96	11.62	0.20	0.201	149.1	—
	3/2/2009	6.34	10.70	0.95	0.479	102.4	—
	6/4/2009	6.22	15.28	3.41	0.550	77.9	—
	9/15/2009	6.41	18.25	0.83	0.309	206.9	—
	12/4/2009	6.89	12.46	1.35	0.338	246.4	—
	3/18/2010	6.90	15.15	0.99	0.378	179.4	—
	6/22/2010	-	16.57	2.40	0.235	115.7	—
	10/11/2010	6.20	16.87	1.14	0.267	91.5	—
	12/28/2010	6.60	12.59	7.18	0.751	176.1	—
	3/25/2011	6.72	13.91	1.66	0.316	212.1	—
	6/23/2011	6.62	16.90	2.28	0.319	62.2	—
	10/24/2011	6.44	16.17	1.41	0.389	223.3	—
	1/4/2012	6.49	13.87	1.24	0.546	165.4	—
	3/9/2012	6.59	15.07	1.85	0.360	7.1	—
	6/14/2012	6.48	17.78	2.21	0.287	86.0	—
	9/25/2012	5.75	18.35	1.76	0.320	129.5	—
	12/11/2012	6.5	14.18	2.12	0.410	209.0	—
	3/21/2013	6.37	13.43	2.88	0.333	156.5	2.1
	6/20/2013	6.20	16.10	2.22	0.307	114.2	2.05
	9/4/2013	6.50	19.84	2.11	0.323	149.1	15
	12/11/2013	6.58	13.81	1.58	0.379	187	0.0
	3/6/2014	6.45	16.92	4.99	0.692	103	1.4
	6/5/2014	6.26	20.30	1.83	0.616	83	0.26
	9/11/2014	6.57	19.11	1.45	0.314	131	1.62
	12/17/2014	6.40	15.91	2.28	0.720	210	1.03
	3/10/2015	6.20	16.74	2.42	0.373	191	0.48
	6/9/2015	6.46	25.88	1.62	0.291	140	0.27
	9/8/2015	6.19	19.15	2.17	0.306	230	0.74
	12/17/2015	6.51	14.61	2.22	0.408	305.4	0.82
	3/10/2016	6.59	15.09	2.14	0.431	41.3	0.77
6/9/2016	6.68	17.34	3.71	0.310	57.2	0.70	
9/13/2016	6.43	18.6	2.44	0.353	164.9	0.31	
12/6/2016	6.45	14.3	1.91	0.403	166.4	0.36	
3/2/2017	6.44	12.7	4.62	0.343	207.5	0.26	
6/6/2017	6.68	16.2	3.17	0.413	135.5	0.60	
9/6/2017	6.66	19.6	3.21	0.260	125.2	0.47	
12/20/2017	6.60	14.5	2.58	0.403	132.7	0.55	
3/6/2018	6.60	14.3	4.59	0.352	130.5	0.58	

Table 2
Groundwater Quality Data
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024

Sample Location	Sample Date	Field Measurements					
		pH	Temperature (°C)	Dissolved Oxygen (mg/l)	Specific Conductivity (mS/cm)	ORP (mV)	Turbidity (NTU) ¹
MW-13	12/1/2008	6.69	11.76	0.15	0.193	145.3	—
	3/2/2009	6.24	9.82	0.60	0.361	99.3	—
	6/4/2009	6.05	13.45	4.12	0.750	80.3	—
	9/15/2009	6.43	18.77	1.27	0.319	175.9	—
	12/4/2009	6.89	14.75	1.31	0.335	252.9	—
	3/18/2010	6.82	13.55	0.62	0.373	169.3	—
	6/22/2010	NS	15.64	0.92	0.274	102.3	—
	10/11/2010	6.21	17.80	0.90	0.280	82.1	—
	12/28/2010	6.50	14.33	0.52	0.353	168.6	—
	3/25/2011	6.63	12.97	0.38	0.377	210	—
	6/23/2011	6.60	15.32	0.29	0.369	13	—
	10/24/2011	6.48	16.90	1.12	0.376	223.6	—
	1/4/2012	6.56	14.14	0.38	0.595	158.9	—
	3/9/2012	6.37	14.68	0.46	0.422	-7.6	—
	6/14/2012	6.49	17.17	0.80	0.300	78.4	—
	9/25/2012	5.88	18.16	0.65	0.353	113.1	—
	12/11/2012	7.0	14.71	0.40	0.360	157.7	—
	3/21/2013	6.37	12.32	1.33	0.371	145.0	0.92
	6/20/2013	6.64	15.45	2.62	0.363	320.0	1.2
	9/4/2013	6.54	18.95	0.91	0.366	162.8	16
	12/11/2013	6.59	8.92	2.03	0.476	159	0.0
	3/6/2014	6.23	16.38	1.47	0.38	110	0.0
	6/5/2014	6.08	20.35	2.39	0.322	79	0.04
	9/11/2014	6.60	18.59	1.54	0.354	111	0.38
	12/17/2014	6.40	16.94	1.19	0.391	202	0.51
	3/10/2015	6.16	14.73	1.90	0.399	193	0.13
	6/9/2015	5.70	27.33	0.95	0.295	185	0.04
	9/8/2015	6.25	19.50	1.81	0.330	217	0.47
	12/17/2015	6.51	14.71	1.01	0.348	301.4	0.53
	3/10/2016	6.45	13.96	1.10	0.426	37.1	0.44
6/9/2016	6.47	15.50	2.18	0.361	43.3	0.47	
9/13/2016	6.44	18.5	0.84	0.376	143.1	0.27	
12/6/2016	6.41	15.2	0.33	0.492	158.3	0.15	
3/2/2017	6.44	12.3	1.36	0.441	200.4	0.17	
6/6/2017	7.08	15.1	1.42	0.495	134.6	0.35	
9/6/2017	6.52	19.5	3.10	0.264	132.8	0.54	
12/20/2017	6.64	14.0	1.85	0.372	186.2	0.51	
3/6/2018	6.60	12.9	4.43	0.347	170.4	0.22	

NOTES:

— denotes sample not analyzed.

NS denotes pH could not be collected due to a field equipment malfunction.

¹Turbidity readings for December 2013 and March 2014 were recorded using a Horiba U-52 multiparameter water-quality meter, and might be suspect due to equipment error. All other turbidity readings were collected using a La Motte or Hach turbidity meter.

°C = degrees Celsius

mg/l = milligrams per liter

mS/cm = milliSiemens per centimeter

mV = millivolts

NTU = nephelometric turbidity units

ORP = oxidation-reduction potential

Table 3
Summary of Groundwater Analytical Results
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024

Sample Location	Sample Name ²	Sample Date	Analytes (micrograms per liter) ¹							
			Cadmium		Lead		Manganese		Zinc	
			Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
MW-1	BC-120108-MW-1	12/1/2008	<1.00	<1.00	<1.00	<1.00	<10.0	<10.0	<10.0	<10.0
	BC-030209-MW-1	3/2/2009	<1.00	<1.00	<1.00	<1.00	<10.0	<10.0	<10.0	<10.0
	BC-060409-MW-1	6/4/2009	<1.00	<1.00	<1.00	<1.00	<10.0	<10.0	11.4	<10.0
	BC-091509-MW-1	9/15/2009	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<7.0	<7.0
	BC-120409-MW-1	12/4/2009	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<7.0	<7.0
	BC-031810-MW-1	3/18/2010	<2.0	<2.0	<2.0	<2.0	<2.0	3	<7.0	<7.0
	BC-062210-MW-1	6/22/2010	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<7.0	<7.0
	BC-101110-MW-1	10/11/2010	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	7.0	7.5
	BC-122810-MW-1	12/28/2010	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<7.0	<7.0
	BC-032511-MW-1	3/25/2011	<4.4	<4.0	<1.1	<1.0	<11	<10	<56	<25
	BC-062311-MW-1	6/23/2011	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	8.4	<7.0
	BC-102411-MW-1	10/24/2011	<2.0	<2.0	<2.0	<2.0	3	<2.0	<7.0	7.5
	BC-010412-MW-1	1/4/2012	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<7.0	<7.0
	BC-030912-MW-1	3/9/2012	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	16	<7.0
	BC-061412-MW-1	6/14/2012	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<7.0	14
	BC-092512-MW-1	9/25/2012	<2.0	<2.0	<2.0	<2.0	<2.0	2.4	<2.0	<7.0
	BC-121112-MW-1	12/11/2012	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<7.0	<7.0
	BC-032113-MW-1	3/21/2013	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<7.0	<7.0
	BC-062013-MW-1	6/20/2013	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<7.0	7.5
	BC-090413-MW-1	9/4/2013	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<7.0	7.2
	BC-121113-MW-1	12/11/2013	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<20	<20
	BC-030614-MW-1	3/6/2014	<2.0	<2.0	<2.0	<2.0	3.4	<2.0	<20	<20
	BC-060514-MW-1	6/5/2014	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	<20	<20
	BC-091114-MW-1	9/11/2014	<2.0	<2.0	<2.0	<2.0	<2.0	3.3	<20	<20
	BC-121714-MW-1	12/17/2014	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<20	<20
	BC-031015-MW-1	3/10/2015	<2.0	<2.0	<2.0	<2.0	<10	<10	<35	<35
	BC-060915-MW-1	6/9/2015	<2.0	<2.0	<2.0	<2.0	<10	<10	<35	<35
	BC-090815-MW-1	9/8/2015	<2.0	<2.0	<2.0	<2.0	<10	<10	<35	<35
	BC-121715-MW-1	12/17/2015	<2.0	<2.0	<2.0	<2.0	<10	<10	<35	<35
	BC-031016-MW-1	3/10/2016	<2.0	<2.0	<2.0	<2.0	<10	<10	<35	<35
	BC-060916-MW-1	6/9/2016	<2.0	<2.0	<2.0	<2.0	<10	<10	<35	<35
	BC-091316-MW-1	9/13/2016	<2.0	<2.0	<2.0	<2.0	<10	<10	<35	<35
	BC-120616-MW-1	12/6/2016	<2.0	<2.0	<2.0	<2.0	<10	<10	<35	<35
	BC-030217-MW-1	3/2/2017	<2.0	<2.0	<2.0	<2.0	<10	<10	<35	<35
	BC-060617-MW-1	6/6/2017	<2.0	<2.0	<4.0	<4.0	<10	<10	<35	<35
	BC-090617-MW-1	9/6/2017	<2.0	<2.0	<4.0	<4.0	<10	<10	<35	<35
	BC-122017-MW-1	12/20/2017	<2.0	<2.0	<4.0	<4.0	<10	<10	<35	<35
	BC-030618-MW-1	3/6/2018	<2.0	<2.0	<4.0	<4.0	<10	<10	<35	<35
Site-Specific Cleanup Levels for Groundwater³			5		15		2,240		4,800	

Table 3
Summary of Groundwater Analytical Results
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024

Sample Location	Sample Name ²	Sample Date	Analytes (micrograms per liter) ¹							
			Cadmium		Lead		Manganese		Zinc	
			Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
MW-10	BC-120108-MW-10	12/1/2008	<1.00	<1.00	<1.00	<1.00	<10.0	<10.0	125	125
	BC-030209-MW-10	3/2/2009	<1.00	<1.00	<1.00	<1.00	<10.0	<10.0	67.3	82.4
	BC-060409-MW-10	6/4/2009	<1.00	<1.00	<1.00	<1.00	<10.0	<10.0	68.1	63.8
	BC-091509-MW-10	9/15/2009	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	68	66
	BC-120409-MW-10	12/4/2009	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	83	82
	BC-031810-MW-10	3/18/2010	<2.0	<2.0	<2.0	<2.0	<2.0	3	79	79
	BC-062210-MW-10	6/22/2010	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	60	79
	BC-101110-MW-10	10/11/2010	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	77	76
	BC-122810-MW-10	12/28/2010	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	75	73
	BC-032511-MW-10	3/25/2011	<4.4	<4.0	<1.1	<1.0	<11	<10	62	66
	BC-062311-MW-10	6/23/2011	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	73	76
	BC-102411-MW-10	10/24/2011	<2.0	<2.0	<2.0	<2.0	6.7	3	80	80
	BC-010412-MW-10	1/4/2012	<2.0	<2.0	<2.0	<2.0	2.4	<2.0	68	69
	BC-030912-MW-10	3/9/2012	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	68	72
	BC-061412-MW-10	6/14/2012	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	66	70
	BC-092512-MW-10	9/25/2012	<2.0	<2.0	<2.0	<2.0	2.4	5.9	76	73
	BC-121112-MW-10	12/11/2012	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	64	66
	BC-032113-MW-10	3/21/2013	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	62	66
	BC-062013-MW-10	6/20/2013	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	59	55
	BC-090413-MW-10	9/4/2013	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	63	69
	BC-121113-MW-10	12/11/2013	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	60	68
	BC-030614-MW-10	3/6/2014	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	63	69
	BC-060514-MW-10	6/5/2014	<2.0	<2.0	<2.0	<2.0	<2.0	2.1	61	64
	BC-091114-MW-10	9/11/2014	<2.0	<2.0	<2.0	<2.0	<2.0	2.5	61	69
	BC-121714-MW-10	12/17/2014	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	63	64
	BC-031015-MW-10	3/10/2015	<2.0	<2.0	<2.0	<2.0	<10	<10	55	60
	BC-060915-MW-10	6/9/2015	<2.0	<2.0	<2.0	<2.0	<10	<10	62	64
	BC-090815-MW-10	9/8/2015	<2.0	<2.0	<2.0	<2.0	<10	<10	65	68
	BC-121715-MW-10	12/17/2015	<2.0	<2.0	<2.0	<2.0	<10	<10	67	70
	BC-031016-MW-10	3/10/2016	<2.0	<2.0	<2.0	<2.0	<10	<10	69	74
	BC-060916-MW-10	6/9/2016	<2.0	<2.0	<2.0	<2.0	20	<10	85	68
	BC-091316-MW-10	9/13/2016	<2.0	<2.0	<2.0	<2.0	<10	<10	72	78
	BC-120616-MW-10	12/6/2016	<2.0	<2.0	<2.0	<2.0	<10	<10	71	73
BC-030217-MW-10	3/2/2017	<2.0	<2.0	<2.0	<2.0	<10	<10	79	73	
BC-060617-MW-10	6/6/2017	<2.0	<2.0	<4.0	<4.0	<10	<10	71	67	
BC-090617-MW-10	9/6/2017	<2.0	<2.0	<4.0	<4.0	27	<10	57	69	
BC-122017-MW-10	12/20/2017	<2.0	<2.0	<4.0	<4.0	<10	<10	58	66	
BC-030618-MW-10	3/6/2018	<2.0	<2.0	<4.0	<4.0	<10	<10	59	58	
Site-Specific Cleanup Levels for Groundwater³			5		15		2,240		4,800	

Table 3
Summary of Groundwater Analytical Results
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024

Sample Location	Sample Name ²	Sample Date	Analytes (micrograms per liter) ¹							
			Cadmium		Lead		Manganese		Zinc	
			Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
MW-11	BC-120108-MW-11	12/1/2008	19.4	18.9	5.47	<1.00	977	890	10,700	10,400
	BC-030209-MW-11	3/2/2009	13	20.3	3.51	<1.00	224	214	7,680	7,720
	BC-060409-MW-11	6/4/2009	14.4	14	<1.00	<1.00	95.8	52.5	8,600	8,510
	BC-091509-MW-11	9/15/2009	13	12	17	<2.0	200	33	4,000	3,900
	BC-120409-MW-11	12/4/2009	31	29	4.4	<2.0	100	7.4	9,200	8,500
	BC-031810-MW-11	3/18/2010	13	13	5.0	<2.0	210	3.4	5,300	5,300
	BC-062210-MW-11	6/22/2010	14	13	<2.0	<2.0	83	<2.0	6,700	6,600
	BC-101110-MW-11	10/11/2010	15	15	5	<2.0	49	20	5,300	5,300
	BC-122810-MW-11	12/28/2010	38	37	<2.0	<2.0	230	110	9,600	9,500
	BC-032511-MW-11	3/25/2011	15	14	1.7	<1.0	64	<10	6,300	6,000
	BC-062311-MW-11	6/23/2011	21	21	<2.0	<2.0	100	10	8,300	8,200
	BC-102411-MW-11	10/24/2011	21	20	7.8	<2.0	160	21	8,200	7,700
	BC-010412-MW-11	1/4/2012	20	18	17	<2.0	480	<2.0	6,500	6,000
	BC-030912-MW-11	3/9/2012	13	12	3.3	<2.0	63	24	5,300	5,000
	BC-061412-MW-11	6/14/2012	16	15	5.5	<2.0	140	<2.0	6,700	6,700
	BC-092512-MW-11	9/25/2012	37	37	10	4.9	97	39	6,000	6,200
	BC-121112-MW-11	12/11/2012	18	17	2.0	<2.0	22	7	6,000	5,700
	BC-032113-MW-11	3/21/2013	11	11	2.7	<2.0	54	<2.0	4,800	4,800
	BC-062013-MW-11	6/20/2013	17	16	19	<2.0	310	2.5	5,000	5,100
	BC-090413-MW-11	9/4/2013	33	35	14	6.6	53	15	5,600	6,000
	DUP-090413	9/4/2013	32	36	15	6.8	62	15	5,600	6,000
	BC-121113-MW-11	12/11/2013	19	19	3.3	<2.0	53	2.0	5,600	5,400
	MW-11-DUP-121113-MW	12/11/2013	20	19	3.2	<2.0	39	3.4	5,600	5,600
	BC-030614-MW-11	3/6/2014	11	11	<2.0	<2.0	19	<2.0	4,100	4,000
	MW-11-DUP-030614	3/6/2014	11	12	2.9	<2.0	58	<2.0	4,100	4,200
	BC-060514-MW-11	6/5/2014	11	9.8	3.6	<2.0	76	2.2	4,000	4,000
	MW-11-DUP-060514	6/5/2014	10	10	3.1	<2.0	61	<2.0	4,000	4,000
	BC-091114-MW-11 ⁴	9/11/2014	70	72	10	6.0	57	20	8,500	8,600
	MW-11-DUP-091114	9/11/2014	71	71	11	5.9	67	20	8,300	8,300
	BC-121714-MW-11	12/17/2014	21	20	5.7	<2.0	56	3.0	5,600	5,300
	MW-11-DUP-121714	12/17/2014	20	21	5.1	<2.0	41	3.3	5,300	5,400
	BC-031015-MW-11	3/10/2015	12	12	5.0	<2.0	71	<10	3,800	4,100
	MW-11-DUP-031015	3/10/2015	11	11	15	<2.0	170	<10	3,700	3,500
	BC-060915-MW-11	6/9/2015	12	12	2.7	<2.0	25	<10	4,600	4,400
	MW-11-DUP-060915	6/9/2015	12	12	2.8	<2.0	27	<10	4,500	4,600
	BC-090815-MW-11	9/8/2015	65	69	17	8.3	74	36	11,000	11,000
	MW-11-DUP-090815	9/8/2015	63	69	17	8.7	80	36	10,000	11,000
	BC-121715-MW-11	12/17/2015	47	45	5.2	2.4	45	22	11,000	10,000
	MW-11-DUP-121715	12/17/2015	48	46	12	<2.0	110	11	11,000	10,000
	BC-031016-MW-11	3/10/2016	31	32	5.6	3.2	73	44	9,300	9,600
	MW-11-DUP-031016	3/10/2016	32	30	6.6	3.1	87	40	9,500	9,200
	BC-060916-MW-11	6/9/2016	18	17	<2.0	<2.0	32	<10	6,700	6,500
	MW-11-DUP-060916	6/9/2016	19	19	2.8	<2.0	50	<10	6,900	6,900
	BC-091316-MW-11	9/13/2016	26	26	50	2.3	140	48	7,400	7,700
	MW-11-DUP-091316	9/13/2016	27	25	44	2.3	140	51	7,700	7,400
	BC-120616-MW-11	12/6/2016	29	28	7.7	<2.0	50	<10	7,000	6,800
	MW-11-DUP-120616	12/6/2016	29	28	6.6	<2.0	48	11	7,000	6,800
	BC-030217-MW-11	3/2/2017	57	52	15	2.1	180	26	10,000	9,300
	MW-11-DUP-030217	3/2/2017	55	52	13	<2.0	160	19	9,700	9,400
Site-Specific Cleanup Levels for Groundwater³			5		15		2,240		4,800	

Table 3
Summary of Groundwater Analytical Results
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024

Sample Location	Sample Name ²	Sample Date	Analytes (micrograms per liter) ¹							
			Cadmium		Lead		Manganese		Zinc	
			Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
MW-11 (Continued)	BC-060617-MW-11	6/6/2017	18	18	<4.0	<4.0	48	<10	6,800	6,800
	MW-11-DUP-060617	6/6/2017	17	18	5.6	<4.0	70	<10	6,600	6,800
	BC-090617-MW-11	9/6/2017	19	22	20	<4.0	82	26	7,400	7,700
	MW-11-DUP-090617	9/6/2017	20	26	31	<4.0	100	24	7,700	8,400
	BC-122017-MW-11	12/20/2017	25	22	4.3	<4.0	18	<10	6,500	6,000
	MW-11-DUP-122017	12/20/2017	24	23	<4.0	<4.0	16	<10	6,400	6,100
	BC-030618-MW-11	3/6/2018	15	13	4.3	<4.0	71	<10	4,300	4,100
MW-11-DUP-030618	3/6/2018	14	13	4.2	<4.0	68	<10	4,200	4,200	
MW-12	BC-120108-MW-12	12/1/2008	16.4	14.6	<1.00	<1.00	773	651	4,360	3,730
	BC-030209-MW-12	3/2/2009	20.8	13.0	<1.00	<1.00	463	59.0	5,210	4,780
	BC-060409-MW-12	6/4/2009	12.8	12.7	<1.00	<1.00	449	309	3,460	2,980
	BC-091509-MW-12	9/15/2009	19	18	<2.0	<2.0	520	410	3,700	3,500
	BC-120409-MW-12	12/4/2009	20	15	<2.0	<2.0	1,100	60	4,300	3,800
	BC-031810-MW-12	3/18/2010	15	13	<2.0	<2.0	250	30	3,300	3,100
	BC-062210-MW-12	6/22/2010	11	10	<2.0	<2.0	110	7.6	2,700	2,700
	BC-101110-MW-12	10/11/2010	14	13	<2.0	<2.0	250	10.0	3,700	3,400
	BC-122810-MW-12	12/28/2010	23	24	<2.0	<2.0	240	8.0	5,100	5,100
	BC-032511-MW-12	3/25/2011	12	11	<1.1	<1.0	240	<10	2,900	2,900
	BC-062311-MW-12	6/23/2011	14	14	<2.0	<2.0	150	3.8	3,800	3,700
	BC-102411-MW-12	10/24/2011	17	16	<2.0	<2.0	110	11.0	4,100	4,000
	BC-010412-MW-12	1/4/2012	17	16	<2.0	<2.0	270	2.5	4,100	3,800
	BC-030912-MW-12	3/9/2012	14	13	<2.0	<2.0	220	4.1	3,300	3,200
	BC-061412-MW-12	6/14/2012	15	13	<2.0	<2.0	700	<2.0	3,500	3,400
	BC-092512-MW-12	9/25/2012	19	14	<2.0	<2.0	1,100	3.3	4,000	3,500
	BC-121112-MW-12	12/11/2012	18	17	<2.0	<2.0	130	3.4	4,400	4,200
	BC-032113-MW-12	3/21/2013	15	13	<2.0	<2.0	110	<2.0	3,600	3,400
	BC-062013-MW-12	6/20/2013	12	12	<2.0	<2.0	100	<2.0	2,900	3,000
	BC-090413-MW-12	9/4/2013	15	14	<2.0	<2.0	200	<2.0	3,900	3,800
	BC-121113-MW-12	12/11/2013	18	16	<2.0	<2.0	180	3.2	4,400	4,100
	BC-030614-MW-12	3/6/2014	19	18	<2.0	<2.0	170	3.7	4,400	4,400
	BC-060514-MW-12	6/5/2014	13	12	<2.0	<2.0	130	2.6	3,100	2,900
	BC-091114-MW-12	9/11/2014	13	12	<2.0	<2.0	120	2.8	3,300	3,200
	BC-121714-MW-12	12/17/2014	27	25	<2.0	<2.0	280	6.2	6,300	6,100
	BC-031015-MW-12	3/10/2015	12	13	<2.0	<2.0	200	20	3,000	3,300
	BC-060915-MW-12	6/9/2015	12	11	<2.0	<2.0	100	15	3,000	2,900
	BC-090815-MW-12	9/8/2015	11	11	<2.0	<2.0	49	12	3,100	3,100
	BC-121715-MW-12	12/17/2015	20	17	<2.0	<2.0	280	<10	4,600	4,300
	BC-031016-MW-12	3/10/2016	12	13	<2.0	<2.0	18	13	3,000	3,000
	BC-060916-MW-12	6/9/2016	13	12	<2.0	<2.0	360	<10	3,300	3,200
	BC-091316-MW-12	9/13/2016	16	15	<2.0	<2.0	68	<10	3,900	3,800
	BC-120616-MW-12	12/6/2016	17	16	<2.0	<2.0	98	<10	4,200	3,800
BC-030217-MW-12	3/2/2017	15	14	<2.0	<2.0	300	<10	3,800	3,700	
BC-060617-MW-12	6/6/2017	14	12	<4.0	<4.0	300	<10	3,300	3,000	
BC-090617-MW-12	9/6/2017	15	13	<4.0	<4.0	120	<10	3,400	3,400	
BC-122017-MW-12	12/20/2017	16	14	<4.0	<4.0	33	<10	4,000	3,500	
BC-030618-MW-12	3/6/2018	15	12	<4.0	<4.0	550	<10	3,000	2,900	
Site-Specific Cleanup Levels for Groundwater³			5		15		2,240		4,800	

Table 3
Summary of Groundwater Analytical Results
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024

Sample Location	Sample Name ²	Sample Date	Analytes (micrograms per liter) ¹							
			Cadmium		Lead		Manganese		Zinc	
			Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
MW-13	BC-120108-MW-13	12/1/2008	1.66	1.76	<1.00	<1.00	17.6	18.5	909	890
	BC-030209-MW-13	3/2/2009	1.76	1.73	<1.00	<1.00	25.4	25.2	859	824
	BC-060409-MW-13	6/4/2009	1.58	1.41	<1.00	<1.00	31.3	28.8	654	694
	BC-091509-MW-13	9/15/2009	2.3	2.1	<2.0	<2.0	11	10	830	820
	BC-120409-MW-13	12/4/2009	2.1	2.7	<2.0	<2.0	10	16	970	1,000
	BC-031810-MW-13	3/18/2010	2.3	2.4	<2.0	<2.0	36	35	930	960
	BC-062210-MW-13	6/22/2010	<2.0	2.1	<2.0	<2.0	36	38	680	700
	BC-101110-MW13	10/11/2010	2.2	2.2	<2.0	<2.0	15	20	870	880
	BC-122810-MW-13	12/28/2010	2.5	2.7	<2.0	<2.0	29	30	880	880
	BC-032511-MW-13	3/25/2011	<4.4	<4.0	<1.1	<1.0	39	40	770	730
	BC-062311-MW-13	6/23/2011	2.0	<2.0	<2.0	<2.0	7.5	6.8	640	610
	BC-102411-MW-13	10/24/2011	2.4	2.5	<2.0	<2.0	6.6	4.3	890	880
	BC-010412-MW-13	1/4/2012	2.4	2.1	<2.0	<2.0	23	4	860	790
	BC-030912-MW-13	3/9/2012	2.0	<2.0	<2.0	<2.0	15	11	730	730
	BC-061412-MW-13	6/14/2012	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	550	560
	BC-092512-MW-13	9/25/2012	<2.0	<2.0	<2.0	<2.0	5.0	4.9	560	600
	BC-121112-MW-13	12/11/2012	2.2	2.3	<2.0	<2.0	<2.0	<2.0	860	840
	BC-032113-MW-13	3/21/2013	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	640	620
	BC-062013-MW-13	6/20/2013	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	460	470
	BC-090413-MW-13	9/4/2013	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	630	620
	BC-121113-MW-13	12/11/2013	2.1	<2.0	<2.0	<2.0	<2.0	2.1	710	680
	BC-030614-MW-13	3/6/2014	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	510	480
	BC-060514-MW-13	6/5/2014	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	460	450
	BC-091114-MW-13	9/11/2014	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	680	690
	BC-121714-MW-13	12/17/2014	2.0	2.0	<2.0	<2.0	<2.0	<2.0	680	690
	BC-031015-MW-13	3/10/2015	<2.0	<2.0	<2.0	<2.0	<10	<10	540	530
	BC-060915-MW-13	6/9/2015	<2.0	<2.0	<2.0	<2.0	<10	<10	520	520
	BC-090815-MW-13	9/8/2015	<2.0	<2.0	<2.0	<2.0	<10	<10	610	600
	BC-121715-MW-13	12/17/2015	<2.0	<2.0	<2.0	<2.0	<10	<10	630	630
	BC-031016-MW-13	3/10/2016	<2.0	<2.0	<2.0	<2.0	<10	<10	650	640
	BC-060916-MW-13	6/9/2016	<2.0	<2.0	<2.0	<2.0	<10	<10	560	550
	BC-091316-MW-13	9/13/2016	<2.0	2.2	<2.0	<2.0	<10	<10	680	740
	BC-120616-MW-13	12/6/2016	2.4	2.3	<2.0	<2.0	<10	<10	850	790
BC-030217-MW-13	3/2/2017	<2.0	<2.0	<2.0	<2.0	<10	<10	600	600	
BC-060617-MW-13	6/6/2017	<2.0	<2.0	<4.0	<4.0	<10	<10	590	600	
BC-090617-MW-13	9/6/2017	<2.0	<2.0	<4.0	<4.0	<10	<10	620	590	
BC-122017-MW-13	12/20/2017	<2.0	<2.0	<4.0	<4.0	<10	<10	640	690	
BC-030618-MW-13	3/6/2018	<2.0	<2.0	<4.0	<4.0	<10	<10	440	440	
Site-Specific Cleanup Levels for Groundwater³			5		15		2,240		4,800	

NOTES:

Results in **bold** denote concentrations at or exceeding applicable cleanup levels.
 < denotes analyte not detected at or exceeding the reporting limit listed.

¹ Analyzed by U.S. Environmental Protection Agency Methods 6000/7000 Series.

² Actual sample names are followed by a "D" or a "T," indicating whether the groundwater sample was analyzed for dissolved (filtered) or total (unfiltered) metals.

³ Washington State Model Toxics Control Act Cleanup Regulation Method A, B, or C cleanup levels for groundwater, as specified in Table 1 of the *Cleanup Action Plan, Bay Chemical Site, Yakima, Washington* dated February 2006, prepared by the Washington State Department of Ecology.

⁴ The sample collected from monitoring well MW-11 on September 11, 2014 was reanalyzed by TestAmerica Laboratories, Inc. on November 6, 2014; monitoring well MW-11 was resampled by Farallon on November 6, 2014. The results from the reanalysis and resampling of monitoring well MW-11 groundwater were similar to the initial September 11, 2014 results.

**ATTACHMENT A
LABORATORY ANALYTICAL RESULTS**

MARCH 2018—QUARTERLY GROUNDWATER MONITORING AND
SAMPLING AND ANNUAL CONTAINMENT AREA INSPECTION PROGRESS
REPORT

Bay Chemical Site
Yakima, Washington

Farallon PN: 683-024

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-75589-1

Client Project/Site: BNSF Bay Chemical

For:

Farallon Consulting LLC
975 5th Avenue NW
Suite 100
Issaquah, Washington 98027

Attn: Amy Essig Desai



Authorized for release by:
3/14/2018 11:09:59 AM

Kristine Allen, Manager of Project Management
(253)248-4970

kristine.allen@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.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Job ID: 580-75589-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative
580-75589-1

Comments

No additional comments.

Receipt

The samples were received on 3/7/2018 3:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.1° C.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Client Sample ID: BC-030618-MW-1-D

Lab Sample ID: 580-75589-1

Date Collected: 03/06/18 09:58

Matrix: Water

Date Received: 03/07/18 15:00

Method: 6020 - Dissolved Metals by ICP-MS - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.0020		mg/L		03/09/18 13:57	03/13/18 01:00	5
Lead	ND		0.0040		mg/L		03/09/18 13:57	03/13/18 01:00	5
Manganese	ND		0.010		mg/L		03/09/18 13:57	03/13/18 01:00	5
Zinc	ND		0.035		mg/L		03/09/18 13:57	03/13/18 01:00	5

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Client Sample ID: BC-030618-MW-1-T

Lab Sample ID: 580-75589-2

Date Collected: 03/06/18 10:00

Matrix: Water

Date Received: 03/07/18 15:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040		mg/L		03/09/18 13:57	03/13/18 01:36	5
Cadmium	ND		0.0020		mg/L		03/09/18 13:57	03/13/18 01:36	5
Manganese	ND		0.010		mg/L		03/09/18 13:57	03/13/18 01:36	5
Zinc	ND		0.035		mg/L		03/09/18 13:57	03/13/18 01:36	5

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Client Sample ID: BC-030618-MW-13-D

Lab Sample ID: 580-75589-3

Date Collected: 03/06/18 10:35

Matrix: Water

Date Received: 03/07/18 15:00

Method: 6020 - Dissolved Metals by ICP-MS - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.0020		mg/L		03/09/18 13:57	03/13/18 01:40	5
Lead	ND		0.0040		mg/L		03/09/18 13:57	03/13/18 01:40	5
Manganese	ND		0.010		mg/L		03/09/18 13:57	03/13/18 01:40	5
Zinc	0.44		0.035		mg/L		03/09/18 13:57	03/13/18 01:40	5

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Client Sample ID: BC-030618-MW-13-T

Lab Sample ID: 580-75589-4

Date Collected: 03/06/18 10:37

Matrix: Water

Date Received: 03/07/18 15:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040		mg/L		03/09/18 13:57	03/13/18 01:44	5
Cadmium	ND		0.0020		mg/L		03/09/18 13:57	03/13/18 01:44	5
Manganese	ND		0.010		mg/L		03/09/18 13:57	03/13/18 01:44	5
Zinc	0.44		0.035		mg/L		03/09/18 13:57	03/13/18 01:44	5

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Client Sample ID: BC-030618-MW-12-D

Lab Sample ID: 580-75589-5

Date Collected: 03/06/18 12:03

Matrix: Water

Date Received: 03/07/18 15:00

Method: 6020 - Dissolved Metals by ICP-MS - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.012		0.0020		mg/L		03/09/18 13:57	03/13/18 01:47	5
Lead	ND		0.0040		mg/L		03/09/18 13:57	03/13/18 01:47	5
Manganese	ND		0.010		mg/L		03/09/18 13:57	03/13/18 01:47	5
Zinc	2.9		0.035		mg/L		03/09/18 13:57	03/13/18 01:47	5

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Client Sample ID: BC-030618-MW-12-T

Lab Sample ID: 580-75589-6

Date Collected: 03/06/18 12:05

Matrix: Water

Date Received: 03/07/18 15:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040		mg/L		03/09/18 13:57	03/13/18 01:51	5
Cadmium	0.015		0.0020		mg/L		03/09/18 13:57	03/13/18 01:51	5
Manganese	0.55		0.010		mg/L		03/09/18 13:57	03/13/18 01:51	5
Zinc	3.0		0.035		mg/L		03/09/18 13:57	03/13/18 01:51	5

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Client Sample ID: BC-030618-MW-10-D

Lab Sample ID: 580-75589-7

Date Collected: 03/06/18 12:37

Matrix: Water

Date Received: 03/07/18 15:00

Method: 6020 - Dissolved Metals by ICP-MS - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.0020		mg/L		03/09/18 13:57	03/13/18 01:55	5
Lead	ND		0.0040		mg/L		03/09/18 13:57	03/13/18 01:55	5
Manganese	ND		0.010		mg/L		03/09/18 13:57	03/13/18 01:55	5
Zinc	0.058		0.035		mg/L		03/09/18 13:57	03/13/18 01:55	5

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Client Sample ID: BC-030618-MW-10-T

Lab Sample ID: 580-75589-8

Date Collected: 03/06/18 12:40

Matrix: Water

Date Received: 03/07/18 15:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0040		mg/L		03/09/18 13:57	03/13/18 01:59	5
Cadmium	ND		0.0020		mg/L		03/09/18 13:57	03/13/18 01:59	5
Manganese	ND		0.010		mg/L		03/09/18 13:57	03/13/18 01:59	5
Zinc	0.059		0.035		mg/L		03/09/18 13:57	03/13/18 01:59	5

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Client Sample ID: BC-030618-MW-11-D

Lab Sample ID: 580-75589-9

Date Collected: 03/06/18 13:20

Matrix: Water

Date Received: 03/07/18 15:00

Method: 6020 - Dissolved Metals by ICP-MS - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.013		0.0020		mg/L		03/09/18 13:57	03/13/18 02:03	5
Lead	ND		0.0040		mg/L		03/09/18 13:57	03/13/18 02:03	5
Manganese	ND		0.010		mg/L		03/09/18 13:57	03/13/18 02:03	5
Zinc	4.1		0.035		mg/L		03/09/18 13:57	03/13/18 02:03	5

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Client Sample ID: BC-030618-MW-11-T

Lab Sample ID: 580-75589-10

Date Collected: 03/06/18 13:22

Matrix: Water

Date Received: 03/07/18 15:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0043		0.0040		mg/L		03/09/18 13:57	03/13/18 02:07	5
Cadmium	0.015		0.0020		mg/L		03/09/18 13:57	03/13/18 02:07	5
Manganese	0.071		0.010		mg/L		03/09/18 13:57	03/13/18 02:07	5
Zinc	4.3		0.035		mg/L		03/09/18 13:57	03/13/18 02:07	5

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Client Sample ID: MW-11-DUP-030618-D

Lab Sample ID: 580-75589-11

Date Collected: 03/06/18 13:24

Matrix: Water

Date Received: 03/07/18 15:00

Method: 6020 - Dissolved Metals by ICP-MS - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.013		0.0020		mg/L		03/09/18 13:57	03/13/18 02:27	5
Lead	ND		0.0040		mg/L		03/09/18 13:57	03/13/18 02:27	5
Manganese	ND		0.010		mg/L		03/09/18 13:57	03/13/18 02:27	5
Zinc	4.2		0.035		mg/L		03/09/18 13:57	03/13/18 02:27	5

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Client Sample ID: MW-11-DUP-030618-T

Lab Sample ID: 580-75589-12

Date Collected: 03/06/18 13:26

Matrix: Water

Date Received: 03/07/18 15:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0042		0.0040		mg/L		03/09/18 13:57	03/13/18 02:31	5
Cadmium	0.014		0.0020		mg/L		03/09/18 13:57	03/13/18 02:31	5
Manganese	0.068		0.010		mg/L		03/09/18 13:57	03/13/18 02:31	5
Zinc	4.2		0.035		mg/L		03/09/18 13:57	03/13/18 02:31	5

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 580-268736/20-A
Matrix: Water
Analysis Batch: 268890

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 268736

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.0020		mg/L		03/09/18 13:57	03/13/18 00:48	5
Lead	ND		0.0040		mg/L		03/09/18 13:57	03/13/18 00:48	5
Manganese	ND		0.010		mg/L		03/09/18 13:57	03/13/18 00:48	5
Zinc	ND		0.035		mg/L		03/09/18 13:57	03/13/18 00:48	5

Lab Sample ID: LCS 580-268736/21-A
Matrix: Water
Analysis Batch: 268890

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 268736

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.100	0.105		mg/L		105	80 - 120
Lead	1.00	0.959		mg/L		96	80 - 120
Manganese	1.00	0.962		mg/L		96	80 - 120
Zinc	4.00	3.77		mg/L		94	80 - 120

Lab Sample ID: LCSD 580-268736/22-A
Matrix: Water
Analysis Batch: 268890

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 268736

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cadmium	0.100	0.0898		mg/L		90	80 - 120	15	20
Lead	1.00	0.979		mg/L		98	80 - 120	2	20
Manganese	1.00	0.968		mg/L		97	80 - 120	1	20
Zinc	4.00	3.81		mg/L		95	80 - 120	1	20

Lab Sample ID: 580-75589-1 MS
Matrix: Water
Analysis Batch: 268890

Client Sample ID: BC-030618-MW-1-D
Prep Type: Dissolved
Prep Batch: 268736

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		0.100	0.0994		mg/L		99	80 - 120
Lead	ND		1.00	0.977		mg/L		98	80 - 120
Manganese	ND		1.00	0.994		mg/L		99	80 - 120
Zinc	ND		4.00	3.75		mg/L		94	80 - 120

Lab Sample ID: 580-75589-1 MSD
Matrix: Water
Analysis Batch: 268890

Client Sample ID: BC-030618-MW-1-D
Prep Type: Dissolved
Prep Batch: 268736

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cadmium	ND		0.100	0.0959		mg/L		96	80 - 120	4	20
Lead	ND		1.00	0.999		mg/L		100	80 - 120	2	20
Manganese	ND		1.00	1.01		mg/L		101	80 - 120	2	20
Zinc	ND		4.00	3.90		mg/L		97	80 - 120	4	20

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-75589-1 DU
Matrix: Water
Analysis Batch: 268890

Client Sample ID: BC-030618-MW-1-D
Prep Type: Dissolved
Prep Batch: 268736

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Cadmium	ND		ND		mg/L		NC	20
Lead	ND		ND		mg/L		NC	20
Manganese	ND		ND		mg/L		NC	20
Zinc	ND		ND		mg/L		NC	20

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Client Sample ID: BC-030618-MW-1-D

Lab Sample ID: 580-75589-1

Date Collected: 03/06/18 09:58

Matrix: Water

Date Received: 03/07/18 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			268736	03/09/18 13:57	ASJ	TAL SEA
Dissolved	Analysis	6020		5	268890	03/13/18 01:00	FCW	TAL SEA

Client Sample ID: BC-030618-MW-1-T

Lab Sample ID: 580-75589-2

Date Collected: 03/06/18 10:00

Matrix: Water

Date Received: 03/07/18 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			268736	03/09/18 13:57	ASJ	TAL SEA
Total Recoverable	Analysis	6020		5	268890	03/13/18 01:36	FCW	TAL SEA

Client Sample ID: BC-030618-MW-13-D

Lab Sample ID: 580-75589-3

Date Collected: 03/06/18 10:35

Matrix: Water

Date Received: 03/07/18 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			268736	03/09/18 13:57	ASJ	TAL SEA
Dissolved	Analysis	6020		5	268890	03/13/18 01:40	FCW	TAL SEA

Client Sample ID: BC-030618-MW-13-T

Lab Sample ID: 580-75589-4

Date Collected: 03/06/18 10:37

Matrix: Water

Date Received: 03/07/18 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			268736	03/09/18 13:57	ASJ	TAL SEA
Total Recoverable	Analysis	6020		5	268890	03/13/18 01:44	FCW	TAL SEA

Client Sample ID: BC-030618-MW-12-D

Lab Sample ID: 580-75589-5

Date Collected: 03/06/18 12:03

Matrix: Water

Date Received: 03/07/18 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			268736	03/09/18 13:57	ASJ	TAL SEA
Dissolved	Analysis	6020		5	268890	03/13/18 01:47	FCW	TAL SEA

Client Sample ID: BC-030618-MW-12-T

Lab Sample ID: 580-75589-6

Date Collected: 03/06/18 12:05

Matrix: Water

Date Received: 03/07/18 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			268736	03/09/18 13:57	ASJ	TAL SEA
Total Recoverable	Analysis	6020		5	268890	03/13/18 01:51	FCW	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Client Sample ID: BC-030618-MW-10-D

Lab Sample ID: 580-75589-7

Date Collected: 03/06/18 12:37

Matrix: Water

Date Received: 03/07/18 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			268736	03/09/18 13:57	ASJ	TAL SEA
Dissolved	Analysis	6020		5	268890	03/13/18 01:55	FCW	TAL SEA

Client Sample ID: BC-030618-MW-10-T

Lab Sample ID: 580-75589-8

Date Collected: 03/06/18 12:40

Matrix: Water

Date Received: 03/07/18 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			268736	03/09/18 13:57	ASJ	TAL SEA
Total Recoverable	Analysis	6020		5	268890	03/13/18 01:59	FCW	TAL SEA

Client Sample ID: BC-030618-MW-11-D

Lab Sample ID: 580-75589-9

Date Collected: 03/06/18 13:20

Matrix: Water

Date Received: 03/07/18 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			268736	03/09/18 13:57	ASJ	TAL SEA
Dissolved	Analysis	6020		5	268890	03/13/18 02:03	FCW	TAL SEA

Client Sample ID: BC-030618-MW-11-T

Lab Sample ID: 580-75589-10

Date Collected: 03/06/18 13:22

Matrix: Water

Date Received: 03/07/18 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			268736	03/09/18 13:57	ASJ	TAL SEA
Total Recoverable	Analysis	6020		5	268890	03/13/18 02:07	FCW	TAL SEA

Client Sample ID: MW-11-DUP-030618-D

Lab Sample ID: 580-75589-11

Date Collected: 03/06/18 13:24

Matrix: Water

Date Received: 03/07/18 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			268736	03/09/18 13:57	ASJ	TAL SEA
Dissolved	Analysis	6020		5	268890	03/13/18 02:27	FCW	TAL SEA

Client Sample ID: MW-11-DUP-030618-T

Lab Sample ID: 580-75589-12

Date Collected: 03/06/18 13:26

Matrix: Water

Date Received: 03/07/18 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			268736	03/09/18 13:57	ASJ	TAL SEA
Total Recoverable	Analysis	6020		5	268890	03/13/18 02:31	FCW	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

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Accreditation/Certification Summary

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Laboratory: TestAmerica Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-024	01-19-19
ANAB	DoD ELAP		L2236	01-19-19
ANAB	ISO/IEC 17025		L2236	01-19-19
California	State Program	9	2901	11-05-18
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-05-18
US Fish & Wildlife	Federal		LE058448-0	10-31-18
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-19

Sample Summary

Client: Farallon Consulting LLC
Project/Site: BNSF Bay Chemical

TestAmerica Job ID: 580-75589-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-75589-1	BC-030618-MW-1-D	Water	03/06/18 09:58	03/07/18 15:00
580-75589-2	BC-030618-MW-1-T	Water	03/06/18 10:00	03/07/18 15:00
580-75589-3	BC-030618-MW-13-D	Water	03/06/18 10:35	03/07/18 15:00
580-75589-4	BC-030618-MW-13-T	Water	03/06/18 10:37	03/07/18 15:00
580-75589-5	BC-030618-MW-12-D	Water	03/06/18 12:03	03/07/18 15:00
580-75589-6	BC-030618-MW-12-T	Water	03/06/18 12:05	03/07/18 15:00
580-75589-7	BC-030618-MW-10-D	Water	03/06/18 12:37	03/07/18 15:00
580-75589-8	BC-030618-MW-10-T	Water	03/06/18 12:40	03/07/18 15:00
580-75589-9	BC-030618-MW-11-D	Water	03/06/18 13:20	03/07/18 15:00
580-75589-10	BC-030618-MW-11-T	Water	03/06/18 13:22	03/07/18 15:00
580-75589-11	MW-11-DUP-030618-D	Water	03/06/18 13:24	03/07/18 15:00
580-75589-12	MW-11-DUP-030618-T	Water	03/06/18 13:26	03/07/18 15:00



LABORATORY INFORMATION

Laboratory: **TEST AMERICA** Project Manager: **KRIS ALLEN**
 Address: Phone: **253-922-2310**
 City/State/ZIP: Fax:

LAB WORK ORDER: **75589**
 SHIPMENT INFORMATION
 Shipment Method:
 Tracking Number:

BNSF PROJECT INFORMATION
 BNSF Project Number: **683-024**
 BNSF Project Name: **BAY CHEMICAL**
 BNSF Contact: **Shaw De Gross**

CONSULTANT INFORMATION
 Company: **FARALLON**
 Address: **975 5th Ave NW**
 City/State/ZIP: **ISSAQUAH, WA, 98027**

Project Number: **683-024**
 Project Manager: **Emerald Erickson Mulanax**
 Email: **EMULANAX@FARALLONCONSULTING.COM**
 Phone: **425-295-0800** Fax: **425-295-0850**

TURNAROUND TIME
 1-day Rush
 2-day Rush
 3-day Rush
 5- to 8-day Rush
 Standard 10-Day
 Other:

DELIVERABLES
 BNSF Standard (Level II)
 Level III
 Level IV
 Other Deliverables?
 EDD Req. Format?

METHODS FOR ANALYSIS

TOTAL CADMIUM DISSOLVED	TOTAL CADMIUM	TOTAL ARSENIC DISSOLVED	TOTAL ARSENIC	TOTAL ZINC DISSOLVED	TOTAL ZINC	TOTAL LEAD DISSOLVED	TOTAL LEAD
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SAMPLE INFORMATION

Sample Identification	Containers	Sample Collection			Filtered Y/N	Type (Comp/ Grab)	Matrix
		Date	Time	Sampler			
1. BL-030618-MW-1-D	1	3/6/18	958	K5	Y	G	W
2. BL-030618-MW-1-T	1		1000		N	G	W
3. BL-030618-MW-13-D	1		1035		Y	G	W
4. BL-030618-MW-13-T	1		1037		N	G	W
5. BL-030618-MW-12-D	1		1203		Y	G	W
6. BL-030618-MW-12-T	1		1205		N	G	W
7. BL-030618-MW-10-D	1		1237		Y	G	W
8. BL-030618-MW-10-T	1		1240		N	G	W
9. BL-030618-MW-11-D	1		1320		Y	G	W
10. BL-030618-MW-11-T	1		1322		N	G	W
11. MW-11-DUP-030618-D	1		1324		Y	G	W
12. MW-11-DUP-030618-T	1	↓	1326	↓	N	G	W
13.							
14.							
15.							

COMMENTS
 LAB USE



580-75589 Chain of Custody

Relinquished By: **Ken Smith** Date/Time: **3/6/18 @ 1730**
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:
 Received by Laboratory: Date/Time:
 Received By: **[Signature]** Date/Time: **3/7/18 1506**
 Received By: Date/Time:
 Received By: Date/Time:
 Lab Custody Intact? Yes No
 Lab Remarks: Custody S:

Comments: **Therm. ID Az Cor 5.1° Unc 6.0°**
Cooler Dsc: sm reb
WebPacks Packing: N/A
 Custody Seal: Yes No

ORIGINAL - RETURN TO LABORATORY WITH SAMPLES

DUPLICATE - CONSULTANT

TAL-1001 (09/12)

Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-75589-1

Login Number: 75589

List Source: TestAmerica Seattle

List Number: 1

Creator: Blankinship, Tom X

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

**ATTACHMENT B
SITE PHOTOGRAPHS**

MARCH 2018—QUARTERLY GROUNDWATER MONITORING AND
SAMPLING AND ANNUAL CONTAINMENT AREA INSPECTION PROGRESS
REPORT

Bay Chemical Site
Yakima, Washington

Farallon PN: 683-024

SITE PHOTOGRAPHS

**March 2018—Quarterly Groundwater Monitoring and Sampling and Annual Containment
Area Inspection Progress Report
Bay Chemical Site
Yakima, Washington
Farallon PN: 683-024**

- Photograph 1:** Southern end of BNSF cell finger, looking north.
- Photograph 2:** Top of BNSF cell finger at southern end, looking north.
- Photograph 3:** Top of BNSF cell finger and monitoring well MW-12, looking south.
- Photograph 4:** Eastern side of BNSF cell finger, looking northeast.
- Photograph 5:** Western side of BNSF cell finger and BNSF tracks, looking south.
- Photograph 6:** Eastern side of BNSF cell finger and monitoring well MW-12, looking south.
- Photograph 7:** Western side and top of BNSF main cell, looking north.
- Photograph 8:** Eastern side of BNSF main cell and monitoring well MW-11, looking northeast.
- Photograph 9:** Southeastern side of BNSF main cell and cell finger with Quad tracks, looking west.
- Photograph 10:** Northeastern side of BNSF main cell, looking north.
- Photograph 11:** Quad tracks, burrow, and riprap at southern end of BNSF main cell, looking north.
- Photograph 12:** Quad tracks, burrows, and riprap near monitoring well MW-12 on northeastern end of BNSF cell finger, looking west.
- Photograph 13:** Circular spinout from Quad on southeastern side of BNSF main cell, looking north.
- Photograph 14:** Western side of BNSF main cell from northwestern end of cell, looking south.
- Photograph 15:** Northeastern side of BNSF main cell from northeastern end of cell, looking south.
- Photograph 16:** Northeastern side of BNSF main cell from bottom, looking south.
- Photograph 17:** Northern side of BNSF main cell and BNSF tracks from northern end of cell, looking south.
- Photograph 18:** Northern entrance to BNSF cell from East Washington Avenue, looking north.



SITE PHOTOGRAPHS (continued)
March 2018—Quarterly Groundwater Monitoring and Sampling
and Annual Containment Area Inspection Progress Report
Bay Chemical Site
Yakima, Washington



Photograph 1: Southern end of BNSF cell finger, looking north.



Photograph 2: Top of BNSF cell finger at southern end, looking north.



SITE PHOTOGRAPHS (continued)
March 2018—Quarterly Groundwater Monitoring and Sampling
and Annual Containment Area Inspection Progress Report
Bay Chemical Site
Yakima, Washington



Photograph 3: Top of BNSF cell finger and monitoring well MW-12, looking south.



Photograph 4: Eastern side of BNSF cell finger, looking northeast.



SITE PHOTOGRAPHS (continued)
March 2018—Quarterly Groundwater Monitoring and Sampling
and Annual Containment Area Inspection Progress Report
Bay Chemical Site
Yakima, Washington



Photograph 5: Western side of BNSF cell finger and BNSF tracks, looking south.



Photograph 6: Eastern side of BNSF cell finger and monitoring well MW-12, looking south.



SITE PHOTOGRAPHS (continued)
March 2018—Quarterly Groundwater Monitoring and Sampling
and Annual Containment Area Inspection Progress Report
Bay Chemical Site
Yakima, Washington



Photograph 7: Western side and top of BNSF main cell, looking north.



Photograph 8: Eastern side of BNSF main cell and monitoring well MW-11, looking northeast.



SITE PHOTOGRAPHS (continued)
March 2018—Quarterly Groundwater Monitoring and Sampling
and Annual Containment Area Inspection Progress Report
Bay Chemical Site
Yakima, Washington



Photograph 9: Southeastern side of BNSF main cell and cell finger with Quad tracks, looking west.



Photograph 10: Northeastern side of BNSF main cell, looking north.



SITE PHOTOGRAPHS (continued)
March 2018—Quarterly Groundwater Monitoring and Sampling
and Annual Containment Area Inspection Progress Report
Bay Chemical Site
Yakima, Washington



Photograph 11: Quad tracks, burrow, and riprap at southern end of BNSF main cell, looking north.



Photograph 12: Quad tracks, burrows, and riprap near monitoring well MW-12 on northeastern end of BNSF cell finger, looking west.



SITE PHOTOGRAPHS (continued)
March 2018—Quarterly Groundwater Monitoring and Sampling
and Annual Containment Area Inspection Progress Report
Bay Chemical Site
Yakima, Washington



Photograph 13: Circular spinout from Quad on southeastern side of BNSF main cell, looking north.



Photograph 14: Western side of BNSF main cell from northwestern end of cell, looking south.



SITE PHOTOGRAPHS (continued)
March 2018—Quarterly Groundwater Monitoring and Sampling
and Annual Containment Area Inspection Progress Report
Bay Chemical Site
Yakima, Washington



Photograph 15: Northeastern side of BNSF main cell from northeastern end of cell, looking south.



Photograph 16: Northeastern side of BNSF main cell from bottom, looking south.



SITE PHOTOGRAPHS (continued)
March 2018—Quarterly Groundwater Monitoring and Sampling
and Annual Containment Area Inspection Progress Report
Bay Chemical Site
Yakima, Washington



Photograph 17: Northern side of BNSF main cell and BNSF tracks from northern end of cell, looking south.



Photograph 18: Northern entrance to BNSF cell from East Washington Avenue, looking north.

APPENDIX F
CONCEPTUAL SITE MODEL TECHNICAL MEMORANDUM

FEASIBILITY STUDY REPORT
Agri-Tech and Yakima Steel Fabricators
6 and 10½ East Washington Avenue
Yakima, Washington

Farallon PN: 765-001

T E C H N I C A L M E M O R A N D U M

TO: Chris Wend – Washington Department of Ecology (by mail and email)

cc: Merv Wark – Former Owner/Operator, Yakima Steel Fabricators, Inc. (by email)
Clark Davis – Davis Law Office, PLLC (by email)

FROM: Eric Buer, L.G., L.H.G., Associate Hydrogeologist
Jeff Kaspar, L.G., L.H.G., Principal Geologist

DATE: November 14, 2018

RE: **CONCEPTUAL SITE MODEL TECHNICAL MEMORANDUM
AGRI-TECH AND YAKIMA STEEL FABRICATORS SITE
YAKIMA STEEL FABRICATORS
YAKIMA, WASHINGTON
AGREED ORDER NO. DE 6091
FARALLON PN: 765-001**

Farallon Consulting, L.L.C. (Farallon) has prepared this technical memorandum to provide the Washington State Department of Ecology (Ecology) with a conceptual site model (CSM) for the property at 6 and 10½ East Washington Avenue in Yakima, Washington (herein referred to as the Site) (Figure 1). The CSM presented in this technical memorandum will support completion of a Feasibility Study for the Site. Farallon has prepared this technical memorandum on behalf of Yakima Steel Fabricators, Inc. (YSF) for the YSF and Agri-Tech, Inc. (Agri-Tech) properties that make up the Site (Figure 2).

The work described in this technical memorandum was performed to meet the requirements of *Agreed Order No. DE 6091* entered into by Ecology and YSF pursuant to the authority of the Washington State Model Toxics Control Act (MTCA) dated October 27, 2008 (*Agreed Order*), and the *First Amendment to Agreed Order No. DE 6091* dated October 17, 2016. This technical memorandum includes a brief description of the Site and adjacent properties; discussion of confirmed source areas on the Site; identification of constituents of concern (COCs) and their fate and transport; an exposure assessment; proposed cleanup levels; and points of compliance.

BACKGROUND

This section summarizes relevant background information on the historical Site use and use of the west-adjacent Bay Chemical property.



YSF AND AGRI-TECH SITE DESCRIPTION AND HISTORICAL USAGE

The Site consists of Yakima County Tax Parcel Nos. 19133141009 and 19133141409, which total 6.24 acres of land (Figure 2). Two structures currently are present at the Site: one single-story building currently used for steel fabrication and business offices on the YSF property (YSF building); and one single-story warehouse building on the Agri-Tech property (Agri-Tech building). The areas east and south of the YSF building are used for storage of steel and equipment. Currently, the Agri-Tech building is leased by the operator of YSF for steel fabrication operations.

Historical Site uses include the following (Attachment A, Figure 3):

- Construction and operation of a lime and sulfur formulating plant by Yakima Farmers Supply on the Agri-Tech property from approximately 1960 through 1971. The formulating plant was demolished between 1978 to 1982.
- Operation of a fruit packing supplies and equipment company on the Agri-Tech property from 1982 through 1989.
- Operation of a steel fabrication facility on the YSF property from approximately 1980 to the present.

Additional discussion of historical Site uses is provided in the *Revised Remedial Investigation Report, Agri-Tech & Yakima Steel Fabricators, 6 and 10 ½ East Washington Avenue, Yakima Washington* dated June 10, 2004, prepared by Farallon for Yakima Steel Fabricators (Farallon 2004) (Revised RI Report); and the technical memorandum regarding Metals Source Evaluation, Agri-Tech and Yakima Steel Fabricators Site, Yakima Steel Fabricators, Yakima, Washington dated June 9, 2017, from Messrs. Eric Buer and Jeff Kaspar of Farallon to Mr. Chris Wend of Ecology (Farallon 2017a) (Metals Source TM).

Based on the historical Site uses and physical characteristics, four areas of investigation have been established on the Site (Figure 2):

- Area 1 includes the former Yakima Farmer Supply lime and sulfur processing plant, and the area of the processing plant's waste pit (also referred to as the Area 1 waste pit).
- Area 2 includes the central and eastern portions of the YSF property between the YSF building and the east-adjacent automobile recycling facility, and is suspected to have included stockpiles of bulk lime and sulfur.
- Area 3 includes the portion of the Site south and southwest of the YSF building. Ecology identified Area 3 as a potential area of metals contamination due to historical activities at the west-adjacent Bay Chemical Company property. Area 3 also includes the Site wetland buffer area.
- Area 4 includes the topographically distinct (i.e., 3 to 5 feet below the surrounding Site topography) wetland on the southern portion of the Site. Area 4 has unique environmental conditions, including seasonal standing water and saturated surface soil, and is subject to sediment criteria that do not apply to other portions of the Site.



BAY CHEMICAL SITE DESCRIPTION AND HISTORICAL USAGE

The property west-adjacent to the Site, Yakima County Tax Parcel No. 19133141010, previously was owned by Northern Pacific Railroad, predecessor of current owner, Burlington-Northern Santa Fe Railroad (BNSF) (Figure 2). This property was leased to Bay Chemical Company, a manufacturer of soil micronutrients, from 1963 to late 1975 or early 1976. The BNSF-leased property makes up a portion of the Former Bay Chemical site (herein referred to as the Bay Chemical site), an Ecology-listed facility.

The Bay Chemical Company manufactured liquid zinc sulfate by reacting dry steel mill flue dust and sulfuric acid in wooden mixing tanks. Additional detail regarding Bay Chemical zinc sulfate production practices is provided in the Metals Source TM.

According to the *Former Bay Chemical Site Remedial Investigation Report, Volume 1* dated March 1997, prepared by ERC/Pacific Groundwater Group (1997) (Bay Chemical RI Report), metals associated with the flue dust at the Bay Chemical site included arsenic, antimony, cadmium, chromium, copper, lead, manganese, mercury, and zinc. These metals have been detected in soil and groundwater at the Bay Chemical site and at the Site (Attachment A, Figure 12; Attachment B, Table 7, respectively).

CONCEPTUAL SITE MODEL

This section identifies confirmed source areas of constituents of potential concern (COPCs) that have affected media of concern, including soil, groundwater, and sediment. The nature and extent of contamination, and contaminant fate and transport mechanisms, are also identified and/or discussed.

CONFIRMED SOURCE AREAS

Data collected as part of the remedial investigation (RI) indicate that multiple source areas of COPCs that have affected soil, sediment, and groundwater are present on the Site, off the Site within the Yakima Railroad Area (YRRA), and on the adjacent Bay Chemical site. Source areas that apply to each Area within the Site are discussed below. Additional details describing the nature and extent of COPCs identified during the RI are provided in the Revised RI Report. RI tables and figures are provided in Attachment A. Supplemental sampling of soil, groundwater, and sediment was conducted at the Site in 2011. Preliminary tables summarizing the results of the 2011 supplemental sampling event were provided to Ecology in July and August 2011 and are presented in Attachment B. Chain of Custody forms and laboratory analytical reports from the 2011 supplemental sampling event are also provided in Attachment B. The 2011 investigation and sampling results will be summarized in the Feasibility Study in accordance with the Agreed Order.

Area 1: Yakima Farmer Supply Waste Pit and Processing Plant

Confirmed source areas in Area 1 include the former waste pit constructed by Yakima Farmer Supply (Attachment A, Figure 3). Soil analytical data indicate that volatile organic compounds (VOCs) and chlorinated pesticides are present in soil at concentrations that exceed their respective cleanup levels for soil (Attachment A, Figures 9 and 10, Table 2). Halogenated volatile organic compounds (HVOCs), including tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-



dichloroethene (DCE), and vinyl chloride, were detected at concentrations that exceed their respective cleanup levels in groundwater samples collected from monitoring well WDOE-6, which is within the boundaries of the waste pit (Attachment A, Figure 20). HVOCs, including PCE, TCE, cis-1,2-DCE, and vinyl chloride, were also detected at concentrations that exceed their respective cleanup levels in groundwater samples collected from monitoring wells MW-2 and MW-6, down-gradient of the waste pit (Attachment A, Figure 9). These data indicate that the northern portion of the waste pit is a source of HVOCs to shallow groundwater.

The results of the Bay Chemical site cleanup confirmed the conclusion of the Bay Chemical RI Report that metals from the Bay Chemical site previously encroached upon the Site. The Bay Chemical site cleanup in Area 1 was terminated where the buildings were present and where the waste pit materials were encountered.

PCE concentrations in groundwater exceed the cleanup level at monitoring well MW-1; no source has been identified in the overlying soil (Attachment A, Figure 21). Groundwater samples from monitoring well MW-1 have consistently contained concentrations of PCE and associated degradation products since monitoring began, indicating that an up-gradient source of dissolved-phase PCE exists. Ecology has historically agreed that these constituents may be associated with one or more of the up-gradient YRRA facilities north of the Site.

Area 2: Bulk Lime and Sulfur Stockpiles

No source areas of COPCs have been identified for Area 2. Soil analytical results for HVOCs and pesticides are less than cleanup levels for soil. The observed HVOC concentrations in soil were not high enough or deep enough to be a source of HVOCs to groundwater in Area 2.

PCE periodically was detected at concentrations that exceed the cleanup level of 5 micrograms per liter ($\mu\text{g}/\text{l}$) in groundwater samples collected from monitoring well MW-3 (Attachment A, Figure 19). Monitoring well MW-3 is cross-gradient of the waste pit and its associated down-gradient monitoring wells MW-2 and MW-6. HVOC degradation compounds, including TCE, cis-1,2-DCE, and vinyl chloride, were reported non-detect at the laboratory practical quantitation limit (PQL) in the groundwater samples collected from monitoring well MW-3. Monitoring well MW-3 is screened at a depth between 9 and 29 feet below ground surface (bgs). These data suggest the HVOC impacts to groundwater in Area 2 are associated with an unknown up-gradient source, possibly associated with the YRRA PCE plume.

Area 3: South Site

The west-adjacent Bay Chemical site had been identified as a source of metals contamination in soil at Area 3 (Farallon 2004, 2017a). Cadmium, lead, manganese, and zinc were detected at concentrations exceeding their respective cleanup levels for soil (Attachment A, Figure 3). The west-adjacent Bay Chemical site is a documented source of cadmium, lead, zinc, and other heavy metals associated with dry steel mill flue dust used in production of zinc sulfate.

Wind transport of flue dust and metals-laden settling pond sludge onto the Site occurred throughout the period of active operation on the Bay Chemical site (Farallon 2017a). Overflow



from the Bay Chemical site settling pond, as noted in the Bay Chemical RI Report, resulted in transport of settling pond sludge and metals-contaminated water onto the southern portion of the Site at the wetland (Area 4) and the south-adjacent drainage/irrigation ditch, contaminating Site soils.

Total petroleum hydrocarbons as diesel-range organics (DRO) were detected at a concentration that exceeded the cleanup level of 2,000 milligrams per kilogram (mg/kg) in the soil sample collected from test pit I-TP3 at a depth of 3 feet bgs. DRO was reported non-detect at the laboratory PQL in the soil sample collected from test pit I-TP3 at a depth of 7 feet bgs (Attachment B, Table 1). DRO was reported non-detect at the laboratory PQL in the soil samples collected from test pits I-TP4 and I-TP6. The soil sampling data from test pit I-TP3 indicate a localized shallow source area of DRO is present at I-TP3. No other confirmed COPC source areas have been identified for Area 3.

Area 4: Wetland

As noted above, the west-adjacent Bay Chemical site has been identified as a source of metals contamination to sediment in Area 4 (Farallon 2017a, 2017b). Cadmium was detected at concentrations that exceeded the sediment cleanup screening level of 5.4 mg/kg in three sediment samples collected from Area 4 (Attachment C, Table 1; Attachment C, Figure 4). A fourth sediment sample collected from Area 4 exceeded the sediment cleanup objective of 2.1 mg/kg. No other COPC source areas have been identified for Area 4.

CONTAMINANT FATE AND TRANSPORT

This section includes a discussion of the fate and transport characteristics of the COPCs identified in the affected media at the Site that are relevant to the evaluation of potentially feasible remedial technologies.

Volatile Organic Compounds

Groundwater analytical data indicate very slow leaching of HVOCs from the soil matrix within the Area 1 waste pit to groundwater (Figure 3). The PCE identified in soil beneath the Agri-Tech building is present at relatively high concentrations, and is in direct contact with groundwater. The estimated extent of HVOCs in soil exceeding cleanup levels is shown on Figure 4. Based on soil concentrations, concentrations of PCE in groundwater should exceed those observed at monitoring well WDOE-6 within the waste pit, and down-gradient of monitoring wells MW-2 and MW-6. The estimated extent of HVOCs in groundwater exceeding cleanup levels based on the most-recent groundwater monitoring event (June 2011) is shown on Figure 5. Farallon previously evaluated VOC contributions to groundwater using Ecology cleanup level calculation spreadsheets for soil in direct contact with groundwater. The predicted concentrations of VOCs in groundwater using the Ecology spreadsheets exceed the empirical data for monitoring wells WDOE-6, MW-2, and MW-6 (Farallon 2004).

Farallon's analysis and groundwater monitoring data indicate that the VOC contribution to groundwater from the Area 1 waste pit is negligible and is not resulting in an exceedance of relevant cleanup levels. Furthermore, the soil and groundwater analytical data indicate that natural attenuation of PCE is occurring in the waste pit, as indicated by the presence of PCE degradation



products in groundwater samples collected from monitoring wells WDOE-6, MW-2, and MW-6 (Figure 3). Shallow monitoring wells MW-2, MW-6, and MW-7A are immediately down-gradient of the source of VOCs at the waste pit and historically have contained concentrations of VOCs that have been less than the laboratory PQL, further supporting the supposition that the contribution of contaminant mass from the source of VOCs at the waste pit is minimal.

Water quality and geochemical parameters indicate that conditions in the waste pit, and in the southern portion of Area 3 up-gradient of the Site wetland (Area 4), appear to be conducive to reductive dechlorination of PCE via biodegradation (Attachment A, Table 13). Reductive dechlorination actively degrades PCE to vinyl chloride and eventually to nonhazardous ethene and ethane. Groundwater monitoring performed in June 2011 confirmed that reductive chlorination is ongoing in Site groundwater (Figure 3).

PCE and TCE that are not fully dechlorinated and degraded before being transported into more aerobic groundwater conditions outside the waste pit are subsequently transported down-gradient of, and comingled with, the dissolved-phase plume attributed to an off-Site source within the YRRA. DCE isomers and vinyl chloride that migrate from the waste pit prior to complete anaerobic degradation appear to be degraded aerobically along the groundwater flow path. Concentrations of breakdown products consistently have been less than the cleanup levels for groundwater at down-gradient Site monitoring wells MW-4, MW-5, MW-7A, MW-7B, MW-10, and MW-11 (Figure 3).

The monitoring well pair MW-7A and MW-7B were installed to assess the vertical distribution of VOCs in groundwater on the southern portion of the Site. Monitoring well MW-7A is constructed with a well screen at a depth of 5 to 15 feet bgs. Monitoring well MW-7B is constructed with a well screen at a depth of 25 to 30 feet bgs. Cis-1,2-DCE is the only HVOC detected at monitoring well MW-7A; and PCE, TCE, and cis-1,2-DCE have been detected in groundwater at deep monitoring well MW-7B (Figure 3).

VOCs were not detected at concentrations exceeding cleanup levels in groundwater samples collected from monitoring wells MW-7A and MW-7B, both of which were constructed with screened intervals at the direction of Ecology. Monitoring well WDOE-6, in which HVOCs were detected at concentrations exceeding cleanup levels in groundwater samples, is screened from 11 to 17 feet bgs. Down-gradient monitoring wells MW-2 and MW-6 are screened from 2 to 12 feet bgs and 3 to 13 feet bgs, respectively, at the upper limit of the WDOE-6 well screen. While a gap exists between the bottom of the MW-7A well screen (15 feet bgs) and the top of the MW-7B well screen (25 feet bgs), it is unlikely HVOCs are present at concentrations that exceed their respective cleanup levels in groundwater at this depth interval and remain undetected. The episodic detections of HVOCs in groundwater collected from monitoring well MW-6 would be dispersed and diluted along the flow path between monitoring wells MW-6, MW-7A, and MW-7B. Previous investigations have not identified stratification of the shallow unconfined aquifer on the Site; and historical detections of PCE, TCE, and cis-1,2-DCE in groundwater collected from monitoring wells MW-7A and MW-7B were less than their respective cleanup levels.



Chloroform has been consistently detected in groundwater samples collected from monitoring wells screened at a depth below 20 feet bgs (Attachment A, Table 3), including:

- Monitoring well MW-1 up-gradient of the waste pit;
- Monitoring well MW-3 cross-gradient of the waste pit; and
- Monitoring wells MW-4 and MW-5 down-gradient of the waste pit.

These data suggest a vertical stratification of VOCs in groundwater and that VOCs detected at monitoring well MW-7B are most likely associated with the deeper regional YRRA plume.

Pesticides

Pesticides, including dieldrin, endrin, dichlorodiphenyldichloroethane (DDD), dichlorodiphenyldichloroethylene (DDE), aldrin, and heptachlor epoxide, were detected at concentrations that exceed their respective cleanup levels for soil in samples collected from the Area 1 waste pit. Pesticides have strong sorptive properties, have low solubility in water, and are relatively resistant to biodegradation processes. The detected pesticides are not expected to be mobile and likely will persist in the waste pit materials for an extended period of time depending on the mass of each contaminant present. The soil analytical data indicate that dieldrin, endrin, DDD, DDE, aldrin, and heptachlor epoxide are present primarily beneath the Agri-Tech building, with low concentrations identified in the central portion of the waste pit. The approximate extent of pesticides in soil exceeding applicable cleanup levels is shown on Figure 6.

The estimated extent of pesticides in groundwater exceeding cleanup levels based on the most-recent groundwater monitoring event (June 2011) is shown on Figure 8. Historical dieldrin detection limits exceed the current MTCA Method B cleanup level for groundwater; therefore, the full extent of dieldrin contamination at the Site cannot be determined with the currently available data. However, the suite of pesticides monitored in groundwater indicate that the area of pesticide-contaminated groundwater is stable, and there is minimal risk of pesticides migrating down-gradient in groundwater beyond the southern edge of the YSF building, or ultimately discharging to surface water in Area 4 or further down-gradient at concentrations that would require further action.

Metals

Metals are persistent contaminants that will remain in soil unless physical or chemical processes mobilize the metals. Concentrations of metals in groundwater generally are dictated by the concentrations of metals in soil that are in direct contact with groundwater and other physical and chemical properties that facilitate dissolution of metals from soil to groundwater.

According to the Metals Source TM, cadmium and lead were detected at concentrations that exceed their respective preliminary screening levels in test pits excavated by Ecology in the eastern portion of Area 3 (Attachment D, Table 1). Cadmium, lead, manganese, mercury, and zinc were detected at concentrations that exceed their respective cleanup levels in the western portion of Area 3 and were subsequently excavated to a maximum depth of 6 feet bgs as part of the Bay Chemical



site cleanup (Figure 9). The estimated extent of metals in soil at concentrations exceeding cleanup levels is shown on Figures 10a through 10c.

Cadmium was detected at concentrations that exceed the sediment cleanup screening level of 5.4 mg/kg dry weight in Area 4 sediment. However, bioassay testing of sediment collected from Area 4 did not exceed biological cleanup screening level criteria. Under Section 520 of Chapter 173-204 of the Washington Administrative Code (WAC 173-204-520), Sediment Management Standards, bioassay results override analytical chemistry results. Therefore, the metals detected do not qualify Area 4 for listing as a contaminated sediment site.

For one sampling event in 2011, both total and dissolved arsenic were detected at concentrations that slightly exceeded the cleanup level for groundwater of 5 µg/l in monitoring well MW-7A (Attachment B, Table 7). The source of the arsenic in groundwater is suspected to be naturally occurring and may be related to slightly reducing conditions proximate to Area 4 associated with the wetland area. Arsenic concentrations in soil at the Site and the Bay Chemical site predominantly have been less than levels that are considered to present a risk to groundwater.

No other metals were detected at concentrations that exceed groundwater cleanup levels in groundwater samples collected on the Site. However, metals have been detected in Bay Chemical site monitoring wells MW-11 and MW-12, which are located adjacent to the western Site boundary near the wetlands in Area 4. This groundwater is suspected to be the primary source of water to the wetlands, although standing water has not been observed for several years since up-valley irrigation ceased. Surface water has not been sampled and evaluated in the wetlands to determine whether metals pose a risk.

TERRESTRIAL ECOLOGICAL EVALUATION

A Terrestrial Ecological Evaluation (TEE) is required by WAC 173-340-7490 at any site where there has been a release of a hazardous substance to soil. The regulation requires that one of the following actions be taken:

- Documenting a TEE exclusion using the criteria presented in WAC 173-340-7491;
- Conducting a simplified TEE in accordance with WAC 173-340-7492; or
- Conducting a site-specific TEE in accordance with WAC 173-340-7493.

A simplified TEE was conducted in accordance with WAC 173-340-7492. The simplified TEE results indicated the following:

- Chlorinated pesticides were detected at concentrations that exceed the values listed in Table 749-2 for industrial sites. The areas of exceedance are under the concrete floors of the YSF and Agri-Tech buildings and/or other paved areas, which act as engineered barriers and prevent completion of the exposure pathway for terrestrial ecologic receptors under WAC 173-340-7492(2)(b).
- Soil in the areas defined by sampling locations I-TP3, J-TP2, J-TP3, and Pit K; and M-TP1, Pit-M, and TP-8 currently exceed the values identified for metals on industrial sites



in Table 749-2 (Figure 11). However, these areas likely will be excavated as part of a future cleanup action, eliminating current ecologic risk posed by the affected soil.

The engineered barriers provided by the YSF and Agri-Tech building floors and surrounding paved areas render the soil exposure pathway incomplete for pesticides in soil that exceed simplified TEE screening criteria on the Site. Remediation of the small area identified above for metals will eliminate the exposure pathway for metals in soil in the central portion of the Site. Institutional controls will likely be implemented as a component of a future cleanup action to ensure compliance with WAC 173-340-7492(3) and prevent future exposure to plants or soil biota in the event of a change in land use. The institutional controls may include a restrictive covenant that identifies where pesticides remain in soil below engineered barriers and places restrictions on accessing areas where contaminated soil remains.

No further analysis is required by WAC 173-340-7490. The Ecology TEE form for the Site is provided in Attachment E.

TECHNICAL ELEMENTS

This section presents the technical elements of the CSM, including applicable or relevant and appropriate requirements (ARARs), media of concern, COCs, and an exposure pathway assessment. These technical elements will be used in the Feasibility Study to evaluate cleanup technologies and alternatives.

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

Cleanup of contaminated media at the Site will be conducted under the Ecology Agreed Order No. DE 6091. The primary ARARs related to the remedial action include:

- MTCA, Chapter 70.105D of the Revised Code of Washington (RCW 70.105D) and WAC 173-340;
- Washington State Solid Waste Management Laws and Regulations, RCW 70.95, WAC 173-351, and WAC 173-304;
- Washington State Dangerous Waste Regulation, WAC 173-303; and
- Washington State Sediment Management Standards, WAC 173-204.

These primary ARARs are anticipated to be the most applicable to the remedial action, because they provide the framework for the remedial action, including applicable and relevant regulatory guidelines, cleanup standards, waste disposal criteria, references for additional ARARs, and standards for documentation of the remedial action.

Other applicable ARARs for cleanup of the Site include:

- Occupational Safety and Health Act, Part 1910 of Title 29 of the Code of Federal Regulations (29 CFR 1910);



- Safety Standards for Construction Work, WAC 296-155; and
- Accreditation of Environmental Laboratories, WAC 173-50.

EXPOSURE ASSESSMENT

The two types of exposure risk associated with the presence of COPCs at the Site are related to human and terrestrial ecological receptors. This subsection presents the evaluation and conclusions pertaining to the exposure pathways at the Site. The goal of this subsection is to identify potential exposure scenarios that will assist in selection of appropriate cleanup levels for the Site and for evaluation of technically feasible cleanup alternatives during the Feasibility Study.

Soil Pathway

The exposure pathways for shallow soil containing COPCs include the direct contact and inhalation pathways. Direct contact may include dermal contact and ingestion pathways for both human and ecological receptors. Inhalation pathways may include volatilization of volatile COPCs, or in the case of the nonvolatile COPCs such as metals and pesticides, particulate dust. Complete direct contact and inhalation pathways for soil include direct contact with affected soil in Areas 2 and 3 where soil is exposed or covered with a shallow layer of gravel.

Human and ecological exposure to the soil in Area 1 within the former waste pit would require compromising either the building structures or the pavement cap overlying the waste pit that currently mitigates exposure to routine site workers and visitors, neither of which is anticipated. Temporary construction workers conducting subsurface work on utilities or other unique services could be at risk of exposure. Therefore, the direct exposure pathway for Area 1 soil is not complete, with the exception of temporary construction workers conducting work that could result in exposure to affected soil. The inhalation pathway is considered complete for volatile COPCs since no evaluation of soil gas or indoor air has been conducted.

Groundwater Pathway

Potential exposure pathways for COPCs in groundwater include the direct contact (i.e., dermal contact and ingestion) and inhalation pathways. No production or irrigation wells are located on or proximate to the Site, reducing risk of direct contact to standard workers and visitors. Temporary construction workers conducting subsurface work would have exposure risk. Groundwater monitoring analytical data for monitoring wells down-gradient of Area 1 and the YRRA indicate concentrations of COPCs in groundwater, particularly PCE and associated HVOCs, are less than the preliminary screening levels before reaching the Site boundary (Figure 3). The direct contact pathway would be incomplete, with the exception of temporary construction workers conducting subsurface work that could result in exposure to affected groundwater.

The inhalation pathway for groundwater at the Site is considered complete since volatile COPCs are present in Area 1 that may represent a vapor intrusion risk, and that air pathway has not been evaluated during the RI.



Groundwater, including groundwater flowing from the west-adjacent Bay Chemical site proximate to monitoring wells MW-11 and MW-12, is the primary source of water in the wetlands, although standing surface water has not been observed in Area 4 for several years. Surface water has not been sampled and evaluated in the wetlands (Area 4) to determine whether COPCs are present at concentrations that pose a risk to human or ecological receptors. Metals have been identified in groundwater samples collected from Bay Chemical site monitoring wells located near the wetlands, including monitoring wells MW-11 and MW-12, and it is possible that metals-impacted groundwater may be discharging to surface water in the wetlands. Metals associated with residual flue dust contamination (arsenic, cadmium, chromium, copper, lead, manganese, mercury, and zinc) on the Bay Chemical site in soil and groundwater may pose a risk through the groundwater to surface water pathway. The surface water pathway is retained as a complete pathway pending evaluation of surface water quality in the wetlands or groundwater quality near the wetlands.

CLEANUP STANDARDS

As defined in WAC 173-340-700, cleanup standards include establishing cleanup levels and the points of compliance at which the cleanup levels are to be attained. The cleanup standards for the Site have been established in accordance with WAC 173-340-700 through 173-340-760 to be protective of human health and the environment.

CLEANUP LEVELS

The cleanup levels are the concentrations of COCs that are to be met for each medium of concern at the point of compliance defined for the Site. Cleanup levels for the media of concern, soil, groundwater, surface water, and indoor air are presented in Tables 1 through 4. The selected cleanup levels provide the basis for evaluation of cleanup alternatives during the Feasibility Study, define the COCs, and define the media of concern.

POINTS OF COMPLIANCE

The point of compliance is defined in WAC 173-340-200 as the location(s) where cleanup levels established in accordance with WAC 173-340-720 through WAC 173-340-760 will be attained to meet the requirements of MTCA.

The point of compliance for soil is defined as all soil at the Site where analytical results of in-situ soil samples report concentrations of COCs exceeding their respective MTCA cleanup (i.e., the standard point of compliance under MTCA). The point of compliance for soil will not exceed the boundary of the Site.

The standard point of compliance for groundwater is defined as the uppermost level of the saturated zone extending vertically to the lowest depth that potentially could be impacted by the COCs throughout the Site (i.e., the standard point of compliance under MTCA). The point of compliance for groundwater will be selected during a later phase of the cleanup process to comply with WAC 173-340-720(8)(c), Conditional Point of Compliance. The uppermost level of the saturated zone is approximately 2.5 feet bgs. The lowest depth that could be affected by the COCs



is approximately 30 feet bgs. Groundwater monitoring wells that may be used as point of compliance wells include monitoring wells MW-3, MW-4, MW-5, MW-7A, and MW-7B (Figure 2).

MEDIA OF CONCERN

The RI work has confirmed that soil and groundwater are media of concern on the Site. Sampling of shallow groundwater that seasonally discharges to the near-surface in Area 4 indicates surface water, when present, may be an affected media and is retained as a media of concern, but has not been confirmed as such. Bioassay testing indicates that sediment is not a media of concern. Indoor air has been retained as a media of concern, but has not been confirmed as an affected media. Soil gas and indoor air quality historically have not been evaluated during the RI work due to the absence of regulatory criteria that required evaluation of this pathway/media at the time the RI was completed.

CONSTITUENTS OF CONCERN

The COCs are defined as the chemicals that have been detected at concentrations exceeding their respective cleanup levels or are suspected to exceed cleanup levels for pathways that have not been fully evaluated (i.e., surface water and indoor air pathways), which are presented in Tables 1 through 4. Provided below are the COCs identified by medium of concern.

Soil

HVOCs, including PCE, TCE, and cis-1,2-DCE; 1,2-dichloropropane; pesticides, including aldrin and dieldrin; total petroleum hydrocarbons as DRO; and metals, including cadmium, copper, lead, mercury, and zinc, have been identified as COCs for soil (Table 1).

Groundwater

The HVOCs PCE, TCE, cis-1,2-DCE, vinyl chloride, and 1,2-dichloropropane and the pesticides 4,4-DDD, 4,4-DDE, and dieldrin have been identified as COCs for groundwater (Table 2; Figures 3 and 7). Metals have not been retained as COCs for groundwater based on historical groundwater analytical data (Table 2).

Surface Water

Metals, including arsenic, cadmium, chromium, copper, lead, manganese, mercury, and zinc, have been identified as COCs for Area 4 surface water (when present) based on groundwater analytical results from Bay Chemical monitoring wells near Area 4 and information regarding other metals associated with the Bay Chemical flue dust (Table 3).

Soil Gas and Indoor Air

PCE, TCE, and vinyl chloride have been identified as COCs for soil gas and indoor air based on soil and groundwater data from the waste pit (Table 4).



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- . 2017a. Technical Memorandum Regarding Metals Source Evaluation, Agri-Tech and Yakima Steel Fabricators Site, Yakima Steel Fabricators, Yakima, Washington. From Eric Buer and Jeff Kaspar. To Chris Wend, Washington State Department of Ecology. June 9.
- . 2017b. Wetland Evaluation Technical Memorandum, Agri-Tech and Yakima Steel Fabricators Site, Yakima, Washington. From Eric Buer and Jeff Kaspar. To Chris Wend, Washington State Department of Ecology. July 17.

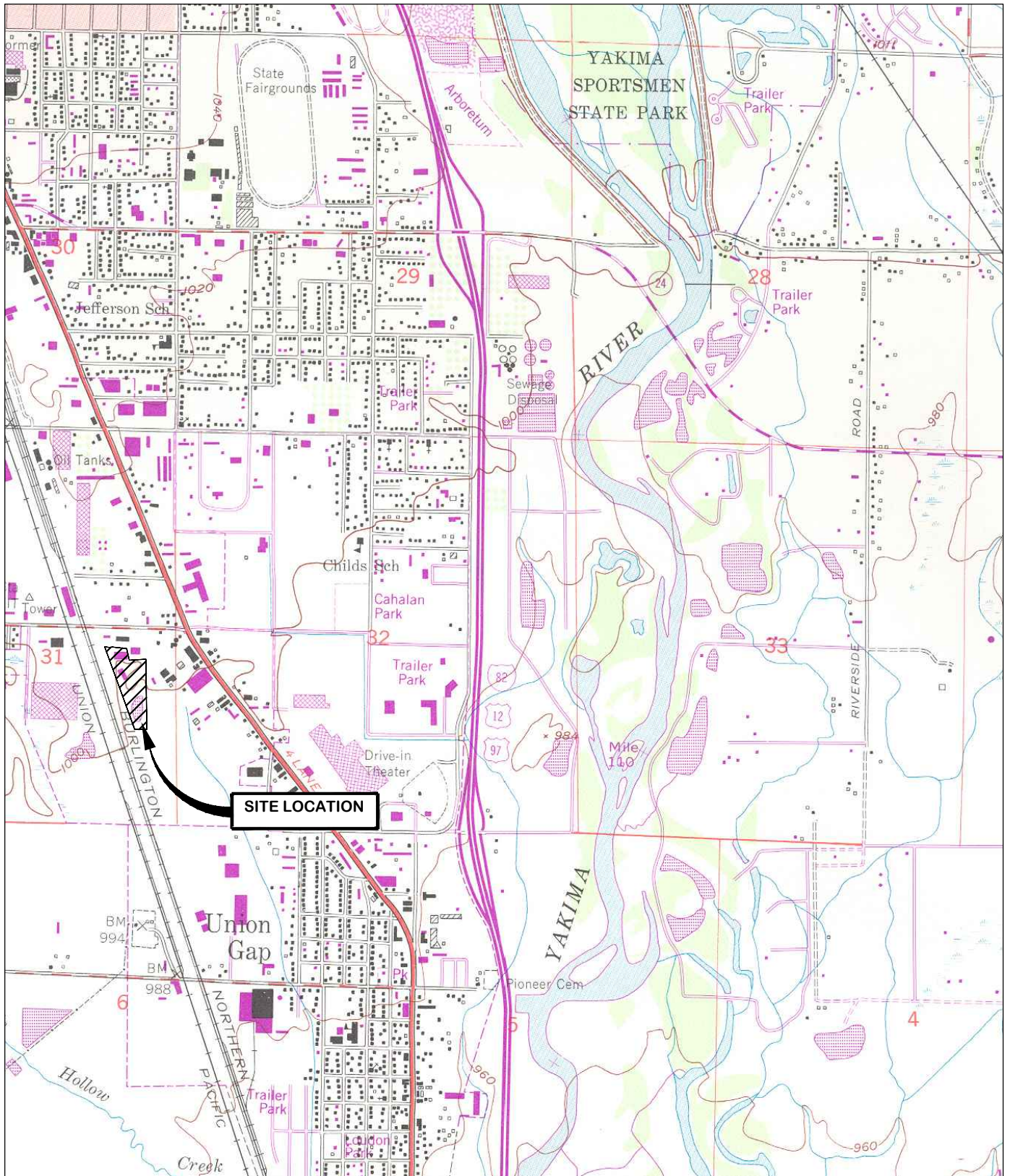
Attachments: Figure 1, *Site Vicinity Map*
Figure 2, *Site Plan and Tax Parcel Locations*
Figure 3, *Groundwater Analytical Results for Volatile Organic Compounds*
Figure 4, *Approximate Extent of HVOCs in Soil Exceeding Cleanup Levels*
Figure 5, *Approximate Extent of HVOCs in Groundwater Exceeding Cleanup Levels*
Figure 6, *Approximate Extent of Pesticides in Soil Exceeding Cleanup Levels*
Figure 7, *Groundwater Analytical Results for Organochlorine Pesticides*
Figure 8, *Approximate Extent of Pesticides in Groundwater Exceeding Cleanup Levels*
Figure 9, *Soil Analytical Results for Metals*
Figure 10a, *Estimated Extent of Soil with Metals Concentrations Exceeding Bay Chemical Cleanup Levels*
Figure 10b, *Estimated Extent of Soil with Metals Concentrations Exceeding Cleanup Levels Based on Protection of Groundwater*
Figure 10c, *Estimated Extent of Soil with Metals Concentrations Exceeding Cleanup Levels Based on Human Health Direct Contact*
Figure 11, *Terrestrial Ecological Evaluation Areas that Exceed Terrestrial Ecological Risk Requirements*
Table 1, *Soil and Sediment Constituents of Concern and Cleanup Levels*
Table 2, *Groundwater Constituents of Concern and Cleanup Levels*
Table 3, *Surface Water Constituents of Concern and Cleanup Levels*
Table 4, *Soil Gas and Indoor Air Constituents of Concern and Cleanup Levels*
Attachment A, *YSF Remedial Investigation Figures and Tables*
Attachment B, *Washington Department of Ecology Test Pit Sampling Tables*
Attachment C, *Wetland Evaluation TM Figures and Tables*
Attachment D, *Metals Source TM Figures and Tables*
Attachment E, *Terrestrial Ecological Evaluation Form*

EB:cm

FIGURES

CONCEPTUAL SITE MODEL TECHNICAL MEMORANDUM
Agri-Tech and Yakima Steel Fabricators Site
Yakima Steel Fabricators
Yakima, Washington

Farallon PN: 765-001



REFERENCE: 7.5 MINUTE USGS QUADRANGLE YAKIMA SOUTH, WASHINGTON. DATED 1953 AND PHOTOREVISED 1981



WASHINGTON




Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

California
Oakland | Sacramento | Irvine

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FIGURE 1

SITE VICINITY MAP
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

Drawn By: DEW



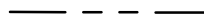



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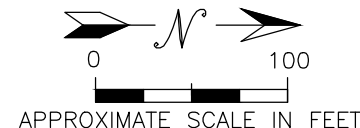
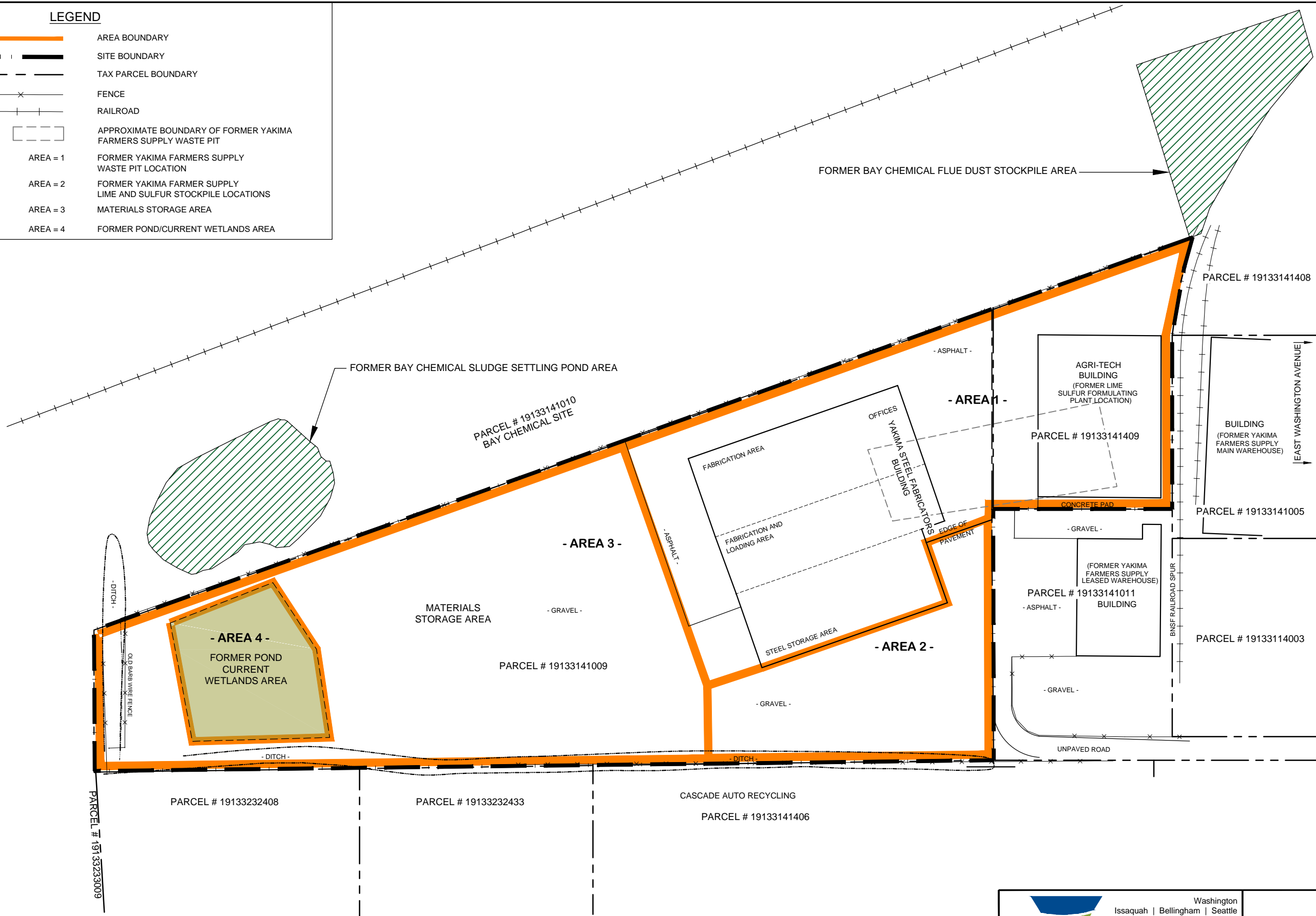
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LEGEND

-  AREA BOUNDARY
-  SITE BOUNDARY
-  TAX PARCEL BOUNDARY
-  FENCE
-  RAILROAD
-  APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA = 1 FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA = 2 FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA = 3 MATERIALS STORAGE AREA
- AREA = 4 FORMER POND/CURRENT WETLANDS AREA




Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

California
Oakland | Sacramento | Irvine

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FIGURE 2






SITE PLAN AND TAX PARCEL LOCATIONS
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON











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LEGEND

-  APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
-  SITE BOUNDARY
-  TAX PARCEL BOUNDARY
-  FENCE
-  RAILROAD
- GROUNDWATER ANALYTICAL RESULTS ARE IN MICROGRAMS PER LITER
- PCE = TETRACHLOROETHENE
- TCE = TRICHLOROETHENE
- CIS-1,2-DCE = CIS 1,2-DICHLOROETHENE
- VC = VINYL CHLORIDE
- = NOT ANALYZED
- < = INDICATES CONCENTRATIONS NOT DETECTED AT OR ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT

-  MW-6 SHALLOW BAY CHEMICAL SITE MONITORING WELL INSTALLED BY PACIFIC GROUNDWATER GROUP (1994)
-  MW-7A SHALLOW MONITORING WELL INSTALLED BY FARALLON (2002)
-  MW-7B DEEP MONITORING WELL INSTALLED BY FARALLON
-  MW-2 SHALLOW MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
-  MW-4 DEEP MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
-  MW-5 DECOMMISSIONED WELL DURING BAY CHEMICAL CLEANUP (2007)
-  WDOE-6 MONITORING WELL INSTALLED BY ECOLOGY (1992)
-  MW-10 BAY CHEMICAL MONITORING WELL (2009)
-  ESTIMATED LATERAL EXTENT OF TYPE 3 WETLAND (EXISTING POND)
-  APPROXIMATE DIRECTION OF GROUNDWATER FLOW

CLEANUP LEVELS	PCE	TCE	CIS-1,2-DCE	VC
	5	5	16	0.20

ANALYTE HIGHLIGHTED IN BLUE EXCEEDS CLEANUP LEVEL INDICATED IN TABLE ABOVE.

NOTE:
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DATE	PCE	TCE	CIS-1,2-DCE	VC
12/3/97	<1.0	1.51	12.4	2.42
3/3/98	1.59	1.46	3.21	<1.0
6/3/98	<1.0	<1.0	7.13	<1.0
9/2/98	1.27	3.06	17.6	<1.0
12/4/02	<2	<2	15	<2.0
6/1/11	1.6	1.5	8.9	0.025

DATE	PCE	TCE	CIS-1,2-DCE	VC
12/3/97	3.64	<1.0	<1.0	<1.0
3/3/98	3.39	<1.0	<1.0	<1.0
6/3/98	6.5	1.18	<1.0	<1.0
9/2/98	4.22	0.71	0.25	<1.0
12/3/02	6	<2	<2	<2
6/2/11	3.2	0.31	0.10	<0.020

DATE	PCE	TCE	CIS-1,2-DCE	VC
5/92	420	430	270	<10
12/3/97	---	---	---	---
3/3/98	49.6	108	83.7	4.24
6/3/98	75.6	60.4	45.6	<1.0
9/2/98	20.8	18.7	11.4	<1.0
12/3/02	<2	<2	14	<2
6/1/11	5.7	31	300	37

DATE	PCE	TCE	CIS-1,2-DCE	VC
6/2/11	1.8	0.10	<0.10	<0.020

DATE	PCE	TCE	CIS-1,2-DCE	VC
6/2/11	1.6	0.22	<0.10	<0.020

DATE	PCE	TCE	CIS-1,2-DCE	VC
12/3/97	3.98	1.1	1	<1.0
3/3/98	2.25	1.02	4.5	<1.0
6/3/98	2.72	<1.0	2.52	<1.0
9/2/98	2.65	0.89	2.87	<1.0
12/4/02	5	<2	<2	<2

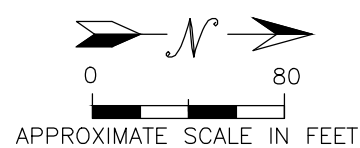
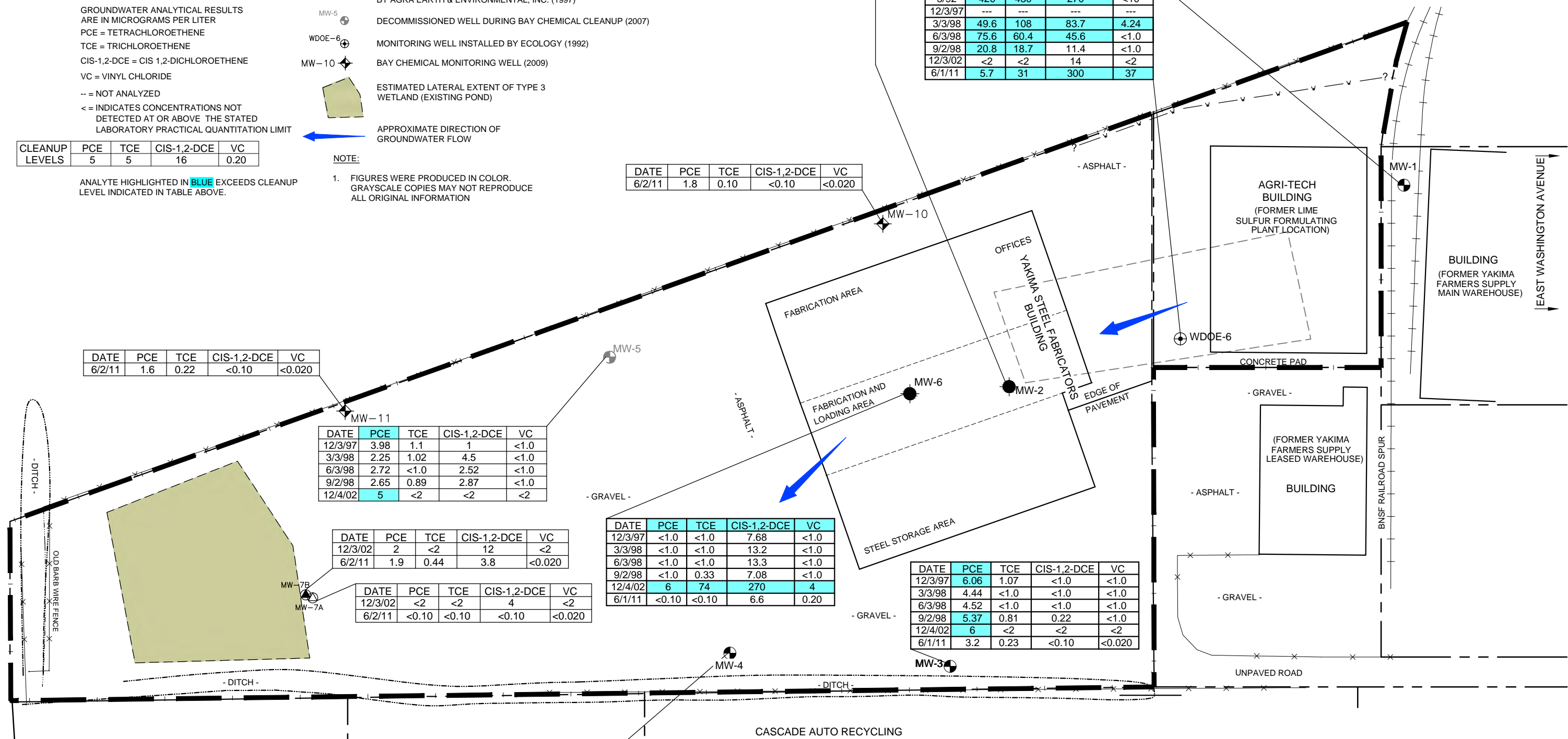
DATE	PCE	TCE	CIS-1,2-DCE	VC
12/3/97	<1.0	<1.0	12	<2
12/3/02	2	<2	12	<2
6/2/11	1.9	0.44	3.8	<0.020

DATE	PCE	TCE	CIS-1,2-DCE	VC
12/3/02	<2	<2	4	<2
6/2/11	<0.10	<0.10	<0.10	<0.020

DATE	PCE	TCE	CIS-1,2-DCE	VC
12/3/97	<1.0	<1.0	7.68	<1.0
3/3/98	<1.0	<1.0	13.2	<1.0
6/3/98	<1.0	<1.0	13.3	<1.0
9/2/98	<1.0	0.33	7.08	<1.0
12/4/02	6	74	270	4
6/1/11	<0.10	<0.10	6.6	0.20

DATE	PCE	TCE	CIS-1,2-DCE	VC
12/3/97	6.06	1.07	<1.0	<1.0
3/3/98	4.44	<1.0	<1.0	<1.0
6/3/98	4.52	<1.0	<1.0	<1.0
9/2/98	5.37	0.81	0.22	<1.0
12/4/02	6	<2	<2	<2
6/1/11	3.2	0.23	<0.10	<0.020

DATE	PCE	TCE	CIS-1,2-DCE	VC
12/3/97	3.32	<1.0	5.23	<1.0
3/3/98	3.78	<1.0	1.64	<1.0
6/3/98	3.86	<1.0	3.25	<1.0
9/2/98	3.12	0.84	4.34	<1.0
12/4/02	5	<2	5	<2
6/1/11	2.2	0.29	0.87	<0.020












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







FIGURE 3
 GROUNDWATER ANALYTICAL RESULTS FOR VOLATILE ORGANICS COMPOUNDS
 YSF/AGRI-TECH SITE
 6 & 10 1/2 EAST WASHINGTON AVENUE
 YAKIMA, WASHINGTON
 FARALLON PN: 765-001

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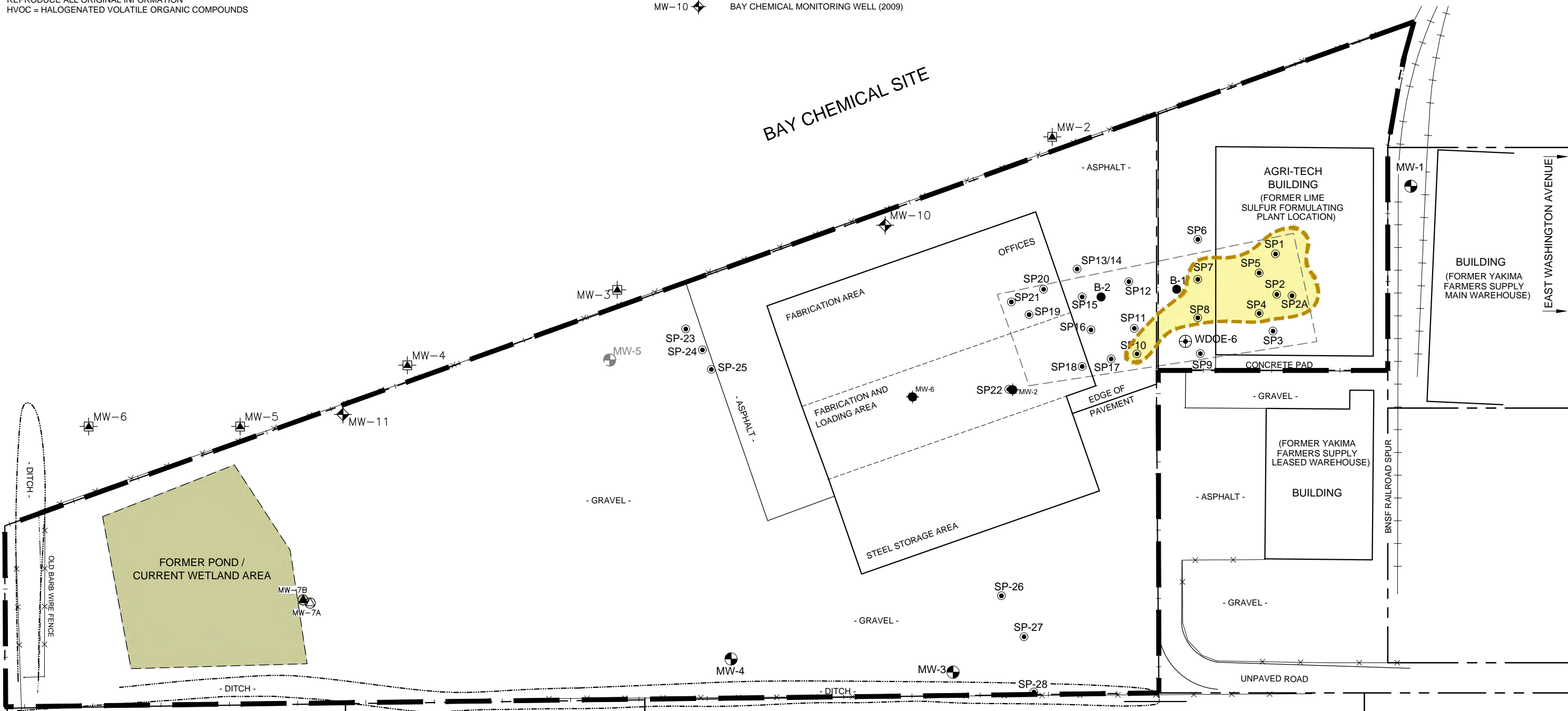
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-  APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
-  SITE BOUNDARY
-  TAX PARCEL BOUNDARY
-  FENCE
-  RAILROAD
-  FORMER POND / CURRENT WETLAND AREA

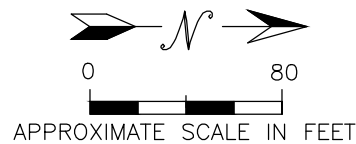
-  B-2 SOIL BORING LOCATION
AGRA EARTH AND ENVIRONMENTAL INC. (1997)
-  SP-27 DIRECT PUSH SOIL BORING LOCATION
AGRA EARTH AND ENVIRONMENTAL INC. (1997)
-  APPROXIMATE EXTENT OF SOIL WITH HVOC CONCENTRATIONS EXCEEDING APPLICABLE CLEANUP LEVELS

-  MW-6 SHALLOW BAY CHEMICAL SITE MONITORING WELL
INSTALLED BY PACIFIC GROUNDWATER GROUP (1994)
-  MW-7A SHALLOW MONITORING WELL INSTALLED BY FARALLON (2002)
-  MW-7B DEEP MONITORING WELL INSTALLED BY FARALLON
-  MW-2 SHALLOW MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
-  MW-4 DEEP MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
-  MW-5 DECOMMISSIONED WELL DURING BAY CHEMICAL CLEANUP
-  WDOE-6 MONITORING WELL INSTALLED BY ECOLOGY (1992)
-  MW-10 BAY CHEMICAL MONITORING WELL (2009)

- NOTE:**
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 2. HVOC = HALOGENATED VOLATILE ORGANIC COMPOUNDS



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FIGURE 4

APPROXIMATE EXTENT OF HVOCs IN SOIL EXCEEDING CLEANUP LEVELS
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON







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


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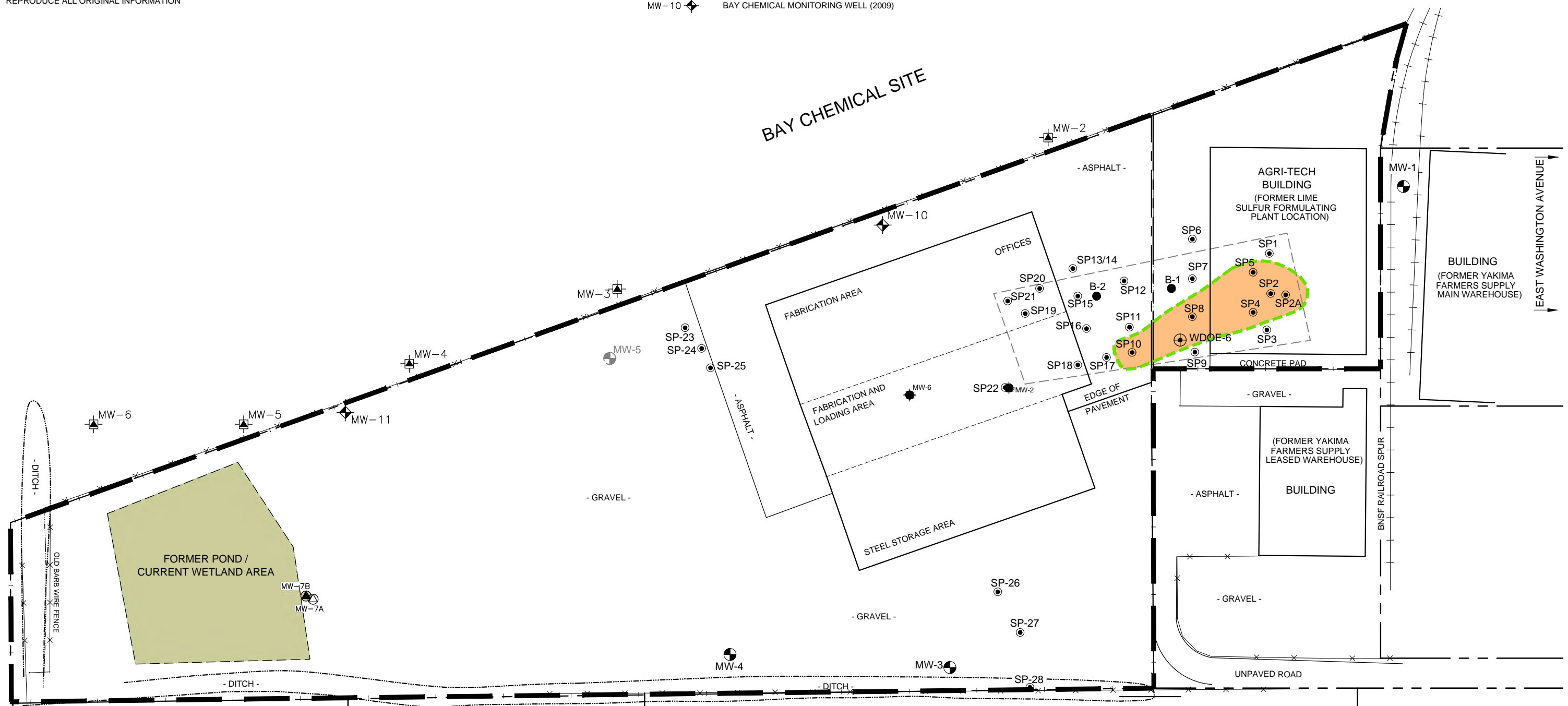
-  APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
-  SITE BOUNDARY
-  TAX PARCEL BOUNDARY
-  FENCE
-  RAILROAD
-  FORMER POND / CURRENT WETLAND AREA

-  SOIL BORING LOCATION
AGRA EARTH AND ENVIRONMENTAL INC. (1997)
-  DIRECT PUSH SOIL BORING LOCATION
AGRA EARTH AND ENVIRONMENTAL INC. (1997)
-  APPROXIMATE EXTENT OF PESTICIDES IN SOIL EXCEEDING APPLICABLE CLEANUP LEVELS

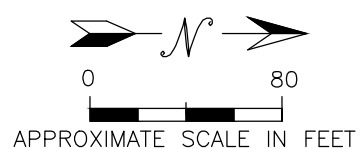
-  MW-6 SHALLOW BAY CHEMICAL SITE MONITORING WELL INSTALLED BY PACIFIC GROUNDWATER GROUP (1994)
-  MW-7A SHALLOW MONITORING WELL INSTALLED BY FARALLON (2002)
-  MW-7B DEEP MONITORING WELL INSTALLED BY FARALLON
-  MW-2 SHALLOW MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
-  MW-4 DEEP MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
-  MW-5 DECOMMISSIONED WELL DURING BAY CHEMICAL CLEANUP
-  WDOE-6 MONITORING WELL INSTALLED BY ECOLOGY (1992)
-  MW-10 BAY CHEMICAL MONITORING WELL (2009)

NOTE:
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FIGURE 6

APPROXIMATE EXTENT OF PESTICIDES IN SOIL EXCEEDING CLEANUP LEVELS
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001

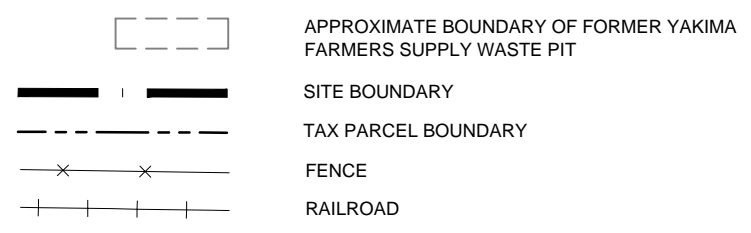
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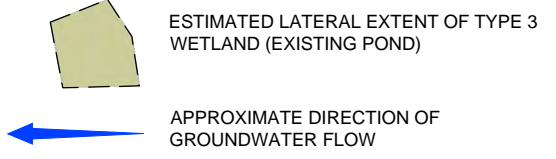


- MW-6 [Symbol] SHALLOW BAY CHEMICAL SITE MONITORING WELL INSTALLED BY PACIFIC GROUNDWATER GROUP (1994)
- MW-7A [Symbol] SHALLOW MONITORING WELL INSTALLED BY FARALLON (2002)
- MW-7B [Symbol] DEEP MONITORING WELL INSTALLED BY FARALLON
- MW-2 [Symbol] SHALLOW MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- MW-4 [Symbol] DEEP MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- MW-5 [Symbol] DECOMMISSIONED WELL DURING BAY CHEMICAL CLEANUP (2007)
- WDOE-6 [Symbol] MONITORING WELL INSTALLED BY ECOLOGY (1992)
- MW-10 [Symbol] BAY CHEMICAL MONITORING WELL (2009)

GROUNDWATER RESULTS ARE IN MICROGRAMS PER LITER
 4,4-DDD = 4,4-DICHLORODIPHENYLDICHLOROETHANE
 4,4-DDE = 4,4-DICHLORODIPHENYLDICHLOROETHYLENE
 -- = NOT ANALYZED
 < = INDICATES CONCENTRATIONS NOT DETECTED AT OR ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT

CLEANUP LEVEL	4,4-DDD	DIELDRIN	4,4-DDE
	0.36	0.0055	0.26

ANALYTE HIGHLIGHTED IN **BLUE** EXCEEDS CLEANUP LEVEL INDICATED IN TABLE ABOVE.



NOTE:
 1. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION

DATE	4,4-DDD	DIELDRIN	4,4-DDE
12-3-97	<0.1	<0.1	<0.1
3/3/98	<0.1	<0.1	<0.1
6/3/98	--	--	--
9/2/98	<0.1	<0.1	<0.1
12/4/02	--	--	--
6/1/11	<0.019	<0.019	<0.019

DATE	4,4-DDD	DIELDRIN	4,4-DDE
5/92	0.48	<0.50	1.1
12/3/97	--	--	--
3/3/98	<0.1	0.226	<0.1
6/3/98	0.296	0.242	0.586
9/2/98	0.1	<0.1	0.334
12/4/02	0.13	<0.05	<0.05
6/2/11	0.028	0.063	<0.020

DATE	4,4-DDD	DIELDRIN	4,4-DDE
12/3/97	<0.1	<0.1	<0.1
3/3/98	<0.1	<0.1	<0.1
6/3/98	<0.1	<0.1	<0.1
9/2/98	<0.1	<0.1	<0.1
12/3/02	--	--	--
6/2/11	<0.020	<0.020	<0.020

DATE	4,4-DDD	DIELDRIN	4,4-DDE
12/3/97	<0.1	0.102	0.119
3/3/98	<0.1	<0.1	<0.1
6/3/98	<0.1	<0.1	<0.1
9/2/98	<0.1	<0.1	<0.1
12/4/02	<0.05	0.05	<0.05
6/1/11	<0.021	0.033	<0.021

DATE	4,4-DDD	DIELDRIN	4,4-DDE
6/2/11	<0.020	<0.020	<0.020

DATE	4,4-DDD	DIELDRIN	4,4-DDE
6/2/11	<0.020	<0.020	<0.020

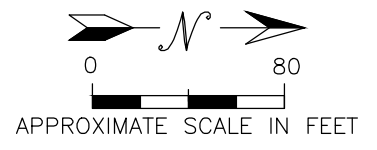
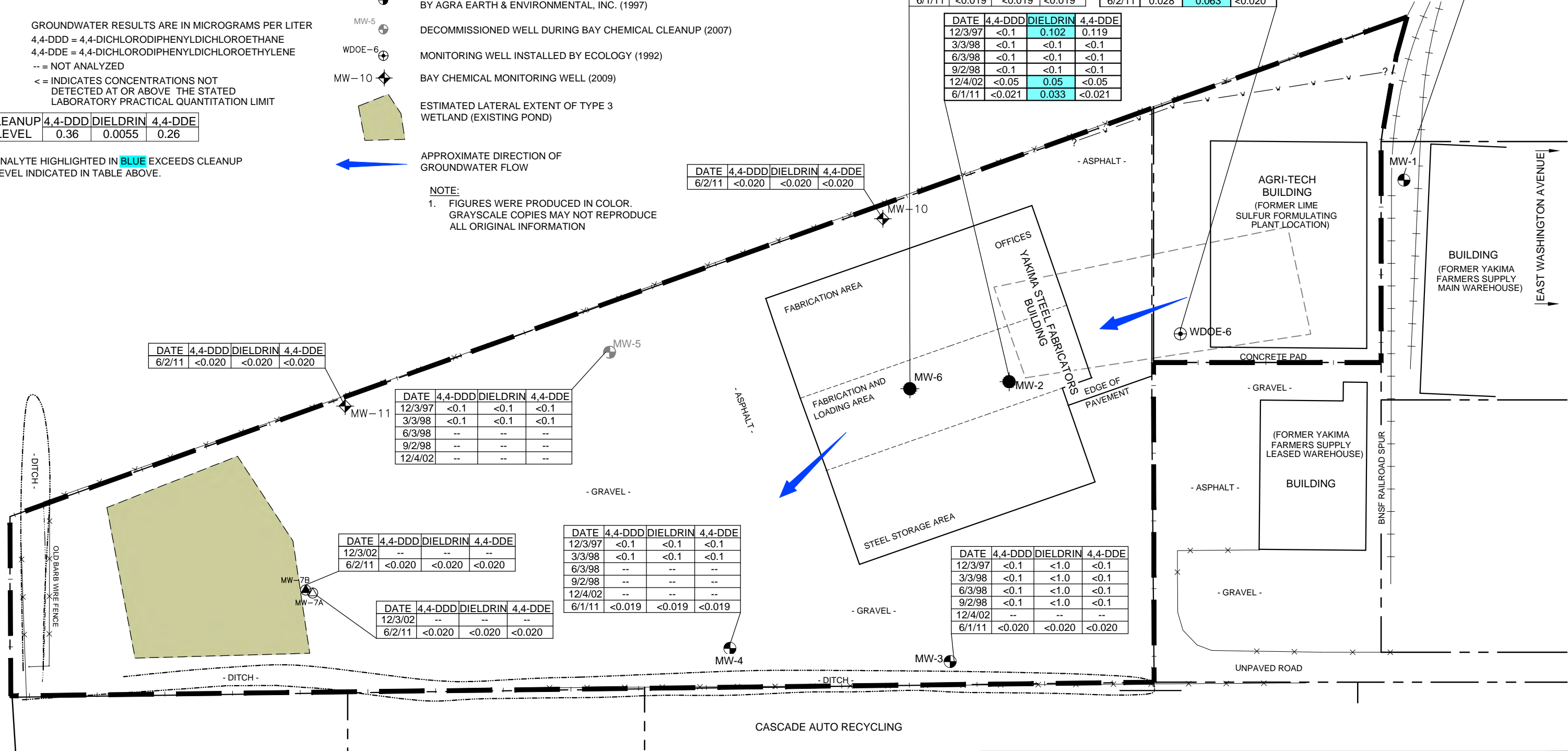
DATE	4,4-DDD	DIELDRIN	4,4-DDE
12/3/97	<0.1	<0.1	<0.1
3/3/98	<0.1	<0.1	<0.1
6/3/98	--	--	--
9/2/98	--	--	--
12/4/02	--	--	--

DATE	4,4-DDD	DIELDRIN	4,4-DDE
12/3/02	--	--	--
6/2/11	<0.020	<0.020	<0.020

DATE	4,4-DDD	DIELDRIN	4,4-DDE
12/3/02	--	--	--
6/2/11	<0.020	<0.020	<0.020

DATE	4,4-DDD	DIELDRIN	4,4-DDE
12/3/97	<0.1	<0.1	<0.1
3/3/98	<0.1	<0.1	<0.1
6/3/98	--	--	--
9/2/98	--	--	--
12/4/02	--	--	--
6/1/11	<0.019	<0.019	<0.019

DATE	4,4-DDD	DIELDRIN	4,4-DDE
12/3/97	<0.1	<1.0	<0.1
3/3/98	<0.1	<1.0	<0.1
6/3/98	<0.1	<1.0	<0.1
9/2/98	<0.1	<1.0	<0.1
12/4/02	--	--	--
6/1/11	<0.020	<0.020	<0.020


















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FIGURE 7
 GROUNDWATER ANALYTICAL RESULTS FOR
 ORGANOCHLORINE PESTICIDES
 YSF/AGRI-TECH SITE
 6 & 10 1/2 EAST WASHINGTON AVENUE
 YAKIMA, WASHINGTON
 FARALLON PN: 765-001

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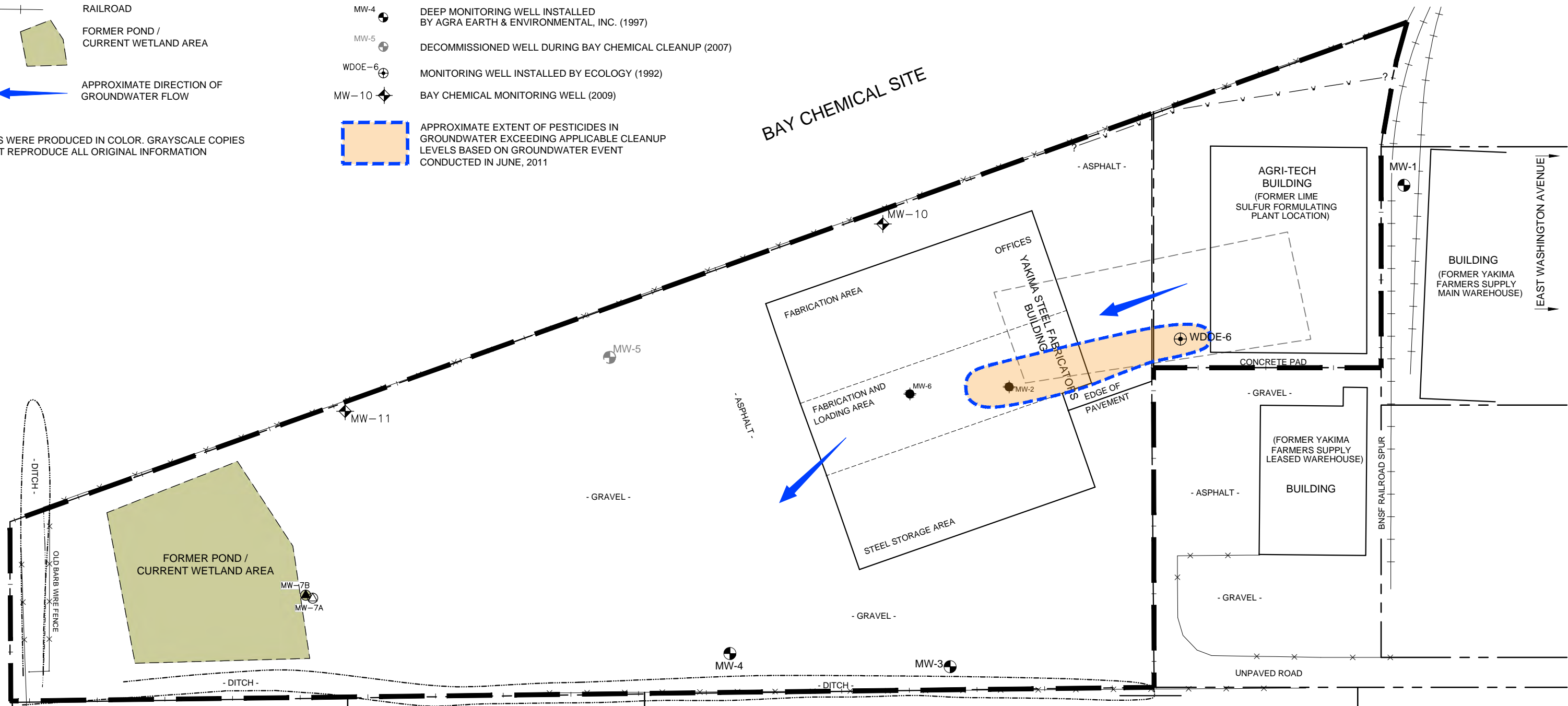
-  APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
-  SITE BOUNDARY
-  TAX PARCEL BOUNDARY
-  FENCE
-  RAILROAD
-  FORMER POND / CURRENT WETLAND AREA
-  APPROXIMATE DIRECTION OF GROUNDWATER FLOW

-  MW-6 SHALLOW BAY CHEMICAL SITE MONITORING WELL INSTALLED BY PACIFIC GROUNDWATER GROUP (1994)
-  MW-7A SHALLOW MONITORING WELL INSTALLED BY FARALLON (2002)
-  MW-7B DEEP MONITORING WELL INSTALLED BY FARALLON
-  MW-2 SHALLOW MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
-  MW-4 DEEP MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
-  MW-5 DECOMMISSIONED WELL DURING BAY CHEMICAL CLEANUP (2007)
-  WDOE-6 MONITORING WELL INSTALLED BY ECOLOGY (1992)
-  MW-10 BAY CHEMICAL MONITORING WELL (2009)

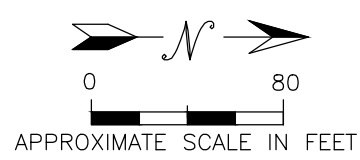
 APPROXIMATE EXTENT OF PESTICIDES IN GROUNDWATER EXCEEDING APPLICABLE CLEANUP LEVELS BASED ON GROUNDWATER EVENT CONDUCTED IN JUNE, 2011

NOTE:
1. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION

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FIGURE 8
APPROXIMATE EXTENT OF PESTICIDES IN GROUNDWATER EXCEEDING CLEANUP LEVELS
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON
FARALLON PN: 765-001

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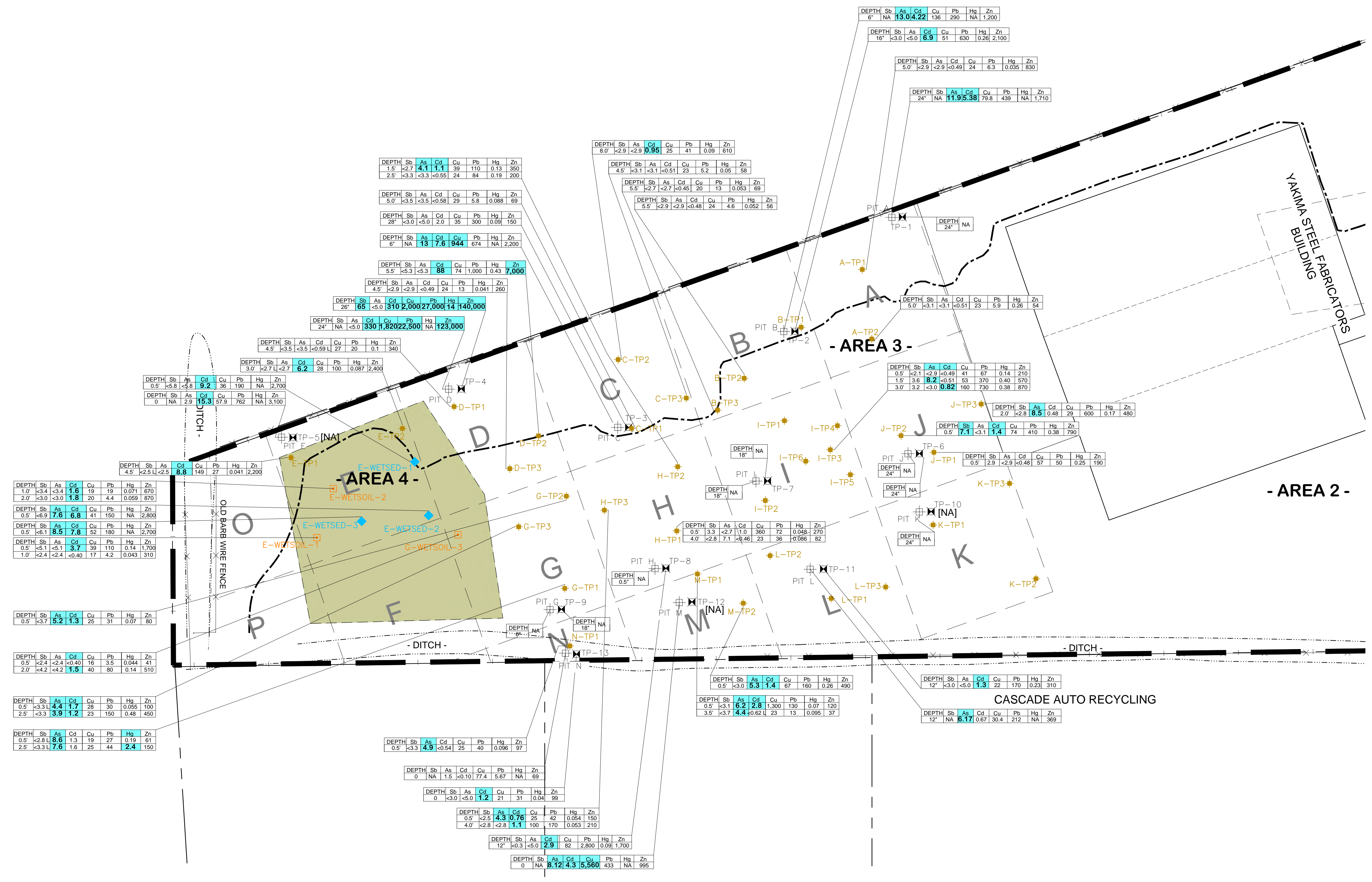
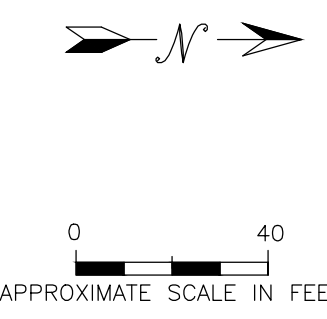
LEGEND

- APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA 1** FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA 2** FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA 3** YAKIMA STEEL STORAGE YARD AND WETLAND AREA
- SITE BOUNDARY
- TAX PARCEL BOUNDARY
- FENCE
- RAILROAD
- BAY CHEMICAL CLEANUP AREA
- D-TP3 TEST PIT LOCATION FARALLON CONSULTING (2011)
- E-WETSSED-1 WET SEDIMENT SAMPLE LOCATION FARALLON CONSULTING (2011)
- E-WETS-2 WET SOIL SAMPLE LOCATION FARALLON CONSULTING (2011)
- PIT B WASHINGTON STATE DEPARTMENT OF ECOLOGY (ECOLOGIST) TEST PIT (2007)
- TP-2 ENVIRONMENTAL PARTNERS, INC. TEST PIT (2007)
- M ECOLOGY SAMPLING GRID DESIGNATION
- ESTIMATED LATERAL EXTENT OF TYPE 3 WETLAND (EXISTING POND)



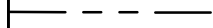

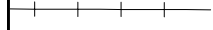

Sb = ANTIMONY
 As = ARSENIC
 Cd = CADMIUM
 Cu = COPPER
 Pb = LEAD
 Hg = MERCURY
 Zn = ZINC
 NA = NOT ANALYZED
 < = INDICATES CONCENTRATIONS NOT DETECTED AT OR ABOVE THE STATED LABORATORY PRACTICAL QUANTIFICATION LIMIT
 SOIL ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM DEPTH IN FEET (') OR INCHES (") BELOW GROUND SURFACE




CLEANUP LEVELS	Sb	As	Cd	Cu	Pb	Hg	Zn
	5.42	2.92	0.69	284	3,000	2.09	5,970

ANALYTE HIGHLIGHTED IN BLUE EXCEEDS CLEANUP LEVEL INDICATED IN TABLE ABOVE.
 NOTE:
 1. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION

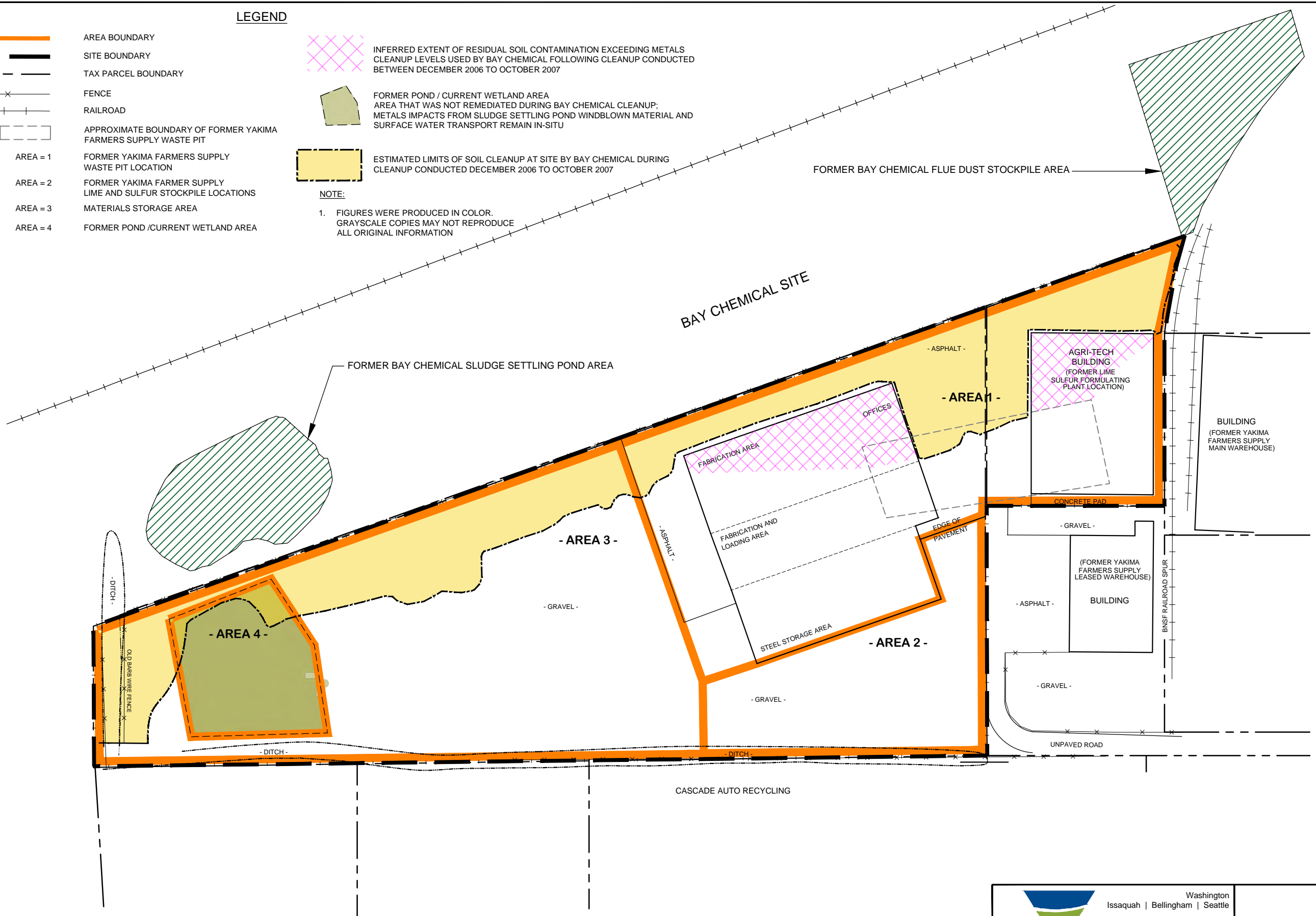


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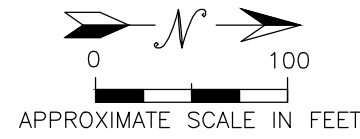
-  AREA BOUNDARY
-  SITE BOUNDARY
-  TAX PARCEL BOUNDARY
-  FENCE
-  RAILROAD
-  APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
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- AREA = 3 MATERIALS STORAGE AREA
- AREA = 4 FORMER POND /CURRENT WETLAND AREA

-  INFERRED EXTENT OF RESIDUAL SOIL CONTAMINATION EXCEEDING METALS CLEANUP LEVELS USED BY BAY CHEMICAL FOLLOWING CLEANUP CONDUCTED BETWEEN DECEMBER 2006 TO OCTOBER 2007
-  FORMER POND / CURRENT WETLAND AREA
AREA THAT WAS NOT REMEDIATED DURING BAY CHEMICAL CLEANUP; METALS IMPACTS FROM SLUDGE SETTLING POND WINDBLOWN MATERIAL AND SURFACE WATER TRANSPORT REMAIN IN-SITU
-  ESTIMATED LIMITS OF SOIL CLEANUP AT SITE BY BAY CHEMICAL DURING CLEANUP CONDUCTED DECEMBER 2006 TO OCTOBER 2007

NOTE:
1. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION



NOTE: SEE METALS SOURCE TECHNICAL MEMORANDUM FOR ADDITIONAL INFORMATION REGARDING EXTENT OF METALS IN SOIL IN AREA 3.




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FIGURE 10a



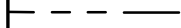
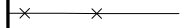
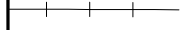

ESTIMATED EXTENT OF SOIL WITH METALS CONCENTRATIONS EXCEEDING BAY CHEMICAL CLEANUP LEVELS
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON




FARALLON PN: 765-001

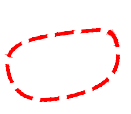
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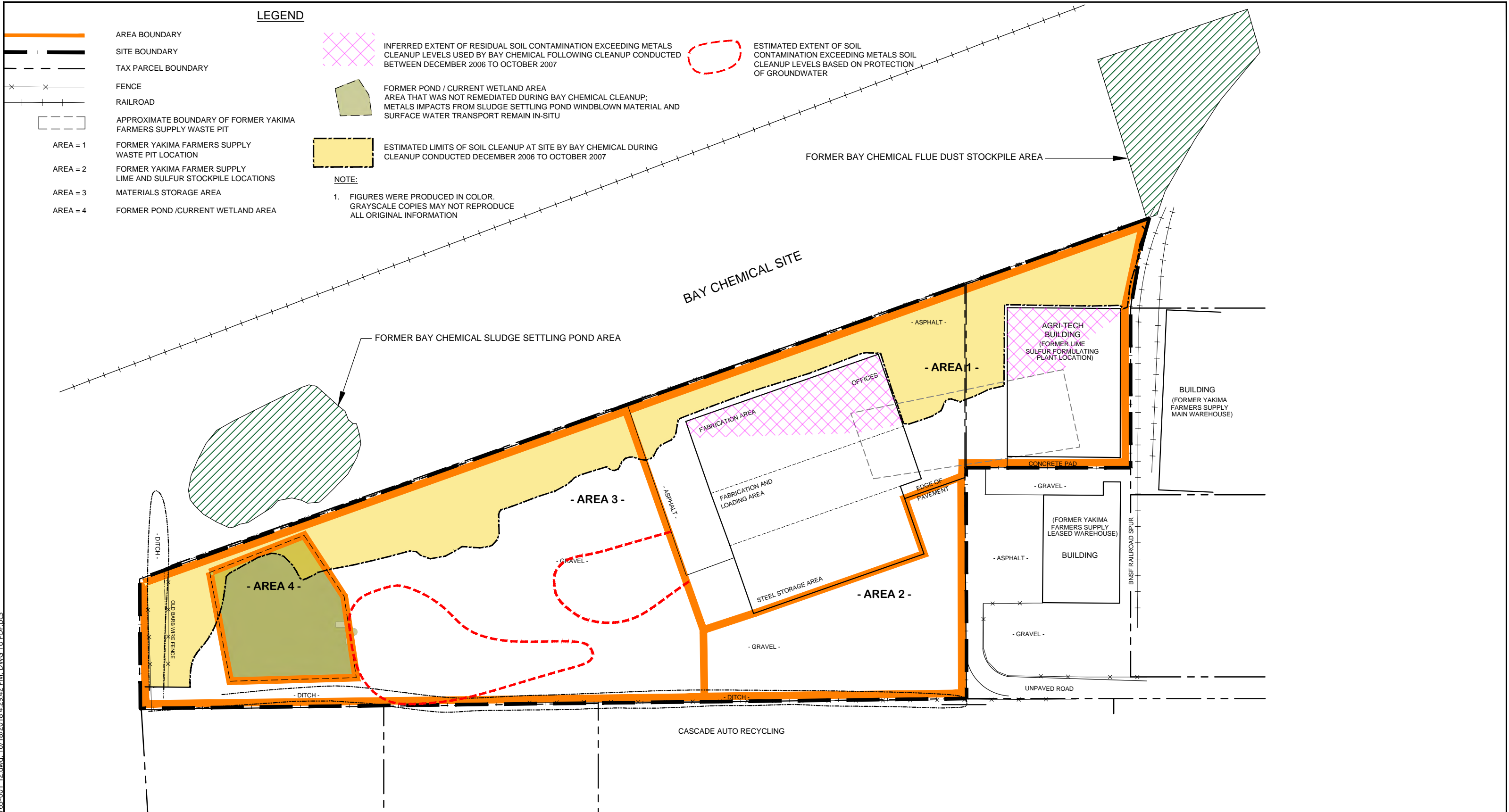
LEGEND

-  AREA BOUNDARY
-  SITE BOUNDARY
-  TAX PARCEL BOUNDARY
-  FENCE
-  RAILROAD
-  APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
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- AREA = 3 MATERIALS STORAGE AREA
- AREA = 4 FORMER POND /CURRENT WETLAND AREA

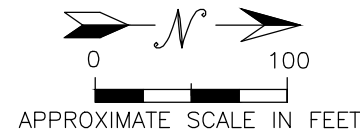
-  INFERRED EXTENT OF RESIDUAL SOIL CONTAMINATION EXCEEDING METALS CLEANUP LEVELS USED BY BAY CHEMICAL FOLLOWING CLEANUP CONDUCTED BETWEEN DECEMBER 2006 TO OCTOBER 2007
-  FORMER POND / CURRENT WETLAND AREA AREA THAT WAS NOT REMEDIATED DURING BAY CHEMICAL CLEANUP; METALS IMPACTS FROM SLUDGE SETTLING POND WINDBLOWN MATERIAL AND SURFACE WATER TRANSPORT REMAIN IN-SITU
-  ESTIMATED LIMITS OF SOIL CLEANUP AT SITE BY BAY CHEMICAL DURING CLEANUP CONDUCTED DECEMBER 2006 TO OCTOBER 2007

 ESTIMATED EXTENT OF SOIL CONTAMINATION EXCEEDING METALS SOIL CLEANUP LEVELS BASED ON PROTECTION OF GROUNDWATER

NOTE:
1. FIGURES WERE PRODUCED IN COLOR. GRAYSACLE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION



NOTE: SEE METALS SOURCE TECHNICAL MEMORANDUM FOR ADDITIONAL INFORMATION REGARDING EXTENT OF METALS IN SOIL IN AREA 3.




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FIGURE 10b

ESTIMATED EXTENT OF SOIL WITH METALS CONCENTRATIONS EXCEEDING CLEANUP LEVELS BASED ON PROTECTION OF GROUNDWATER YSF/AGRI-TECH SITE



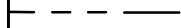
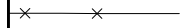
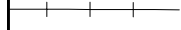

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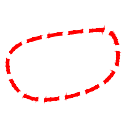
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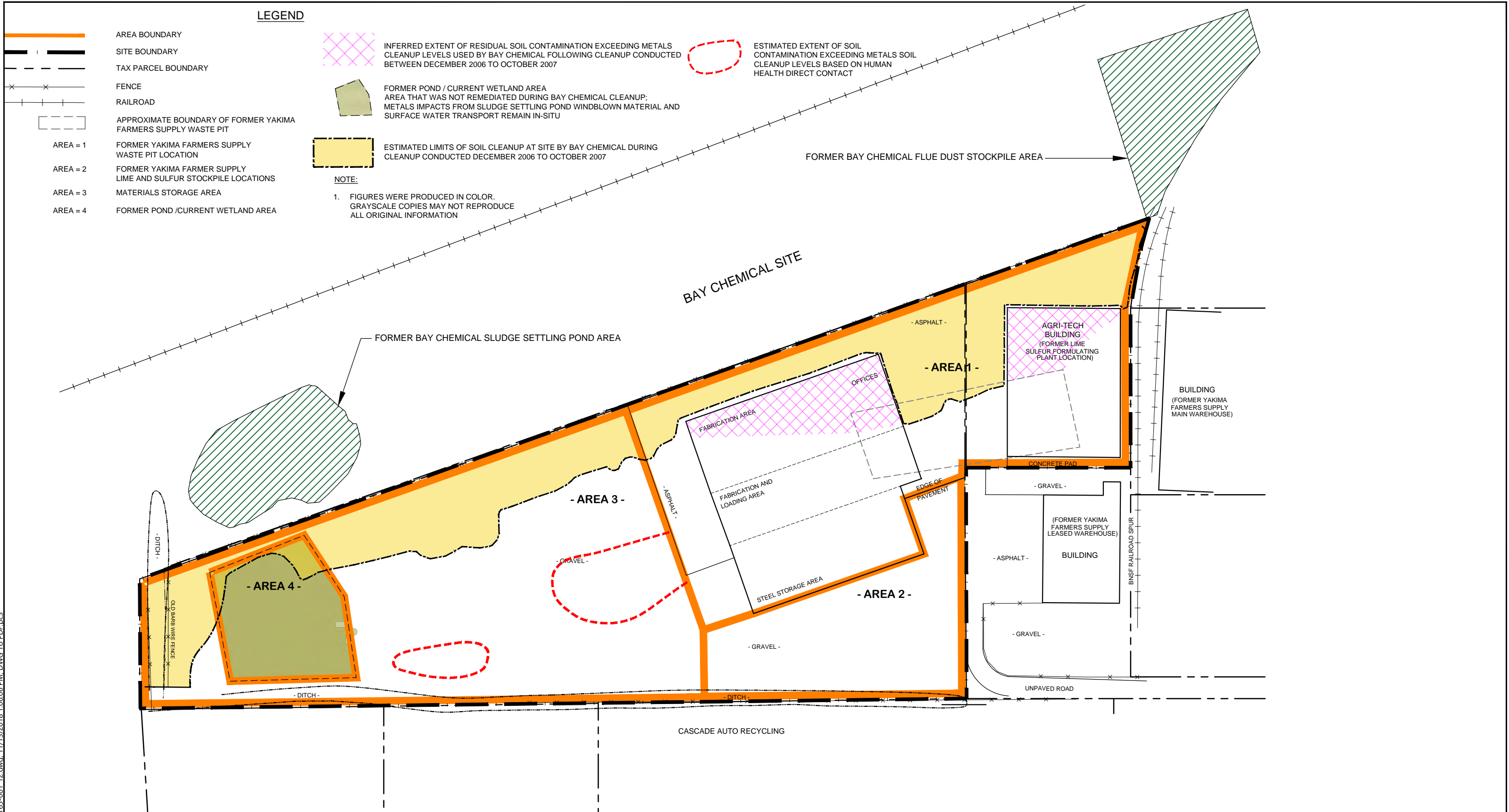
LEGEND

-  AREA BOUNDARY
-  SITE BOUNDARY
-  TAX PARCEL BOUNDARY
-  FENCE
-  RAILROAD
-  APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
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-  INFERRED EXTENT OF RESIDUAL SOIL CONTAMINATION EXCEEDING METALS CLEANUP LEVELS USED BY BAY CHEMICAL FOLLOWING CLEANUP CONDUCTED BETWEEN DECEMBER 2006 TO OCTOBER 2007
-  FORMER POND / CURRENT WETLAND AREA AREA THAT WAS NOT REMEDIATED DURING BAY CHEMICAL CLEANUP; METALS IMPACTS FROM SLUDGE SETTLING POND WINDBLOWN MATERIAL AND SURFACE WATER TRANSPORT REMAIN IN-SITU
-  ESTIMATED LIMITS OF SOIL CLEANUP AT SITE BY BAY CHEMICAL DURING CLEANUP CONDUCTED DECEMBER 2006 TO OCTOBER 2007

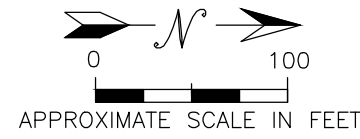
 ESTIMATED EXTENT OF SOIL CONTAMINATION EXCEEDING METALS SOIL CLEANUP LEVELS BASED ON HUMAN HEALTH DIRECT CONTACT

NOTE:
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NOTE: SEE METALS SOURCE TECHNICAL MEMORANDUM FOR ADDITIONAL INFORMATION REGARDING EXTENT OF METALS IN SOIL IN AREA 3.




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FIGURE 10c

ESTIMATED EXTENT OF SOIL WITH METALS CONCENTRATIONS EXCEEDING CLEANUP LEVELS BASED ON HUMAN HEALTH DIRECT CONTACT

YSF/AGRI-TECH SITE

6 & 10 1/2 EAST WASHINGTON AVENUE, YAKIMA, WA

FARALLON PN: 765-001

Date: 11/13/2018 Disk Reference: 765001_12

LEGEND

- APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA 1** FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA 2** FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA 3** YAKIMA STEEL STORAGE YARD AND WETLAND AREA
- SITE BOUNDARY
- TAX PARCEL BOUNDARY
- FENCE
- RAILROAD
- BAY CHEMICAL CLEANUP AREA
- D-TP3 TEST PIT LOCATION FARALLON CONSULTING (2011)
- E-WETSSED-1 WET SEDIMENT SAMPLE LOCATION FARALLON CONSULTING (2011)
- E-WETS-2 WET SOIL SAMPLE LOCATION FARALLON CONSULTING (2011)
- PIT B WASHINGTON STATE DEPARTMENT OF ECOLOGY (ECOLOGICAL) TEST PIT (2007)
- TP-2 ENVIRONMENTAL PARTNERS, INC. TEST PIT (2007)
- M ECOLOGY SAMPLING GRID DESIGNATION
- ESTIMATED LATERAL EXTENT OF TYPE 3 WETLAND (EXISTING POND)
- AREAS THAT EXCEED TERRESTRIAL ECOLOGICAL SCREENING LEVELS

Cd = CADMIUM
 Cu = COPPER
 Pb = LEAD
 Mn = MANGANESE
 Hg = MERCURY
 Zn = ZINC
 NA = NOT ANALYZED

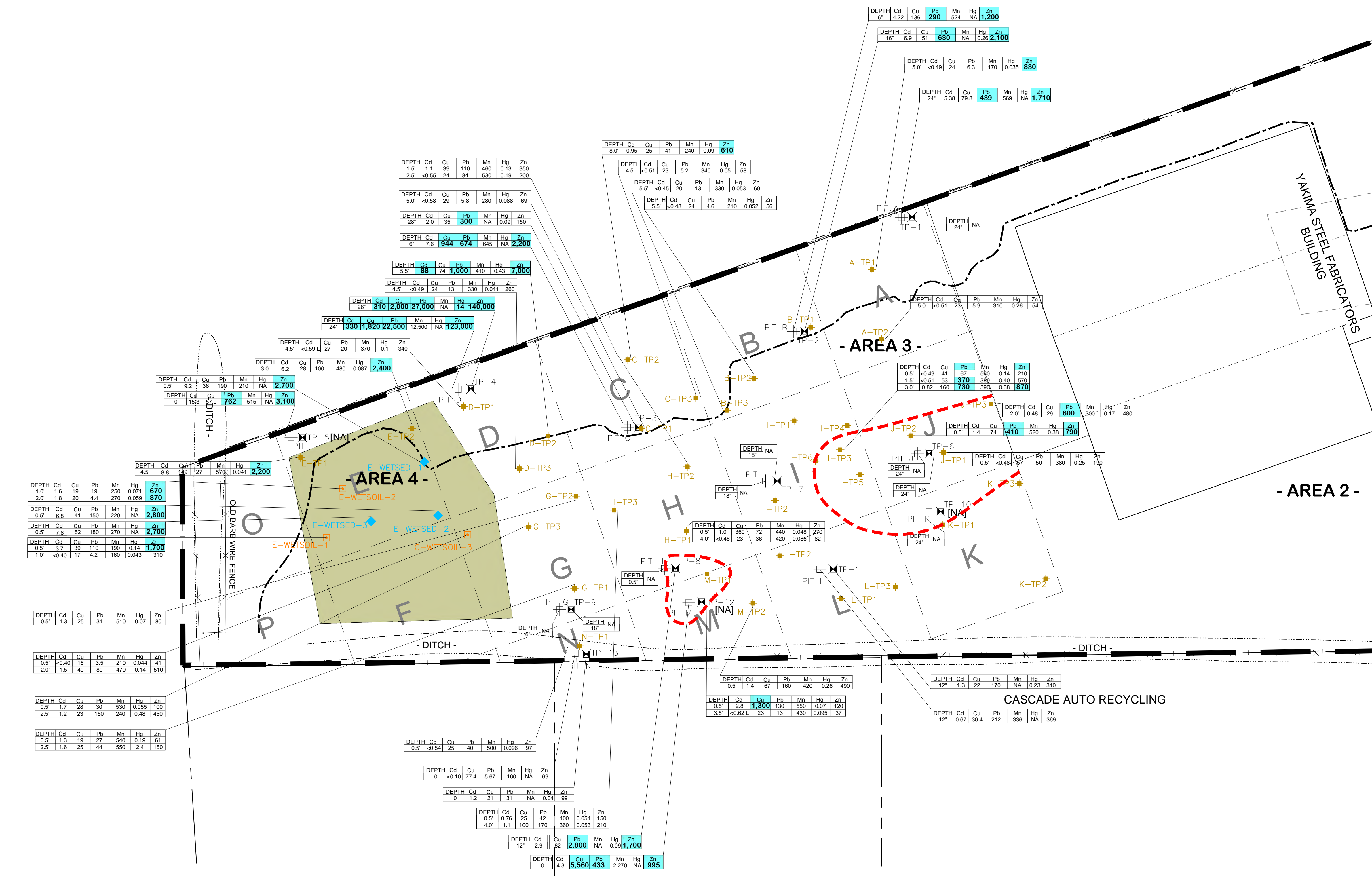
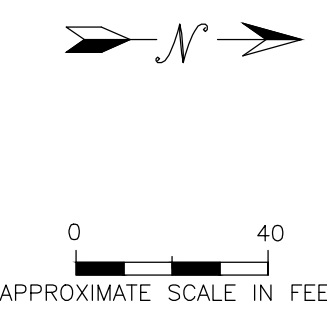
<= INDICATES CONCENTRATIONS NOT DETECTED AT OR ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT

SOIL ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM DEPTH IN FEET (') OR INCHES (") BELOW GROUND SURFACE

ECOLOGICAL SCREENING LEVELS	Cd	Cu	Pb	Mn	Hg	Zn
	36	550	220	23,500	9	570

ANALYTE HIGHLIGHTED IN BLUE EXCEEDS ECOLOGICAL SCREENING LEVEL FOR AN INDUSTRIAL/COMMERCIAL SITE INDICATED IN TABLE ABOVE.

NOTE:
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TABLES

CONCEPTUAL SITE MODEL TECHNICAL MEMORANDUM Agri-Tech and Yakima Steel Fabricators Site Yakima Steel Fabricators Yakima, Washington

Farallon PN: 765-001

Table 1
Soil and Sediment Constituents of Concern and Cleanup Levels
Yakima Steel Fabricators
Seattle, Washington
Farallon PN: 765-001

Constituent of Potential Concern	Carcinogen or Non-Carcinogen	Soil and Sediment Cleanup Levels											Retained As Constituent of Concern for Feasibility Study	
		Soil												Sediment
		Soil Method A Unrestricted Land Use (mg/kg)	Soil Method A Industrial Properties (mg/kg)	Soil Method B Non-Cancer (mg/kg) ¹	Soil Method B Cancer (mg/kg) ¹	Soil Method B Protective of Groundwater Vadose Zone @ 25 degrees C (mg/kg) ¹	Soil Method B Protective of Groundwater Vadose Zone @ 13 degrees C (mg/kg) ¹	Soil Method B Protection of Groundwater Saturated Zone (mg/kg) ¹	Soil Method C Non-Cancer (mg/kg) ¹	Soil Method C Cancer (mg/kg) ¹	Soil Priority Contaminants of Ecological Concern Industrial or Commercial Site (mg/kg) ²	Dry Weight Sediment Cleanup Objective (mg/kg)		
Tetrachloroethene	Carcinogen	0.05	0.05	480	476.19	0.053	0.050	0.0028	21,000	62,500	Not Applicable	Not Applicable	Yes	
Trichloroethene	Carcinogen	0.03	0.03	40	12	0.026	0.025	0.0015	1,750	2,853.26	Not Applicable	Not Applicable	Yes	
cis-1,2-Dichloroethene	Non-Carcinogen	Not Applicable	Not Applicable	160	Not Applicable	0.080	0.078	0.0052	7,000	Not Applicable	Not Applicable	Not Applicable	Yes	
Vinyl chloride	Carcinogen	Not Applicable	Not Applicable	240	0.67	0.002	0.0017	0.0001	10,500	87.50	Not Applicable	Not Applicable	No	
1,1-Dichloroethene	Non-Carcinogen	Not Applicable	Not Applicable	4,000	Not Applicable	0.050	0.046	0.0025	175,000	Not Applicable	Not Applicable	Not Applicable	No	
1,2-Dichloropropane	Carcinogen	Not Applicable	Not Applicable	7,200	27.78	0.026	0.025	0.0017	315,000	3,645.83	Not Applicable	Not Applicable	Yes	
4,4-DDE* (DDE)	Carcinogen	Not Applicable	Not Applicable	Not Applicable	2.94	0.45	0.45	0.022	Not Applicable	386.03	1	Not Applicable	No	
4,4-DDD* (DDD)	Carcinogen	Not Applicable	Not Applicable	Not Applicable	4.17	0.34	Not Applicable	0.017	Not Applicable	546.88		0.31	No	
Dieldrin	Carcinogen	Not Applicable	Not Applicable	4	0.063	0.0028	0.0028	0.0001	175	8.20	0.17	0.0049	Yes	
Endrin	Non-Carcinogen	Not Applicable	Not Applicable	24	Not Applicable	0.44	Not Applicable	0.022	1,050	Not Applicable	0.4	0.0085	No	
Heptachlor epoxide	Carcinogen	Not Applicable	Not Applicable	1.04	0.11	0.08	Not Applicable	0.0040	45.50	14.42	0.6	Not Applicable	No	
Aldrin	Non-Carcinogen	Not Applicable	Not Applicable	2.40	0.059	0.0025	0.0025	0.0001	105	7.72	0.17	Not Applicable	Yes	
Alpha Chlordane* (Chlordane total)	Carcinogen	Not Applicable	Not Applicable	40	2.86	2.06	2.06	0.10	1,750	375	7	Not Applicable	No	
DRO	Non-Carcinogen	2,000	2,000	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	15,000	340	Yes	
ORO	Non-Carcinogen	2,000	2,000	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	No	
cPAHs* (TEC)	Carcinogen	0.10	2	Not Applicable	0.14	2.33	Not Applicable	0.12	Not Applicable	17.98	300	17	No	
Antimony	Non-Carcinogen	Not Applicable	Not Applicable	32	Not Applicable	5.42	5.42	0.27	1,400	Not Applicable	Not Applicable	Not Applicable	No	
Arsenic	Carcinogen	20	20	24	0.67	2.92	2.92	0.15	1,050	87.50	20	14	No	
Cadmium	Non-Carcinogen	2	2	80	Not Applicable	0.69	0.69	0.035	Not Applicable	Not Applicable	36	2.10	Yes	
Copper	Non-Carcinogen	Not Applicable	Not Applicable	3,200	Not Applicable	284	284	14.26	140,000	Not Applicable	550	400	Yes	
Lead	Non-Carcinogen	250	1,000	Not Applicable	Not Applicable	3,000	3,000	150	Not Applicable	Not Applicable	220	360	Yes	
Mercury	Non-Carcinogen	2	2	Not Applicable	Not Applicable	2.09	2.09	0.10	Not Applicable	Not Applicable	9	0.66	Yes	
Zinc	Non-Carcinogen	Not Applicable	Not Applicable	24,000	Not Applicable	5,971	5,970	298.98	1,050,000	Not Applicable	570	3,200	Yes	

NOTES:

Bold denotes selected cleanup level.

¹ Cleanup level is based on standard Washington State Model Toxics Control Act Cleanup Regulation (MTCAR) Method B (unrestricted land use) or Method C (industrial land use) values from the Cleanup and Risk Calculations tables (CLARC).

² Cleanup level is based on MTCAR Table 749-2: Priority Contaminants of Ecological Concern for Sites that Qualify for the Simplified Terrestrial Ecological Evaluation Procedure.

"Not Applicable" is used where the constituent of concern will not affect the media of potential concern due to an incomplete pathway or no pertinent standard exists.

C = Celsius

cPAH = carcinogenic polycyclic aromatic hydrocarbons

DDD = dichlorodiphenyldichloroethane

DDE = dichlorodiphenyldichloroethylene

DRO = total petroleum hydrocarbons as diesel range organics

mg/kg = milligrams per kilogram

ORO = total petroleum hydrocarbons as oil-range organics

TEC = toxicity equivalent concentration

Table 2
Groundwater Constituents of Concern and Cleanup Levels
Yakima Steel Fabricators
Seattle, Washington
Farallon PN: 765-001

Constituent of Potential Concern	Carcinogen or Non-Carcinogen	Groundwater Cleanup Levels					Retained As Constituent of Concern for Feasibility Study
		Groundwater Method A (µg/l)	Groundwater Method B Non-Cancer (µg/l) ¹	Groundwater Method B Cancer (µg/l) ¹	Groundwater Method C Non-Cancer (µg/l) ¹	Groundwater Method C Cancer (µg/l) ¹	
Tetrachloroethene	Carcinogen	5	48	20.83	105	208.33	Yes
Trichloroethene	Carcinogen	5	4	0.54	8.75	9.51	Yes
cis-1,2-Dichloroethene	Non-Carcinogen	Not Applicable	16	Not Applicable	35	Not Applicable	Yes
Vinyl chloride	Carcinogen	0.20	24	0.029	52.50	0.29	Yes
1,1-Dichloroethene	Non-Carcinogen	Not Applicable	400	Not Applicable	875	Not Applicable	No
1,2-dichloropropane	Carcinogen	Not Applicable	720	1.22	1,575	12.15	Yes
4,4-DDE* (DDE)	Carcinogen	Not Applicable	Not Applicable	0.26	Not Applicable	2.57	Yes
4,4-DDD* (DDD)	Carcinogen	Not Applicable	Not Applicable	0.36	Not Applicable	3.65	Yes
Dieldrin	Carcinogen	Not Applicable	0.80	0.0055	1.75	0.055	Yes
Endrin	Non-Carcinogen	Not Applicable	4.80	Not Applicable	10.50	Not Applicable	No
Heptachlor epoxide	Carcinogen	Not Applicable	0.10	0.0048	0.23	0.048	No
Aldrin	Non-Carcinogen	Not Applicable	0.24	0.0026	0.53	0.026	No
Alpha chlordane* (chlordane total)	Carcinogen	Not Applicable	8	0.25	17.50	2.50	No
DRO	Non-Carcinogen	500	Not Applicable	Not Applicable	Not Applicable	Not Applicable	No
ORO	Non-Carcinogen	500	Not Applicable	Not Applicable	Not Applicable	Not Applicable	No
cPAHs* (TEC)	Carcinogen	0.10	Not Applicable	0.012	Not Applicable	0.12	No
Antimony	Non-Carcinogen	Not Applicable	6.40	Not Applicable	14	Not Applicable	No
Arsenic	Carcinogen	5	4.80	0.058	10.50	0.58	No
Cadmium	Non-Carcinogen	5	8	Not Applicable	17.50	Not Applicable	No
Copper	Non-Carcinogen	Not Applicable	Not Applicable	640	Not Applicable	1,400	No
Lead	Non-Carcinogen	15	Not Applicable	Not Applicable	Not Applicable	Not Applicable	No
Mercury	Non-Carcinogen	2	Not Applicable	Not Applicable	Not Applicable	Not Applicable	No
Zinc	Non-Carcinogen	Not Applicable	4,800	Not Applicable	10,500	Not Applicable	No

NOTES:

Bold denotes selected cleanup level.

¹Cleanup level is based on standard Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method B (unrestricted land use) or Method C (industrial land use) values from the Cleanup and Risk Calculations tables (CLARC).

"Not Applicable" is used where the constituent of concern will not affect the media of potential concern due to an incomplete pathway or no pertinent standard exists.

cPAH = carcinogenic polycyclic aromatic hydrocarbons

DDD = dichlorodiphenyldichloroethane

DDE = dichlorodiphenyldichloroethylene

DRO = total petroleum hydrocarbons as diesel-range organics

µg/l = micrograms per liter

ORO = total petroleum hydrocarbons as oil-range organics

TEC = toxic equivalent concentration

Table 3
Surface Water Constituents of Concern and Cleanup Levels
Yakima Steel Fabricators
Seattle, Washington
Farallon PN: 765-001

Constituent of Potential Concern	Carcinogen or Non-Carcinogen	Surface Water Cleanup Levels										Retained As Constituent of Concern for Feasibility Study
		Surface Water Method B Non-Cancer (µg/l) ¹	Surface Water Method B Cancer (µg/l) ¹	Aquatic Life Criteria Freshwater Acute, 173-201A WAC (µg/l) ²	Aquatic Life Criteria Freshwater Chronic, 173-201A WAC (µg/l) ²	Human Health Criteria for Consumption of Water and Organisms, 173-201A WAC (µg/l) ²	Human Health Criteria for Consumption of Organisms Only, 173-201A WAC (µg/l) ²	Aquatic Life Criteria Freshwater Acute, CWA §304 (µg/l)	Aquatic Life Criteria Freshwater Chronic, CWA §304 (µg/l)	Aquatic Life Criteria Freshwater Acute, NTR 40 CFR 131 (µg/l)	Aquatic Life Criteria Freshwater Chronic, NTR 40 CFR 131 (µg/l)	
Antimony	Non-Carcinogen	1,040	Not Applicable	Not Applicable	Not Applicable	12	180	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Yes
Arsenic	Carcinogen	17.7	0.0982	360	190	10	10	340	150	360	190	Yes
Cadmium	Non-Carcinogen	40.5	Not Applicable	calc ³	calc ³	Not Applicable	Not Applicable	2.0	0.25	3.9	1.0	Yes
Copper	Non-Carcinogen	2,880	Not Applicable	calc ³	calc ³	1,300	Not Applicable	13.0	9.0	17.0	11.0	Yes
Lead	Non-Carcinogen	Not Applicable	Not Applicable	calc ³	calc ³	Not Applicable	Not Applicable	65.0	2.5	65.0	2.5	Yes
Manganese	Non-Carcinogen	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Yes
Mercury	Non-Carcinogen	Not Applicable	Not Applicable	2.1	0.012	Not Applicable	Not Applicable	1.4	0.77	2.1	0.012	Yes
Zinc	Non-Carcinogen	Not Applicable ⁴	Not Applicable	calc ³	calc ³	Not Applicable ⁴	Not Applicable ⁴	120	120	110	100	Yes

NOTES:

Bold denotes selected cleanup level.

¹Cleanup level is based on standard Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method B (unrestricted land use) values from the Cleanup and Risk Calculations tables (CLARC).

²Value from Table 240, Section 250 of the Water Quality Standards for Surface Waters of the State of Washington, as established in Chapter 173-201A of the Washington Administrative Code (WAC 173-201A), as amended on August 1, 2016.

³Site-specific value to be calculated using hardness values for surface water samples from the Site. Calculations are based on formulas in Table 240, Section 250 of the Water Quality Standards for Surface Waters of the State of Washington (WAC 173-201A), as amended on August 1, 2016.

⁴Method B equations and human health criteria for surface water are based on the assumption that surface water has the potential to support fish or shellfish populations. This criteria does not apply to the wetland on the Site.

"Not Applicable" is used where no standard has been established for the constituent of concern.

calc = calculated value

CFR = Code of Federal Regulations

CWA = Clean Water Act

µg/l = micrograms per liter

NTR = National Toxics Rule

WAC = Washington Administrative Code

Table 4
Soil Gas and Indoor Air Constituents of Concern and Cleanup Levels
Yakima Steel Fabricators
Seattle, Washington
Farallon PN: 765-001

Constituent of Potential Concern	Carcinogen or Non-Carcinogen	Air Cleanup Levels				Retained As Constituent of Concern for Feasibility Study
		Air Method B Non-Cancer ($\mu\text{g}/\text{m}^3$) ¹	Air Method B Cancer ($\mu\text{g}/\text{m}^3$) ¹	Air Method C Non-Cancer ($\mu\text{g}/\text{m}^3$) ¹	Air Method C Cancer ($\mu\text{g}/\text{m}^3$) ¹	
Tetrachloroethene	Carcinogen	18.29	9.62	40	96	Yes
Trichloroethene	Carcinogen	0.91	0.37	2	6	Yes
cis-1,2-Dichloroethene	Non-Carcinogen	Not Applicable	Not Applicable	Not Applicable	Not Applicable	No
Vinyl chloride	Carcinogen	45.71	0.28	100	3	Yes
Chloromethane	Non-Carcinogen	41.10	Not Applicable	90.0	Not Applicable	No
1,1-Dichloroethene	Non-Carcinogen	91.43	Not Applicable	200	Not Applicable	No
1,2-dichloropropane	Carcinogen	1.83	0.25	4	3	No
4,4-DDE* (DDE)	Carcinogen	Not Applicable	0.026	Not Applicable	0.26	No
4,4-DDD* (DDD)	Carcinogen	Not Applicable	0.036	Not Applicable	0.36	No
Dieldrin	Carcinogen	Not Applicable	0.00054	Not Applicable	0.01	No
Endrin	Non-Carcinogen	Not Applicable	Not Applicable	Not Applicable	Not Applicable	No
Heptachlor epoxide	Carcinogen	Not Applicable	0.00096	Not Applicable	0.01	No
Aldrin	Non-Carcinogen	Not Applicable	0.00051	Not Applicable	0.01	No
Alpha chlordane* (chlordane total)	Carcinogen	0.32	0.025	0.70	0.25	No
DRO	Non-Carcinogen	Not Applicable	Not Applicable	Not Applicable	Not Applicable	No
ORO	Non-Carcinogen	Not Applicable	Not Applicable	Not Applicable	Not Applicable	No
cPAHs* (TEC)	Carcinogen	Not Applicable	0.0023	Not Applicable	0.02	No
Antimony	Non-Carcinogen	Not Applicable	Not Applicable	Not Applicable	Not Applicable	No
Arsenic	Carcinogen	0.007	0.00058	0.015	0.006	No
Cadmium	Non-Carcinogen	0.005	0.0014	0.010	0.014	No
Copper	Non-Carcinogen	Not Applicable	Not Applicable	Not Applicable	Not Applicable	No
Lead	Non-Carcinogen	Not Applicable	Not Applicable	Not Applicable	Not Applicable	No
Mercury	Non-Carcinogen	0.14	Not Applicable	0.30	Not Applicable	No
Zinc	Non-Carcinogen	Not Applicable	Not Applicable	Not Applicable	Not Applicable	No

NOTES:

Bold denotes selected cleanup level.

"Not Applicable" is used where the constituent of concern will not affect the media of potential concern due to an incomplete pathway or no pertinent standard exists.

¹Cleanup level is based on standard Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method B (unrestricted land use) or Method C (industrial land use) values from the Cleanup and Risk Calculations tables (CLARC).

cPAH = carcinogenic polycyclic aromatic hydrocarbons

DDD = dichlorodiphenyldichloroethane

DDE = dichlorodiphenyldichloroethylene

DRO = total petroleum hydrocarbons as diesel range organics

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter of air

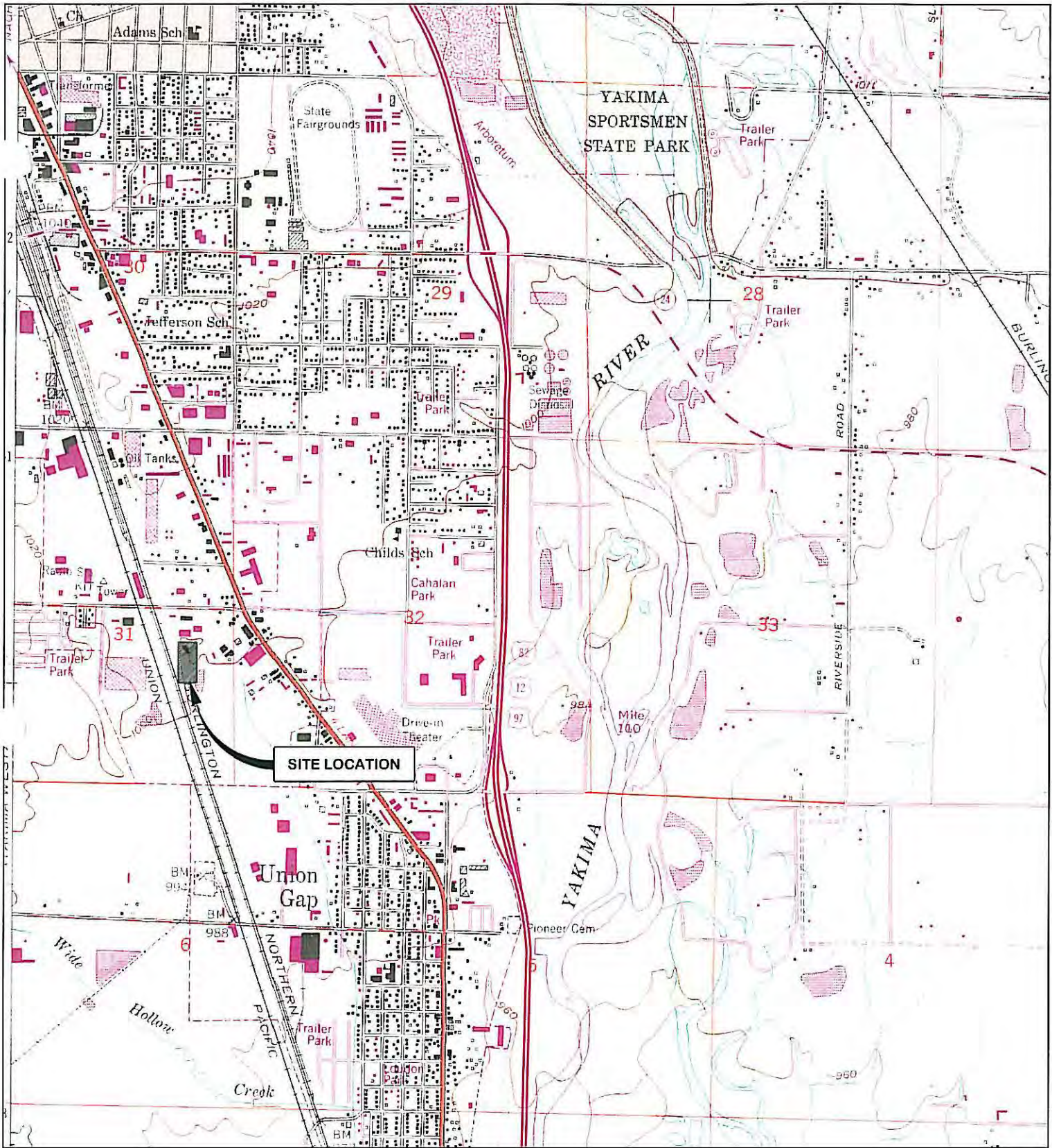
ORO = total petroleum hydrocarbons as oil-range organics

TEC = toxicity equivalent concentration

ATTACHMENT A
YSF REMEDIAL INVESTIGATION FIGURES AND TABLES

CONCEPTUAL SITE MODEL TECHNICAL MEMORANDUM
Agri-Tech and Yakima Steel Fabricators Site
Yakima Steel Fabricators
Yakima, Washington

Farallon PN: 765-001



WASHINGTON



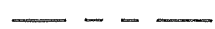


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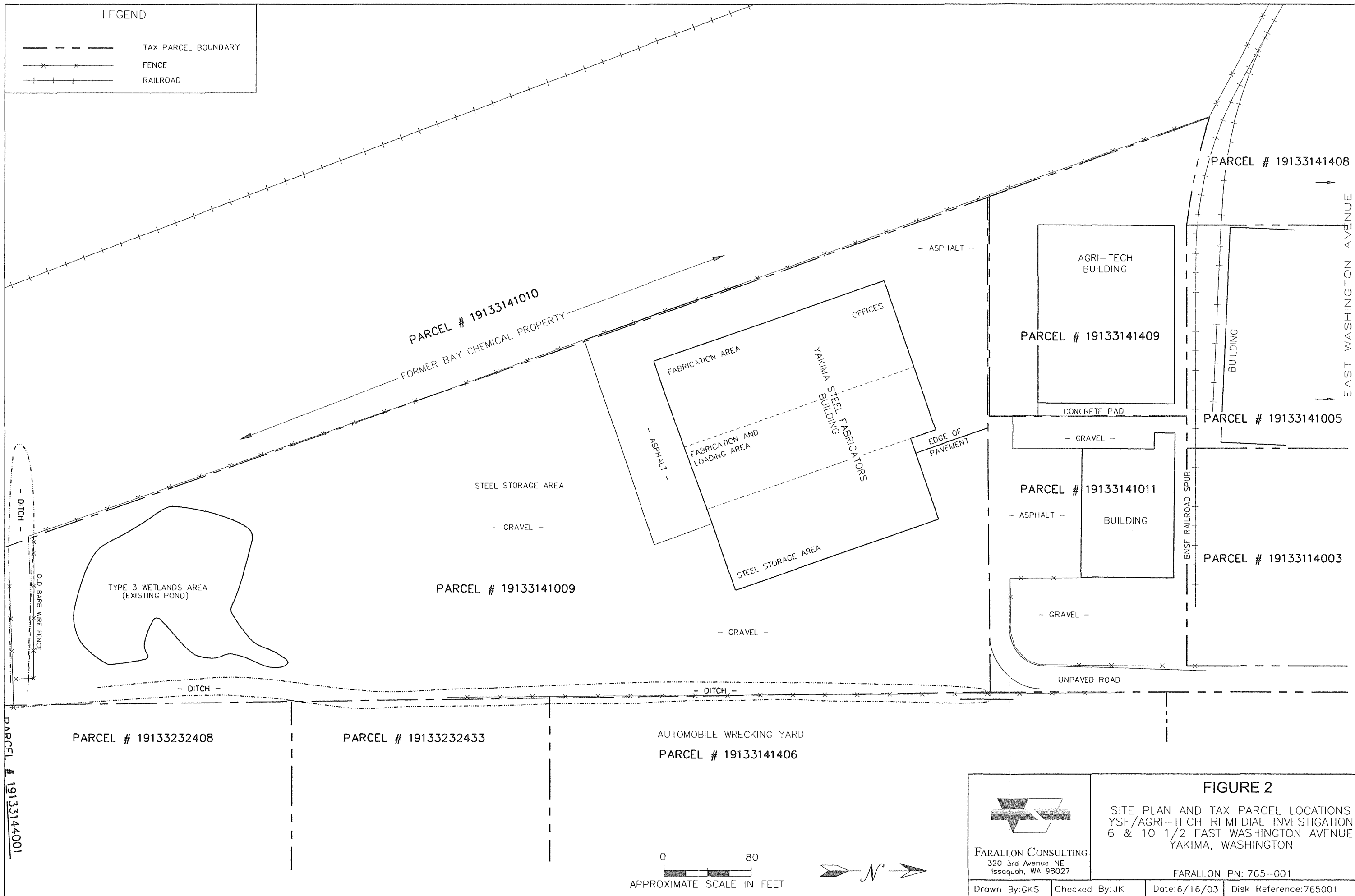
FIGURE 1

SITE LOCATION AND REGIONAL
TOPOGRAPHIC MAP
YSF/AGRI-TECH REMEDIAL INVESTIGATION
6 & 10 1/2 EAST WASHINGTON AVNU.E.
YAKIMA, WASHINGTON

FARALLON PN: 765-001

LEGEND

-  TAX PARCEL BOUNDARY
-  FENCE
-  RAILROAD








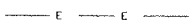




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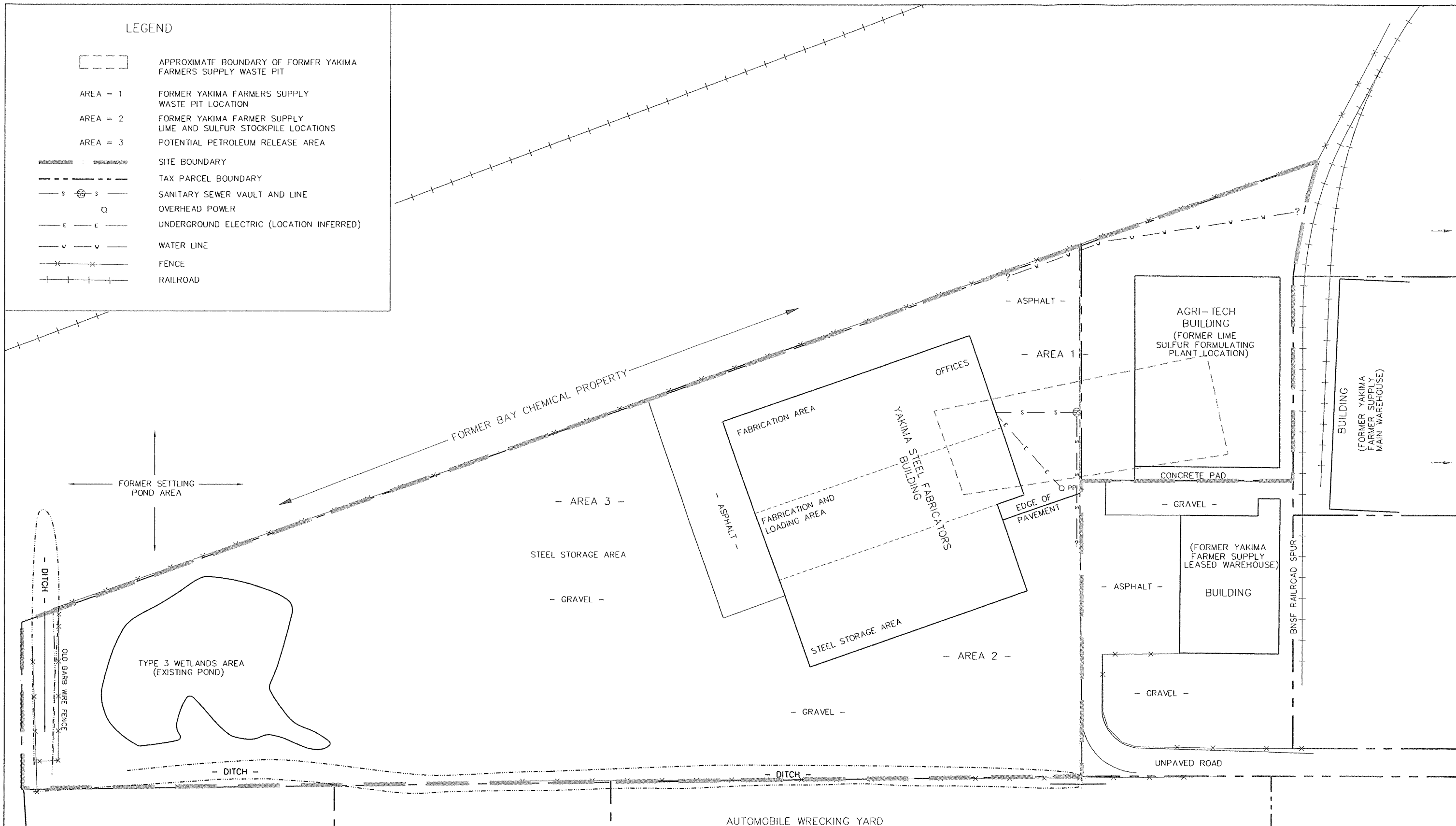
FIGURE 2
SITE PLAN AND TAX PARCEL LOCATIONS
YSF/AGRI-TECH REMEDIAL INVESTIGATION
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001

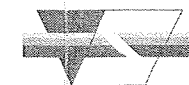
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LEGEND

-  APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA = 1 FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA = 2 FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA = 3 POTENTIAL PETROLEUM RELEASE AREA
-  SITE BOUNDARY
-  TAX PARCEL BOUNDARY
-  SANITARY SEWER VAULT AND LINE
-  OVERHEAD POWER
-  UNDERGROUND ELECTRIC (LOCATION INFERRED)
-  WATER LINE
-  FENCE
-  RAILROAD



0 80
APPROXIMATE SCALE IN FEET



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FIGURE 3
SITE PLAN
YSF/AGRI-TECH REMEDIAL INVESTIGATION
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001







Drawn By:GKS






Checked By:JK

Date:6/16/03

Disk Reference:765001

LEGEND

- MW-7A  SHALLOW MONITORING WELL INSTALLED BY FARALLON (2002)
- MW-7B  DEEP MONITORING WELL INSTALLED BY FARALLON
- MW-2  SHALLOW MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- MW-5  DEEP MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- WDOE-6  MONITORING WELL INSTALLED BY ECOLOGY (1992)
- MW-6  SHALLOW BAY CHEMICAL PROPERTY MONITORING WELL INSTALLED BY PACIFIC GROUNDWATER GROUP (1994)

-  APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA = 1 FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA = 2 FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA = 3 POTENTIAL PETROLEUM RELEASE AREA
-  SITE BOUNDARY
-  TAX PARCEL BOUNDARY
-  FENCE
-  RAILROAD

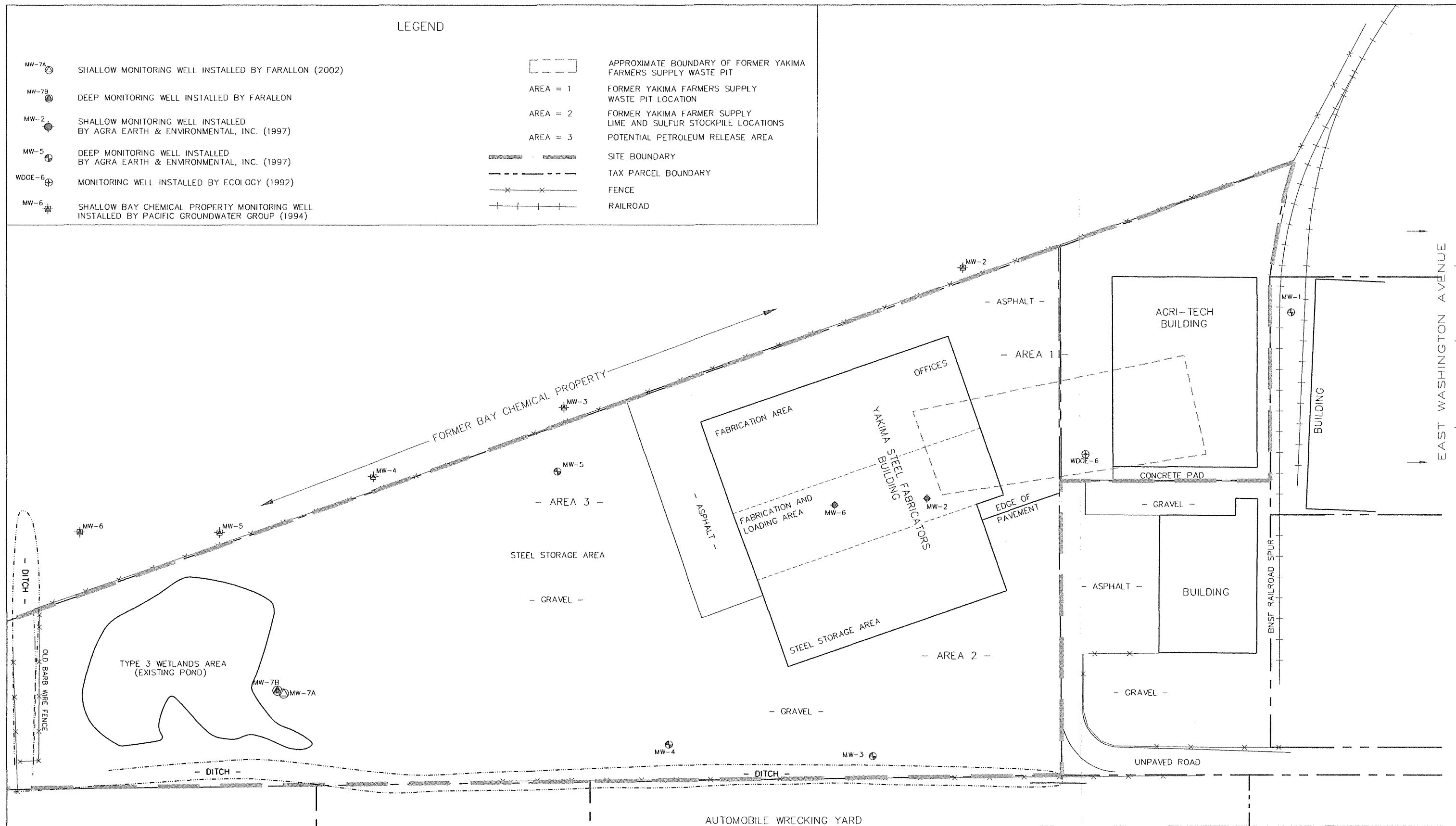
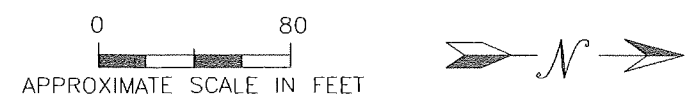


FIGURE 4
 SITE PLAN WITH
 GROUNDWATER MONITORING WELL LOCATIONS
 YSF/AGRI-TECH REMEDIAL INVESTIGATION
 6 & 10 1/2 EAST WASHINGTON AVENUE
 YAKIMA, WASHINGTON
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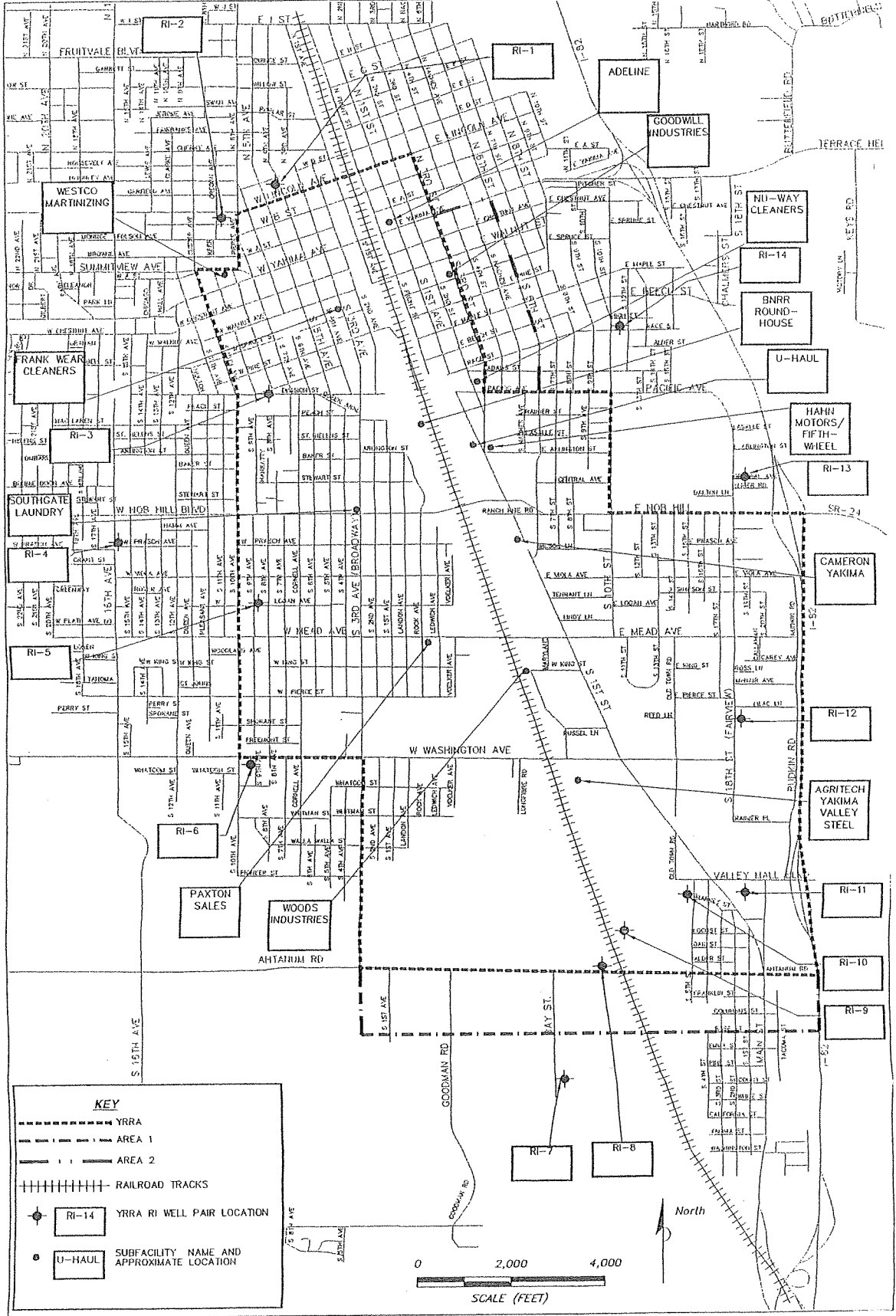


FIGURE 5

SURROUNDING CONFIRMED OR SUSPECTED CONTAMINATED SITES
 YSF/AGRI-TECH REMEDIAL INVESTIGATION
 YAKIMA, WASHINGTON



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



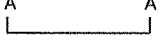




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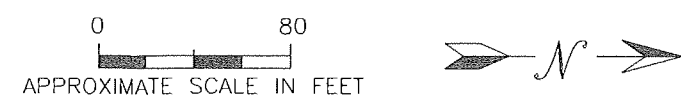
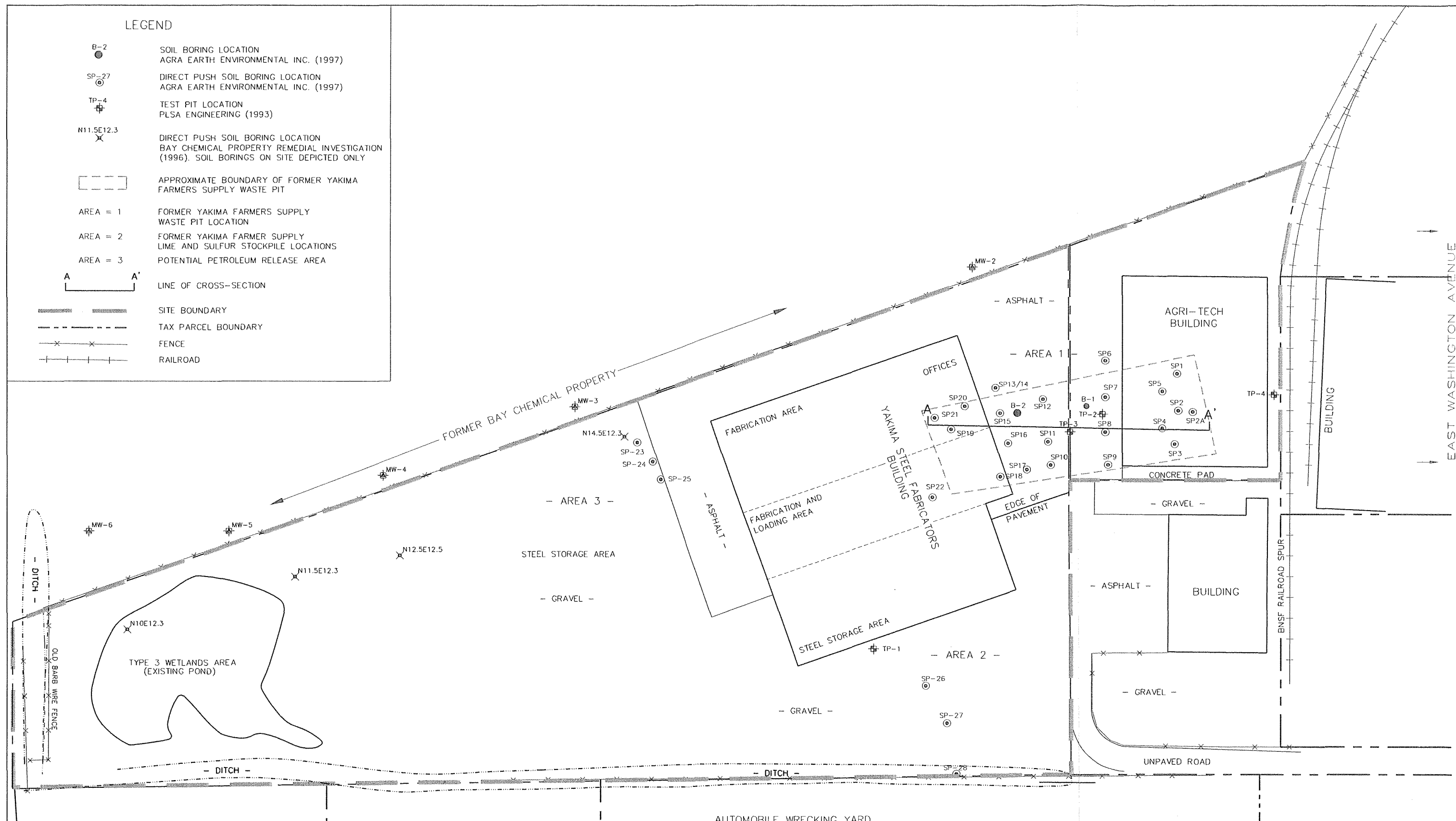
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Date: 2/28/03

Disk Reference: 765001

LEGEND

-  B-2 SOIL BORING LOCATION
AGRA EARTH ENVIRONMENTAL INC. (1997)
-  SP-27 DIRECT PUSH SOIL BORING LOCATION
AGRA EARTH ENVIRONMENTAL INC. (1997)
-  TP-4 TEST PIT LOCATION
PLSA ENGINEERING (1993)
-  N11.5E12.3 DIRECT PUSH SOIL BORING LOCATION
BAY CHEMICAL PROPERTY REMEDIAL INVESTIGATION (1996). SOIL BORINGS ON SITE DEPICTED ONLY
-  APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA = 1 FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA = 2 FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA = 3 POTENTIAL PETROLEUM RELEASE AREA
-  LINE OF CROSS-SECTION
-  SITE BOUNDARY
-  TAX PARCEL BOUNDARY
-  FENCE
-  RAILROAD

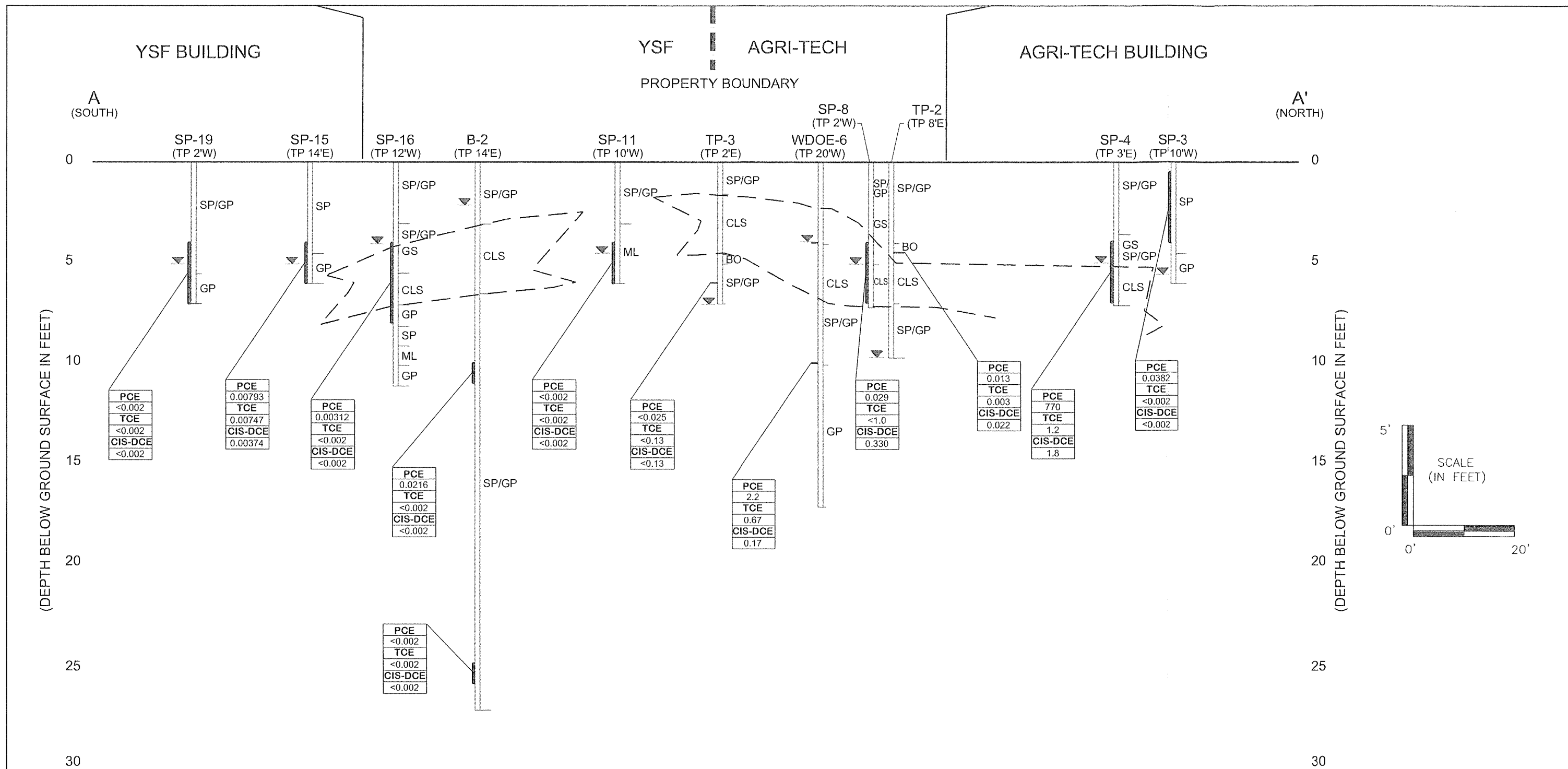



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FIGURE 6
 SITE PLAN WITH SOIL BORING LOCATIONS
 YSF/AGRI-TECH REMEDIAL INVESTIGATION
 6 & 10 1/2 EAST WASHINGTON AVENUE
 YAKIMA, WASHINGTON

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LEGEND

<p>SP-8 (TP72'S)</p> <p>BORING LOCATION TRANPOSED (TP) IN FEET, NORTH (N), SOUTH (S), EAST (E), OR WEST (W) TO CROSS SECTION LINE.</p> <p>SOIL SAMPLE INTERVAL</p> <p>BLANK CASING</p> <p>GEOLOGIC CONTACT, INFERRED WHERE QUERIED</p> <p>BORING SAMPLE INTERVAL</p> <p>BOTTOM OF WELL/BOREHOLE</p>	<p>SP-19 = DIRECT PUSH SOIL BORING LOCATION</p> <p>B-2 = SOIL BORING LOCATION</p> <p>TP-2 = TEST PIT LOCATION</p> <p>WDOE-6 = MONITORING WELL LOCATION</p> <p>GP = GRAVEL WITH VARYING AMOUNTS OF SAND AND SILT</p> <p>SP = SAND WITH VARYING AMOUNTS OF SILT AND GRAVEL</p> <p>SP/GP = SAND AND GRAVEL WITH VARYING AMOUNTS SILT</p> <p>ML = SILT WITH VARYING AMOUNTS OF SAND AND GRAVEL</p> <p>CLS = CLAYEY SUBSTANCE, GREEN-GREY TO YELLOW-GREY, MAY BE MIXED WITH SP/GP/ML</p> <p>GS = GRANULAR SULFUR, MAY BE MIXED WITH SP/GP/ML</p> <p>BO = BLACK, ORGANIC MATERIAL</p> <p>▽ = DEPTH TO WATER AT TIME OF DRILLING</p>	<table border="1"> <tr><td>PCE</td><td><0.050</td></tr> <tr><td>TCE</td><td><0.050</td></tr> <tr><td>CIS-DCE</td><td>0.132</td></tr> </table> <p>SOIL ANALYTICAL RESULTS IN (MILLIGRAMS PER KILOGRAM)</p> <p>PCE = TETRACHLOROETHENE</p> <p>TCE = TRICHLOROETHENE</p> <p>CIS-DCE = CIS 1,2-DICHLOROETHENE</p>	PCE	<0.050	TCE	<0.050	CIS-DCE	0.132
PCE	<0.050							
TCE	<0.050							
CIS-DCE	0.132							

<p>FARALLON CONSULTING 320 3rd Avenue NE Issaquah, WA 98027</p>	<p>FIGURE 7</p> <p>CROSS-SECTION A-A' VOLATILE ORGANIC COMPOUNDS SOIL ANALYTICAL RESULTS YSF/AGRI-TECH REMEDIAL INVESTIGATION 6 & 10 1/2 EAST WASHINGTON AVENUE YAKIMA, WASHINGTON</p> <p>FARALLON PN: 765-001</p>
	<p>Drawn By: GKS Checked By: JK Date: 6/16/03 Disk Reference: 765001</p>

LEGEND

- SOIL BORING LOCATION
AGRA EARTH ENVIRONMENTAL INC. (1997)
- DIRECT PUSH SOIL BORING LOCATION
AGRA EARTH ENVIRONMENTAL INC. (1997)
- SHALLOW MONITORING WELL INSTALLED BY FARALLON (2002) *5-15' screen*
- DEEP MONITORING WELL INSTALLED BY FARALLON *25-30' screen*
- SHALLOW MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- DEEP MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- MONITORING WELL INSTALLED BY ECOLOGY (1992)

- APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- POTENTIAL PETROLEUM RELEASE AREA
- SITE BOUNDARY
- TAX PARCEL BOUNDARY
- FENCE
- RAILROAD

DEPTH BELOW GROUND SURFACE
 PCE = TETRACHLOROETHYLENE
 TCE = TRICHLOROETHYLENE
 CIS-DCE = 1,2-DICHLOROETHENE
 ANALYTICAL RESULTS IN (MILLIGRAMS PER KILOGRAM)

DEPTH	PCE	TCE	CIS-DCE
0.5'-4.0'	0.053	0.026	0.35

BORING LOCATION IN BOLD INDICATES THAT ONE OR MORE ANALYTE THAT EXCEEDS PRELIMINARY SCREENING LEVEL. ANALYTE HIGHLIGHTED IN BLUE EXCEEDS PRELIMINARY SCREENING LEVEL INDICATED IN TABLE ABOVE.

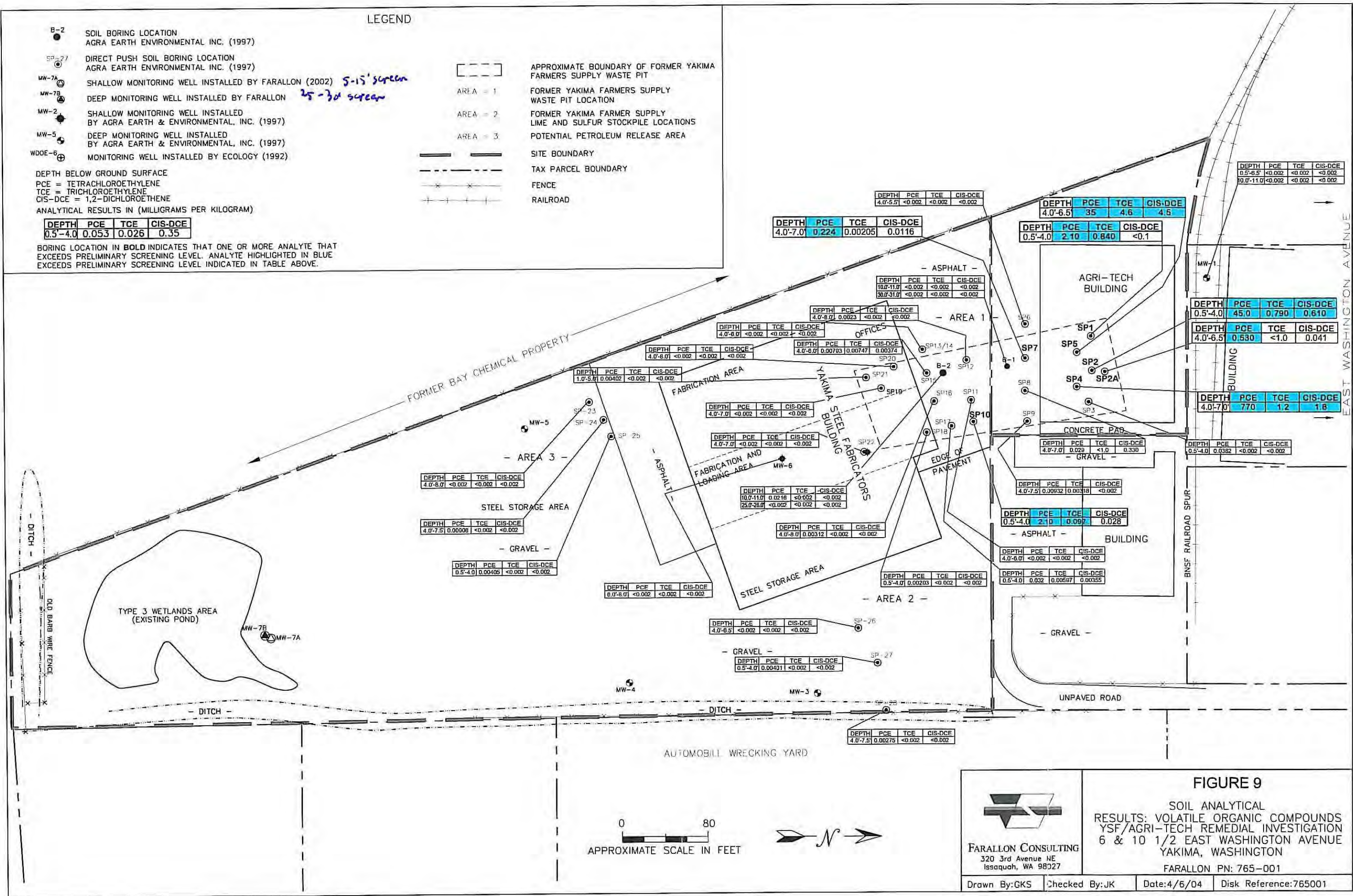


FIGURE 9
 SOIL ANALYTICAL
 RESULTS: VOLATILE ORGANIC COMPOUNDS
 YSF/AGRI-TECH REMEDIATION INVESTIGATION
 6 & 10 1/2 EAST WASHINGTON AVENUE
 YAKIMA, WASHINGTON
 FARALLON PN: 765-001

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LEGEND

- B-2 SOIL BORING LOCATION
AGRA EARTH ENVIRONMENTAL INC. (1997)
- SP-77 DIRECT PUSH SOIL BORING LOCATION
AGRA EARTH ENVIRONMENTAL INC. (1997)

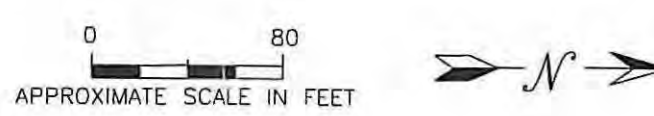
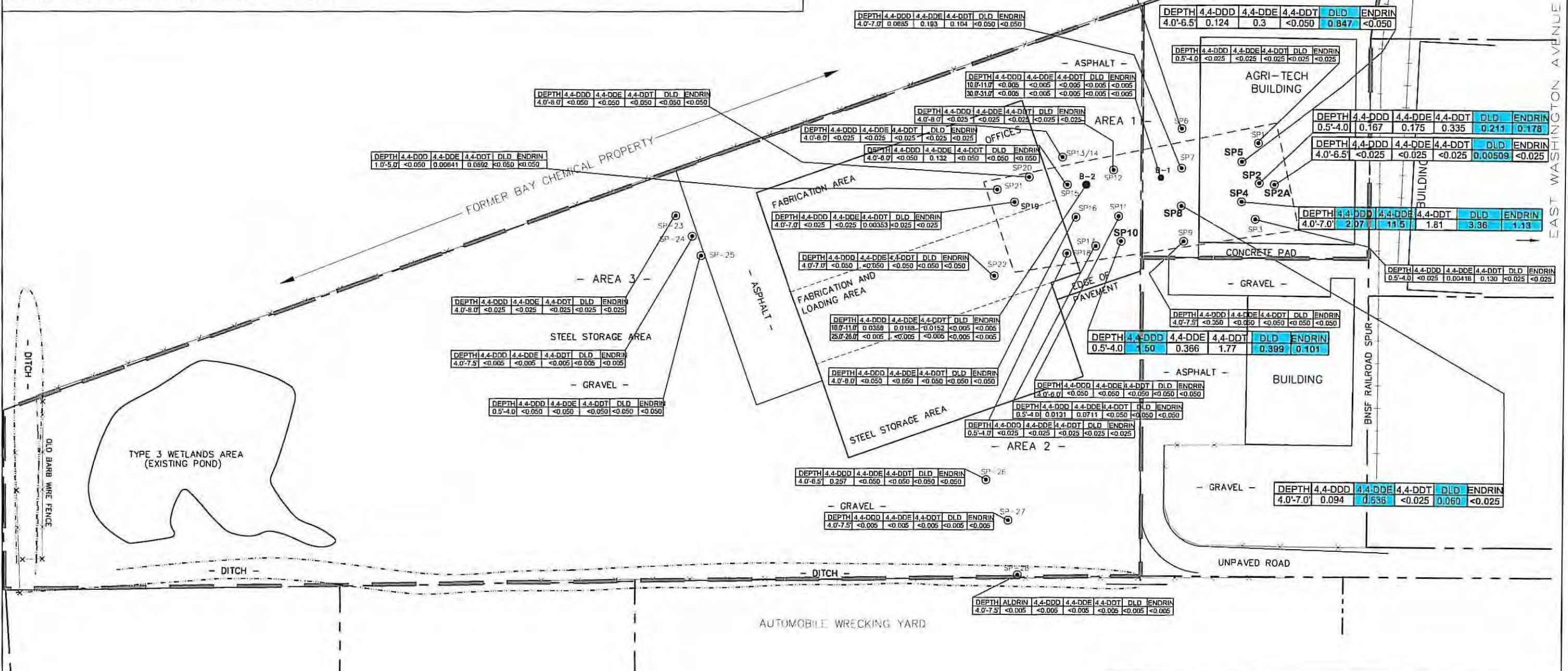
DEPTH= FEET BELOW GROUND SURFACE
ANALYTICAL RESULTS IN (MILLIGRAMS PER KILOGRAM)


DLD = DIELDRIN

DEPTH	4,4-DDD	4,4-DDE	4,4-DDT	DLD	ENDRIN
4.0'-6.5'	0.3354	0.4459	3.485	0.0028	0.0404

BORING LOCATION IN BOLD INDICATES THAT ONE OR MORE ANALYTE THAT EXCEEDS PRELIMINARY SCREENING LEVEL. ANALYTE HIGHLIGHTED IN BLUE EXCEEDS PRELIMINARY SCREENING LEVEL INDICATED IN TABLE ABOVE.

- APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA = 1 FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA = 2 FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA = 3 POTENTIAL PETROLEUM RELEASE AREA
- SITE BOUNDARY
- TAX PARCEL BOUNDARY
- FENCE
- RAILROAD





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FIGURE 10

SOIL ANALYTICAL RESULTS: PESTICIDES
YSF/AGRI-TECH REMEDIAL INVESTIGATION
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001

Drawn By: GKS	Checked By: JK	Date: 4/6/04	Disk Reference: 765001
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LEGEND

- SP-27 DIRECT PUSH SOIL BORING LOCATION
AGRA EARTH ENVIRONMENTAL INC. (1997)
- MW-E SHALLOW BAY CHEMICAL SITE MONITORING WELL
INSTALLED BY PACIFIC GROUNDWATER GROUP (1994)
- N11.5E12.3 DIRECT PUSH SOIL BORING LOCATION
BAY CHEMICAL SITE REMEDIAL INVESTIGATION
(1996). SOIL BORINGS ON SITE DEPICTED ONLY
- APPROXIMATE BOUNDARY OF FORMER YAKIMA
FARMERS SUPPLY WASTE PIT

DEPTH	ARSENIC	CADMIUM	LEAD	MERCURY	ZINC
4.0'-8.0'	20	2	1,000	2	24,000

DEPTH= FEET BELOW GROUND SURFACE
ANALYTICAL RESULTS (MILLIGRAMS PER KILOGRAM)
-- = NOT ANALYZED
BORING LOCATION IN BOLD INDICATES THAT ONE OR MORE ANALYTE THAT
EXCEEDS PRELIMINARY SCREENING LEVEL. ANALYTE HIGHLIGHTED IN BLUE
EXCEEDS PRELIMINARY SCREENING LEVEL INDICATED IN TABLE ABOVE.

DEPTH	ARSENIC	CADMIUM	LEAD	MERCURY	ZINC
0	210	23	970	0.22	5,500
2.5'	110	66	4,300	1.65	16,000
5'	<68	2,000	2,300	0.123	68,000

DEPTH	ARSENIC	CADMIUM	LEAD	MERCURY	ZINC
0	<170	510	35,500	17.4	260,000
2.5'	<170	460	29,000	14.6	260,000
5'	<110	77	8,700	1.99	43,000

DEPTH	ARSENIC	CADMIUM	LEAD	MERCURY	ZINC
0	4.6	3.8	410	0.234	1,200
7.5'	3.9	3.7	49	0.047	1,700
10'	<2.7	9.7	740	0.312	3,700
15'	7.3	5	650	0.218	1,800

DEPTH	ARSENIC	CADMIUM	LEAD	MERCURY	ZINC
0	<140	460	28,000	0.423	290,000
2.5'	<36	330	35,000	8.4	180,000
7.5'	<1.9	30	1,700	0.357	14,000

DEPTH	ARSENIC	CADMIUM	LEAD	MERCURY	ZINC
4.0'-7.5'	3.35	23.4	<0.500	5.09	5,750

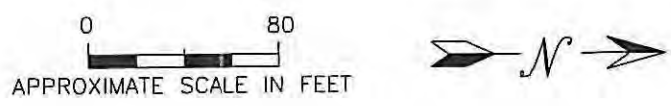
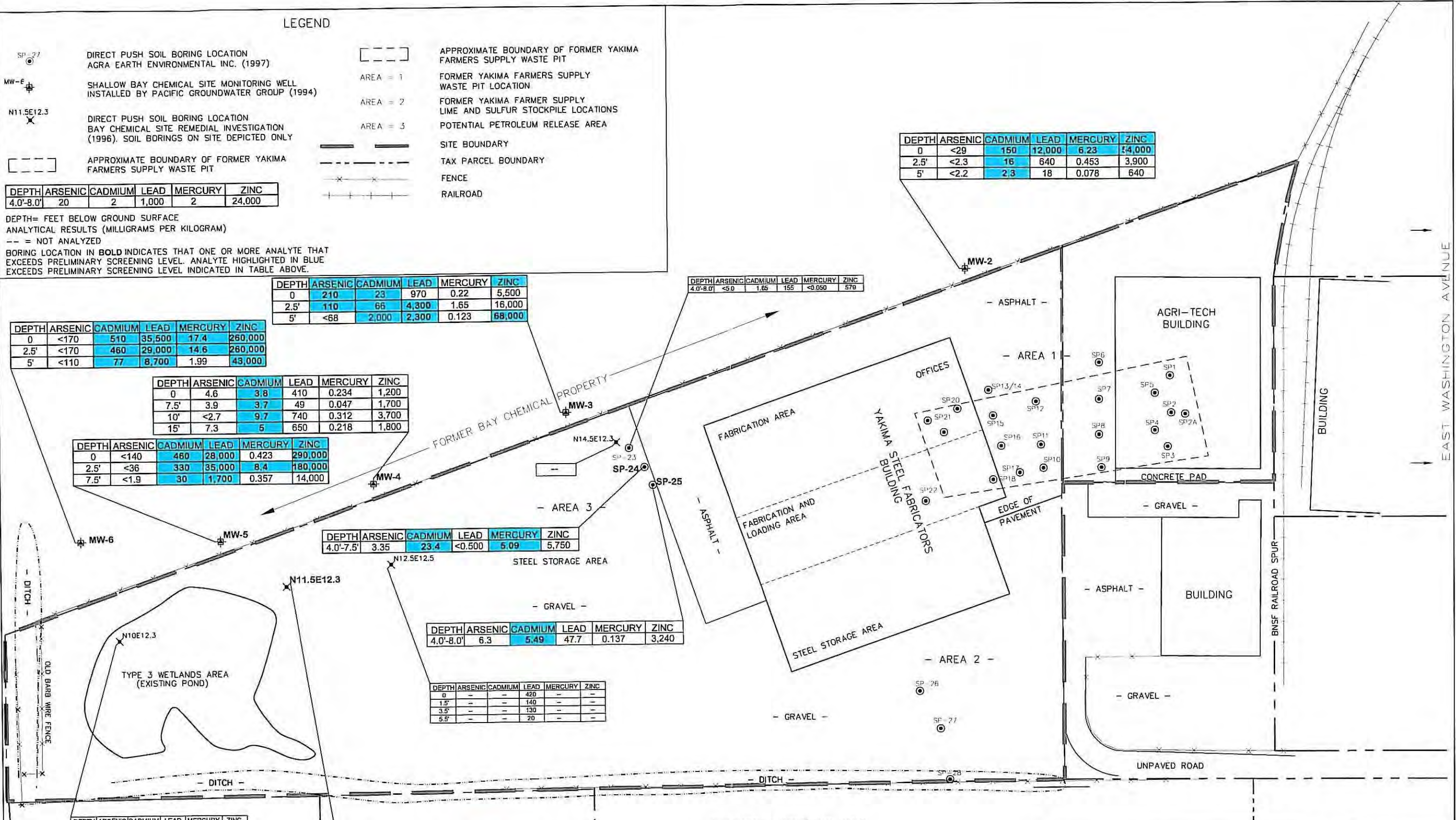
DEPTH	ARSENIC	CADMIUM	LEAD	MERCURY	ZINC
4.0'-8.0'	6.3	5.49	47.7	0.137	3,240

DEPTH	ARSENIC	CADMIUM	LEAD	MERCURY	ZINC
0	--	--	420	--	--
1.5'	--	--	140	--	--
3.5'	--	--	130	--	--
5.5'	--	--	20	--	--

DEPTH	ARSENIC	CADMIUM	LEAD	MERCURY	ZINC
0	--	--	190	--	--
1.5'	--	--	62	--	--
3.5'	--	--	28	--	--
5.5'	--	--	51	--	--

DEPTH	ARSENIC	CADMIUM	LEAD	MERCURY	ZINC
0	--	--	24,000	--	--
1.5'	--	--	1,700	--	--
3.5'	--	--	160	--	--
5.5'	--	--	44	--	--

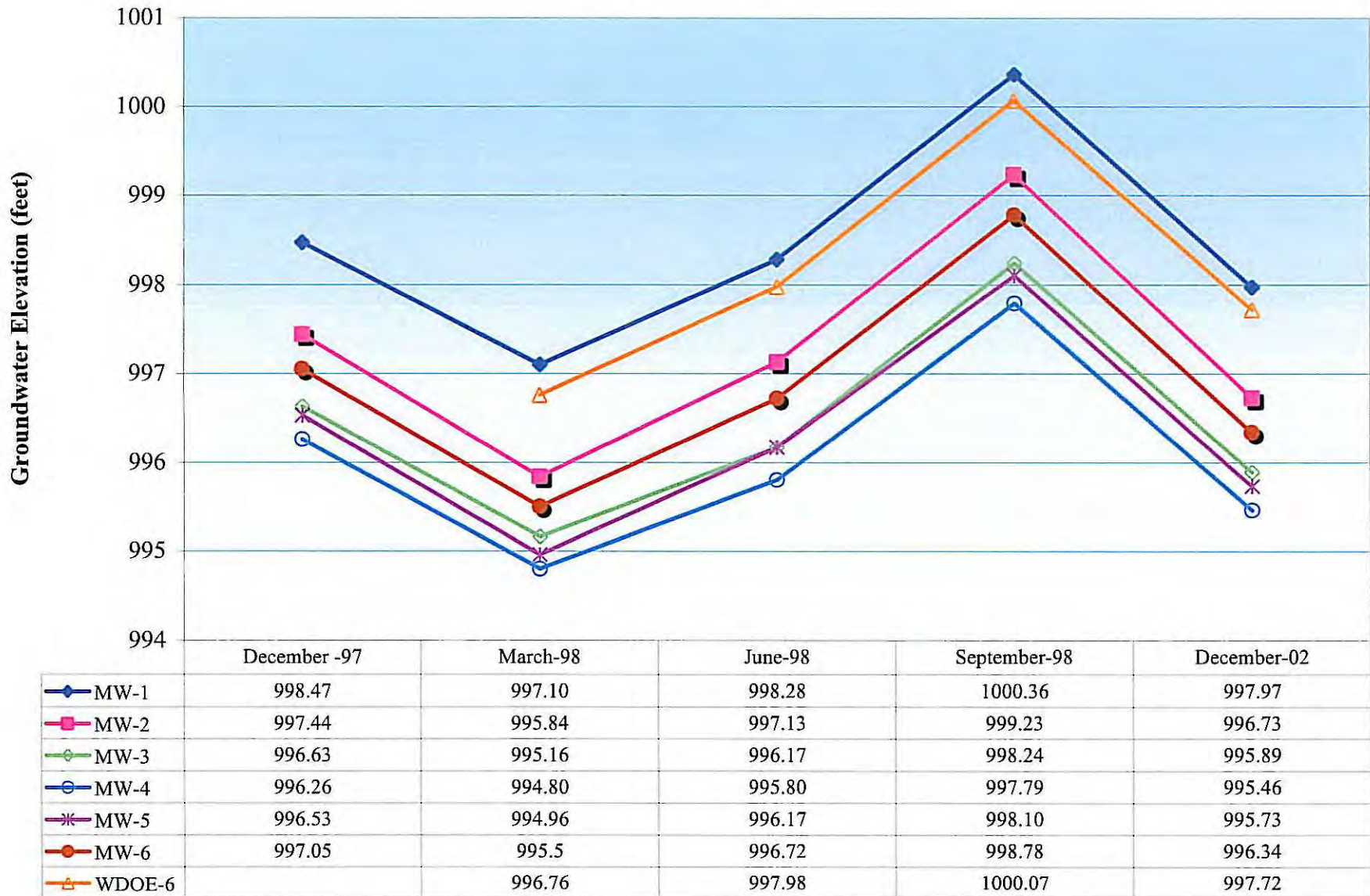
DEPTH	ARSENIC	CADMIUM	LEAD	MERCURY	ZINC
0	<29	150	12,000	6.23	14,000
2.5'	<2.3	16	640	0.453	3,900
5'	<2.2	2.3	18	0.078	640



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FIGURE 12
SOIL ANALYTICAL RESULTS: METALS
YSF/AGRI-TECH REMEDIAL INVESTIGATION
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

Figure 13- Groundwater Elevation Hydrograph
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001



LEGEND

- MW-2 SHALLOW MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- MW-5 DEEP MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- WDOE-6 MONITORING WELL INSTALLED BY ECOLOGY (1992)
- (998.47) GROUNDWATER ELEVATION IN FEET (12-3-97) RELATIVE TO NAVD 29 DATUM
- (NM) NOT MEASURED
- GROUNDWATER ELEVATION CONTOUR DASHED WHERE INFERRED (12-3-97)
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

- APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA = 1 FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA = 2 FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA = 3 POTENTIAL PETROLEUM RELEASE AREA
- SITE BOUNDARY
- TAX PARCEL BOUNDARY
- FENCE
- RAILROAD

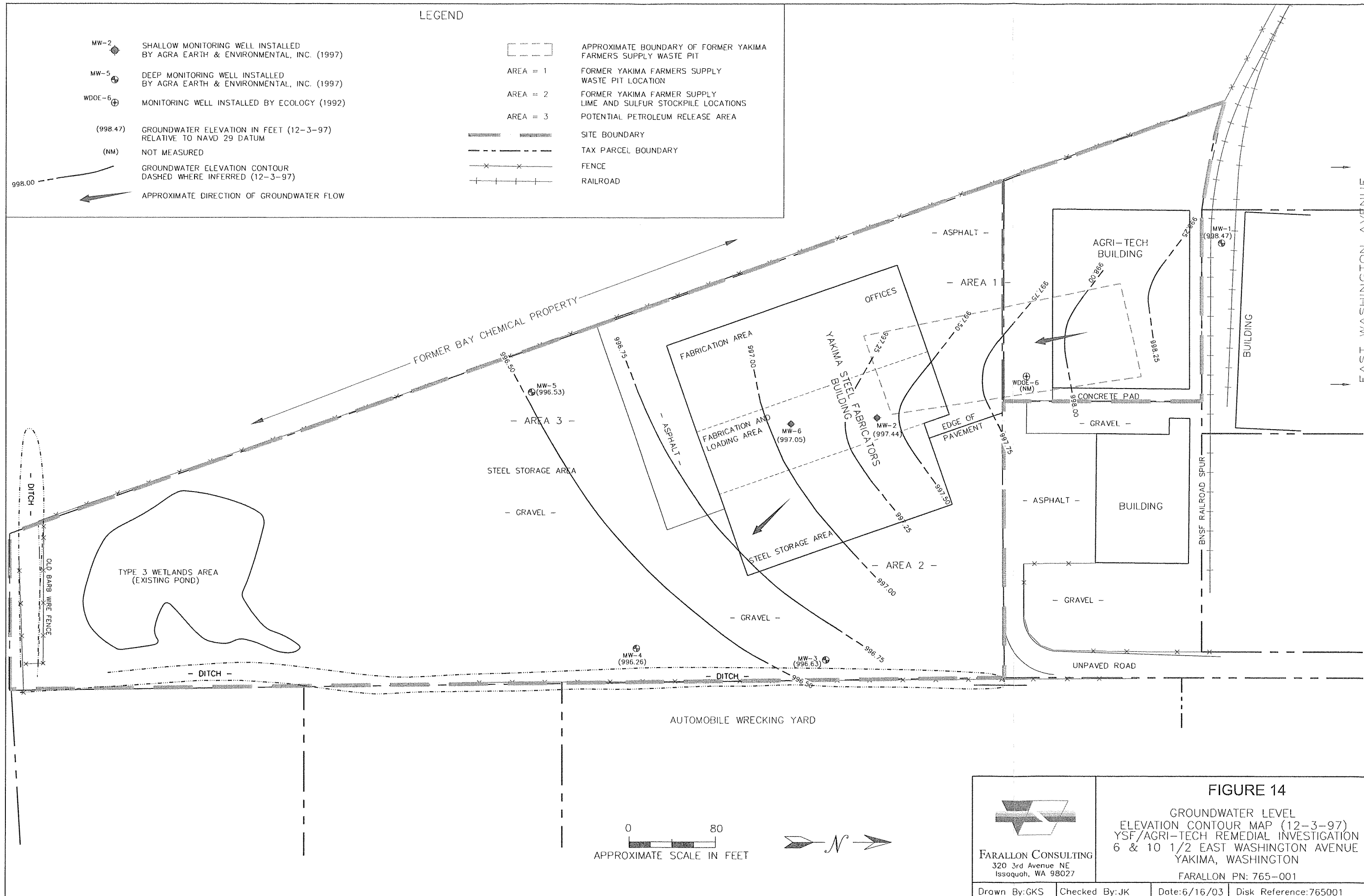


FIGURE 14

GROUNDWATER LEVEL
ELEVATION CONTOUR MAP (12-3-97)
YSF/AGRI-TECH REMEDIAL INVESTIGATION
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

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320 3rd Avenue NE
Issaquah, WA 98027

FARALLON PN: 765-001

Drawn By:GKS | Checked By:JK | Date:6/16/03 | Disk Reference:765001

LEGEND

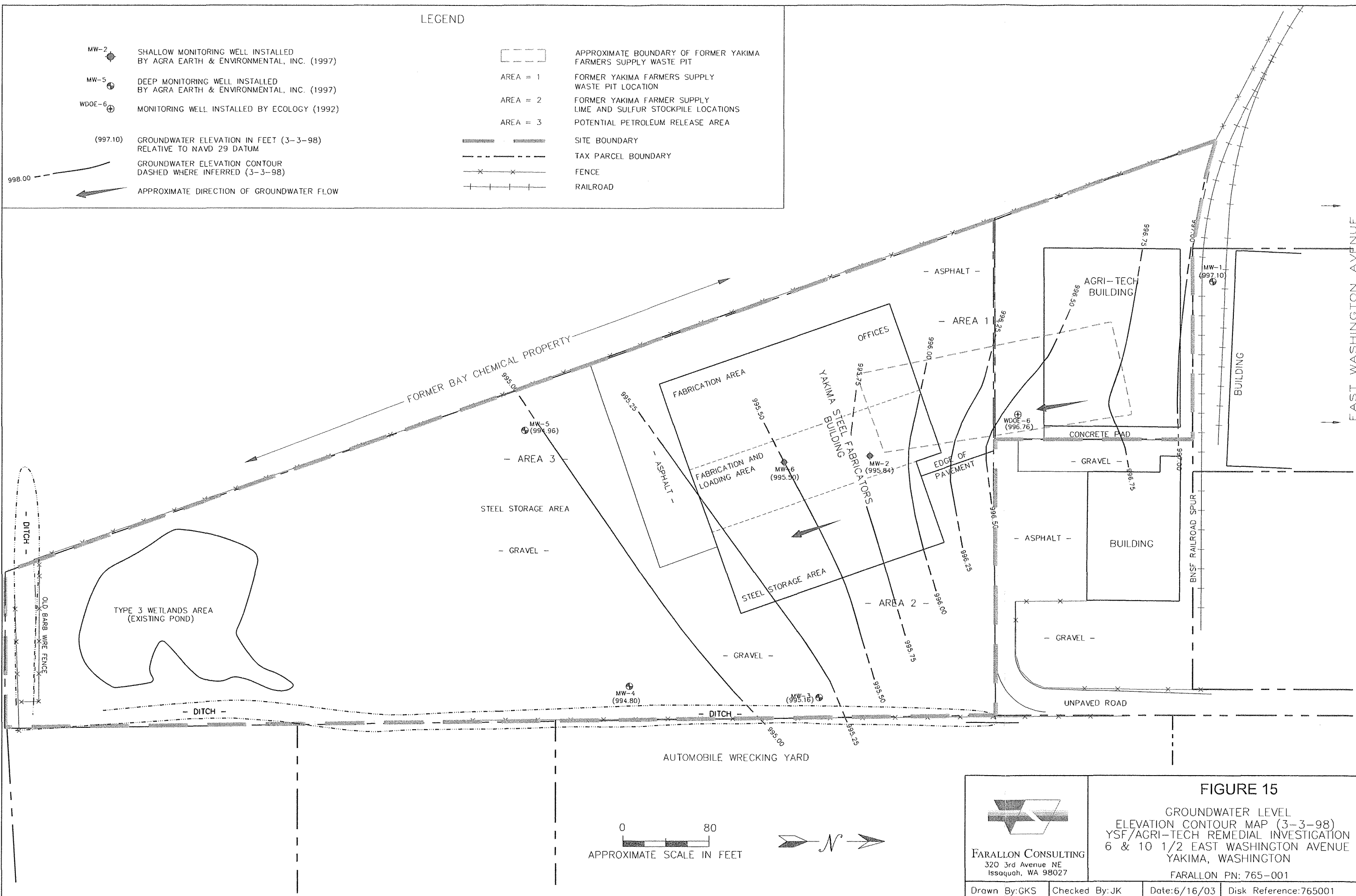
- MW-2 SHALLOW MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- MW-5 DEEP MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- WDOE-6 MONITORING WELL INSTALLED BY ECOLOGY (1992)

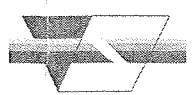
(997.10) GROUNDWATER ELEVATION IN FEET (3-3-98) RELATIVE TO NAVD 29 DATUM

GROUNDWATER ELEVATION CONTOUR DASHED WHERE INFERRED (3-3-98)

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

- APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA = 1 FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA = 2 FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA = 3 POTENTIAL PETROLEUM RELEASE AREA
- SITE BOUNDARY
- TAX PARCEL BOUNDARY
- FENCE
- RAILROAD



 FARALLON CONSULTING 320 3rd Avenue NE Issaquah, WA 98027	FIGURE 15 GROUNDWATER LEVEL ELEVATION CONTOUR MAP (3-3-98) YSF/AGRI-TECH REMEDIAL INVESTIGATION 6 & 10 1/2 EAST WASHINGTON AVENUE YAKIMA, WASHINGTON FARALLON PN: 765-001	
	Drawn By: GKS	Checked By: JK

LEGEND

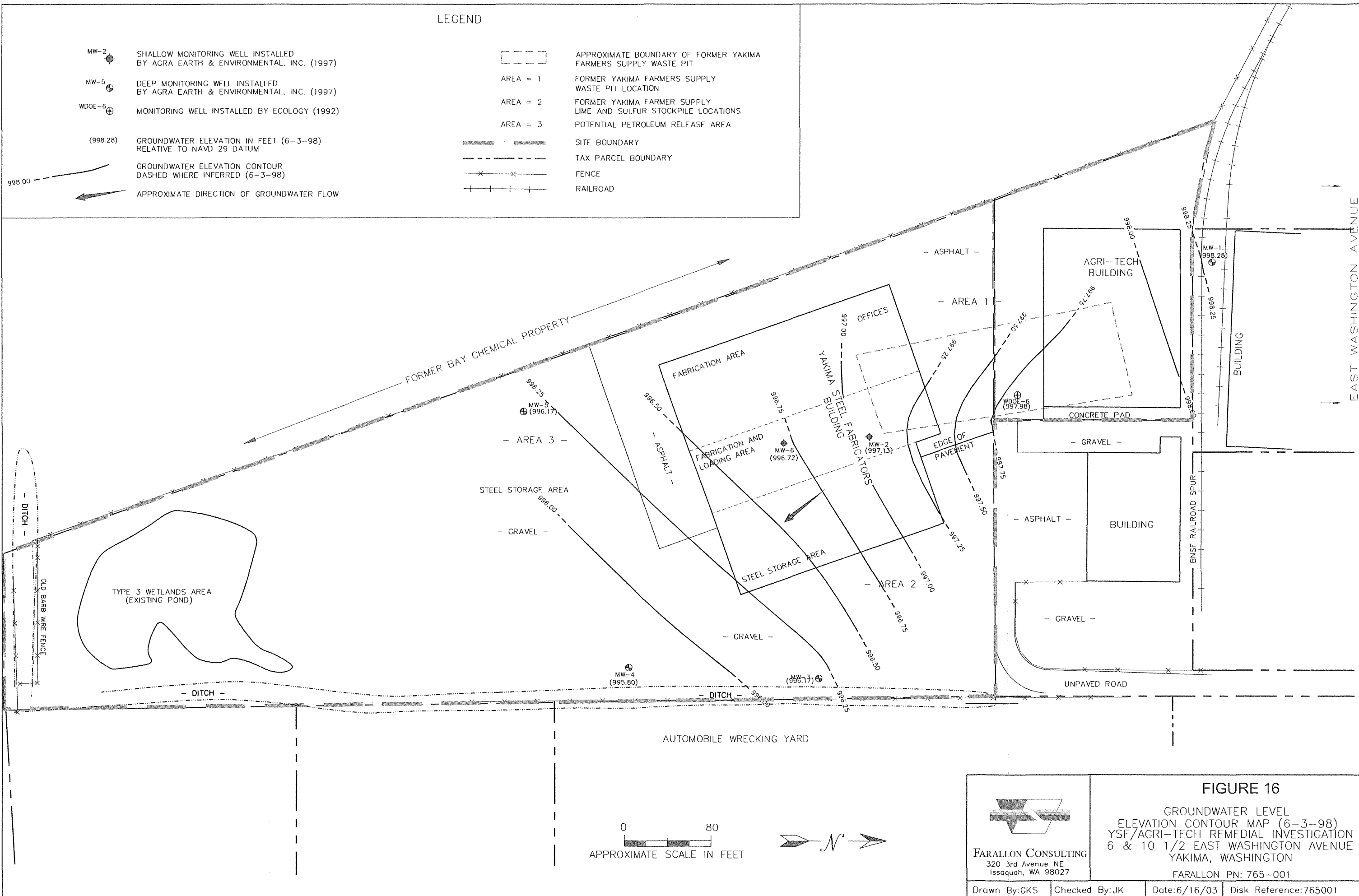
- MW-2 SHALLOW MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- MW-5 DEEP MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- WDOE-6 MONITORING WELL INSTALLED BY ECOLOGY (1992)

(998.28) GROUNDWATER ELEVATION IN FEET (6-3-98) RELATIVE TO NAVD 29 DATUM

GROUNDWATER ELEVATION CONTOUR DASHED WHERE INFERRED (6-3-98)

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

- APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA = 1 FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA = 2 FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA = 3 POTENTIAL PETROLEUM RELEASE AREA
- SITE BOUNDARY
- TAX PARCEL BOUNDARY
- FENCE
- RAILROAD



LEGEND

- MW-2 SHALLOW MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- MW-5 DEEP MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- WDOE-6 MONITORING WELL INSTALLED BY ECOLOGY (1992)
- (1000.36) GROUNDWATER ELEVATION IN FEET (9-2-98) RELATIVE TO NAVD 29 DATUM
- GROUNDWATER ELEVATION CONTOUR DASHED WHERE INFERRED (9-2-98)
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

- APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA = 1 FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA = 2 FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA = 3 POTENTIAL PETROLEUM RELEASE AREA
- SITE BOUNDARY
- TAX PARCEL BOUNDARY
- FENCE
- RAILROAD

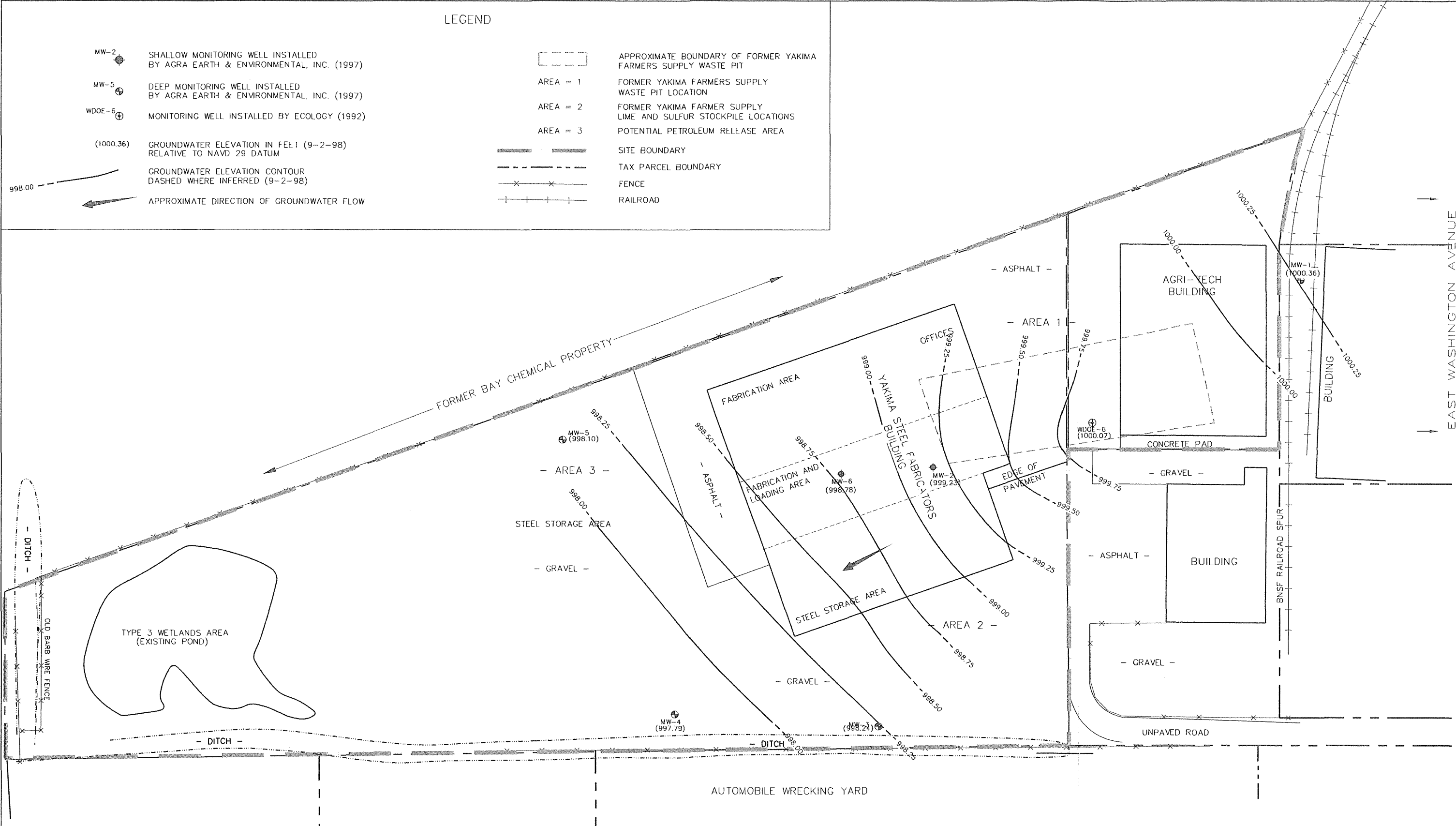


FIGURE 17

GROUNDWATER LEVEL ELEVATION CONTOUR MAP (9-2-98)
 YSF/AGRI-TECH REMEDIAL INVESTIGATION
 6 & 10 1/2 EAST WASHINGTON AVENUE
 YAKIMA, WASHINGTON

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 Issaquah, WA 98027

FARALLON PN: 765-001

Drawn By:GKS Checked By:JK Date:6/16/03 Disk Reference:765001

LEGEND

- MW-2 SHALLOW MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- MW-5 DEEP MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- WDOE-6 MONITORING WELL INSTALLED BY ECOLOGY (1992)
- (997.72) GROUNDWATER ELEVATION IN FEET (12-3/4-03) RELATIVE TO NAVD 29 DATUM
- 998.00 GROUNDWATER ELEVATION CONTOUR DASHED WHERE INFERRED (12-3/4-02)
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

- APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA = 1 FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA = 2 FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA = 3 POTENTIAL PETROLEUM RELEASE AREA
- SITE BOUNDARY
- TAX PARCEL BOUNDARY
- FENCE
- RAILROAD

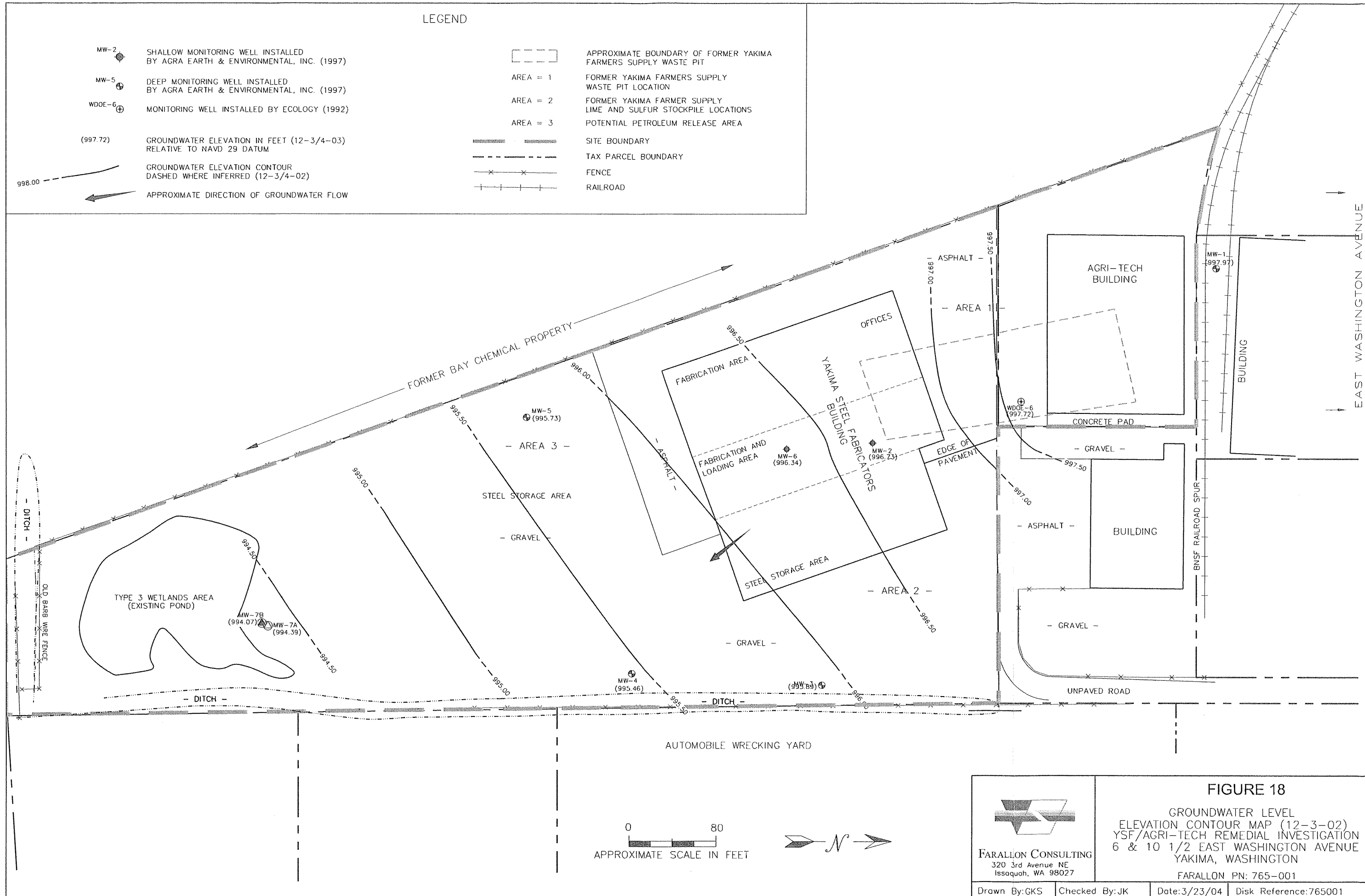


FIGURE 18

GROUNDWATER LEVEL ELEVATION CONTOUR MAP (12-3-02)
 YSF/AGRI-TECH REMEDIAL INVESTIGATION
 6 & 10 1/2 EAST WASHINGTON AVENUE
 YAKIMA, WASHINGTON

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 320 3rd Avenue NE
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FARALLON PN: 765-001

Drawn By:GKS Checked By:JK Date:3/23/04 Disk Reference:765001

LEGEND

- APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- ARI A = 1
- AREA = 2
- AREA = 3
- SITE BOUNDARY
- TAX PARCEL BOUNDARY
- FENCE
- RAILROAD
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

MW-7A SHALLOW MONITORING WELL INSTALLED BY FARALLON (2002) *5-15' sup*

MW-7B DEEP MONITORING WELL INSTALLED BY FARALLON *25-60' sup*

MW-2 SHALLOW MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)

MW-5 DEEP MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)

WDOE-6 MONITORING WELL INSTALLED BY ECOLOGY (1992)

PCE = TETRACHLOROETHYLENE
TCE = TRICHLOROETHYLENE
CIS-1,2-DCE = CIS 1,2-DICHLOROETHENE
VC = VINYL CHLORIDE
-- = NOT ANALYZED

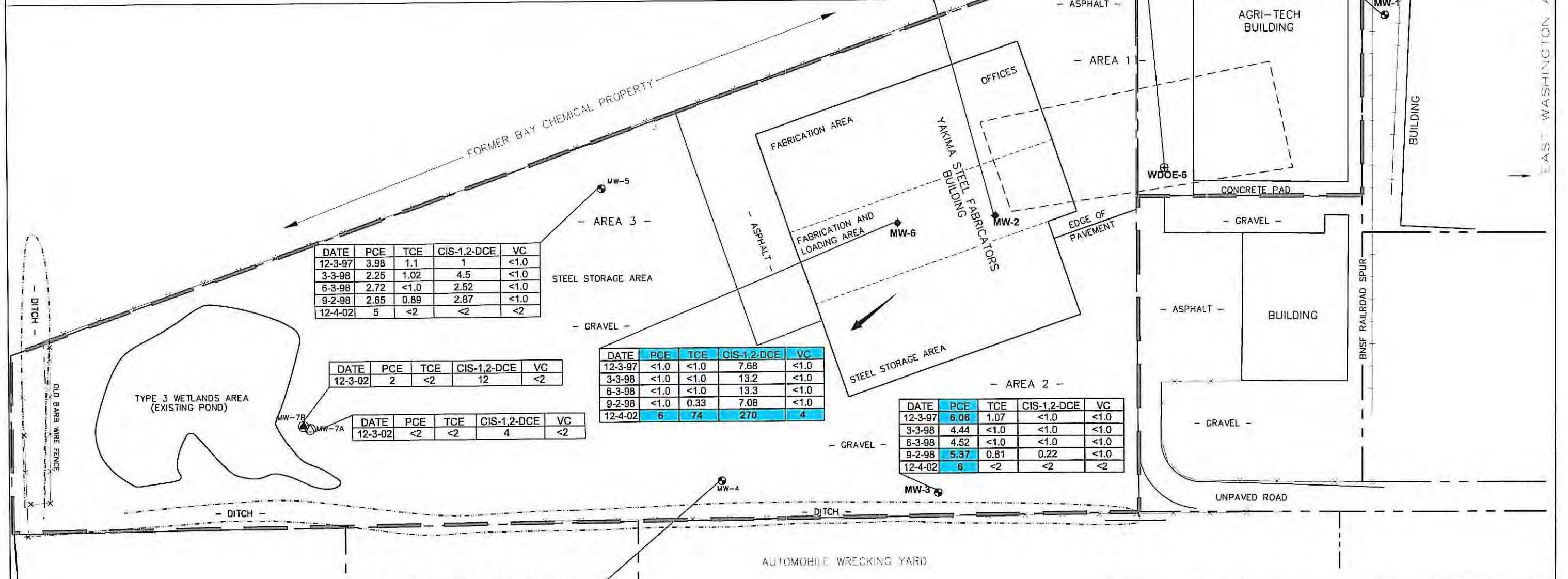
DATE	PCE	TCE	CIS-1,2-DCE	VC
12-3-02	5	3.98	70	0.0292

DATE	PCE	TCE	CIS-1,2-DCE	VC
12-3-97	<1.0	1.51	12.4	2.42
3-3-98	1.59	1.46	3.21	<1.0
6-3-98	<1.0	<1.0	7.13	<1.0
9-2-98	1.27	3.06	17.6	<1.0
12-4-02	<2	<2	15	<2.0

DATE	PCE	TCE	CIS-1,2-DCE	VC
5-92	420	430	270	<10
12-3-97	--	--	--	--
3-3-98	49.6	108	83.7	4.24
6-3-98	75.6	60.4	45.6	<1.0
9-2-98	20.8	18.7	11.4	<1.0
12-3-02	<2	<2	14	<2

DATE	PCE	TCE	CIS-1,2-DCE	VC
12-3-97	3.64	<1.0	<1.0	<1.0
3-3-98	3.39	<1.0	<1.0	<1.0
6-3-98	1.5	1.18	<1.0	<1.0
9-2-98	4.22	0.71	0.25	<1.0
12-3-02	6	<2	<2	<2

BORING LOCATION IN BOLD INDICATES THAT ONE OR MORE ANALYTE THAT EXCEEDS PRELIMINARY SCREENING LEVEL. ANALYTE HIGHLIGHTED IN BLUE EXCEEDS PRELIMINARY SCREENING LEVEL INDICATED IN TABLE ABOVE.



DATE	PCE	TCE	CIS-1,2-DCE	VC
12-3-97	3.98	1.1	1	<1.0
3-3-98	2.25	1.02	4.5	<1.0
6-3-98	2.72	<1.0	2.52	<1.0
9-2-98	2.65	0.89	2.87	<1.0
12-4-02	5	<2	<2	<2

DATE	PCE	TCE	CIS-1,2-DCE	VC
12-3-02	2	<2	12	<2

DATE	PCE	TCE	CIS-1,2-DCE	VC
12-3-02	<2	<2	4	<2

DATE	PCE	TCE	CIS-1,2-DCE	VC
12-3-97	<1.0	<1.0	7.68	<1.0
3-3-98	<1.0	<1.0	13.2	<1.0
6-3-98	<1.0	<1.0	13.3	<1.0
9-2-98	<1.0	0.33	7.08	<1.0
12-4-02	6	74	270	4

DATE	PCE	TCE	CIS-1,2-DCE	VC
12-3-97	6.06	1.07	<1.0	<1.0
3-3-98	4.44	<1.0	<1.0	<1.0
6-3-98	4.52	<1.0	<1.0	<1.0
9-2-98	5.37	0.81	0.22	<1.0
12-4-02	6	<2	<2	<2

DATE	PCE	TCE	CIS-1,2-DCE	VC
12-3-97	3.32	<1.0	5.23	<1.0
3-3-98	3.78	<1.0	1.64	<1.0
6-3-98	3.86	<1.0	3.25	<1.0
9-2-98	3.12	0.84	4.34	<1.0
12-4-02	5	<2	5	<2



FIGURE 19

GROUNDWATER ANALYTICAL
RESULT: VOLATILE ORGANICS COMPOUNDS
YSF/AGRI-TECH REMEDIAL INVESTIGATION
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001

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Issaquah, WA 98027

Drawn By:GKS | Checked By:JK | Date:4/6/04 | Disk Reference:765001

**Figure 20 - Groundwater Analytical Results: Monitoring Well WDOE-6
 YSF/Agri-Tech
 Yakima, Washington
 Farallon PN: 765-001**

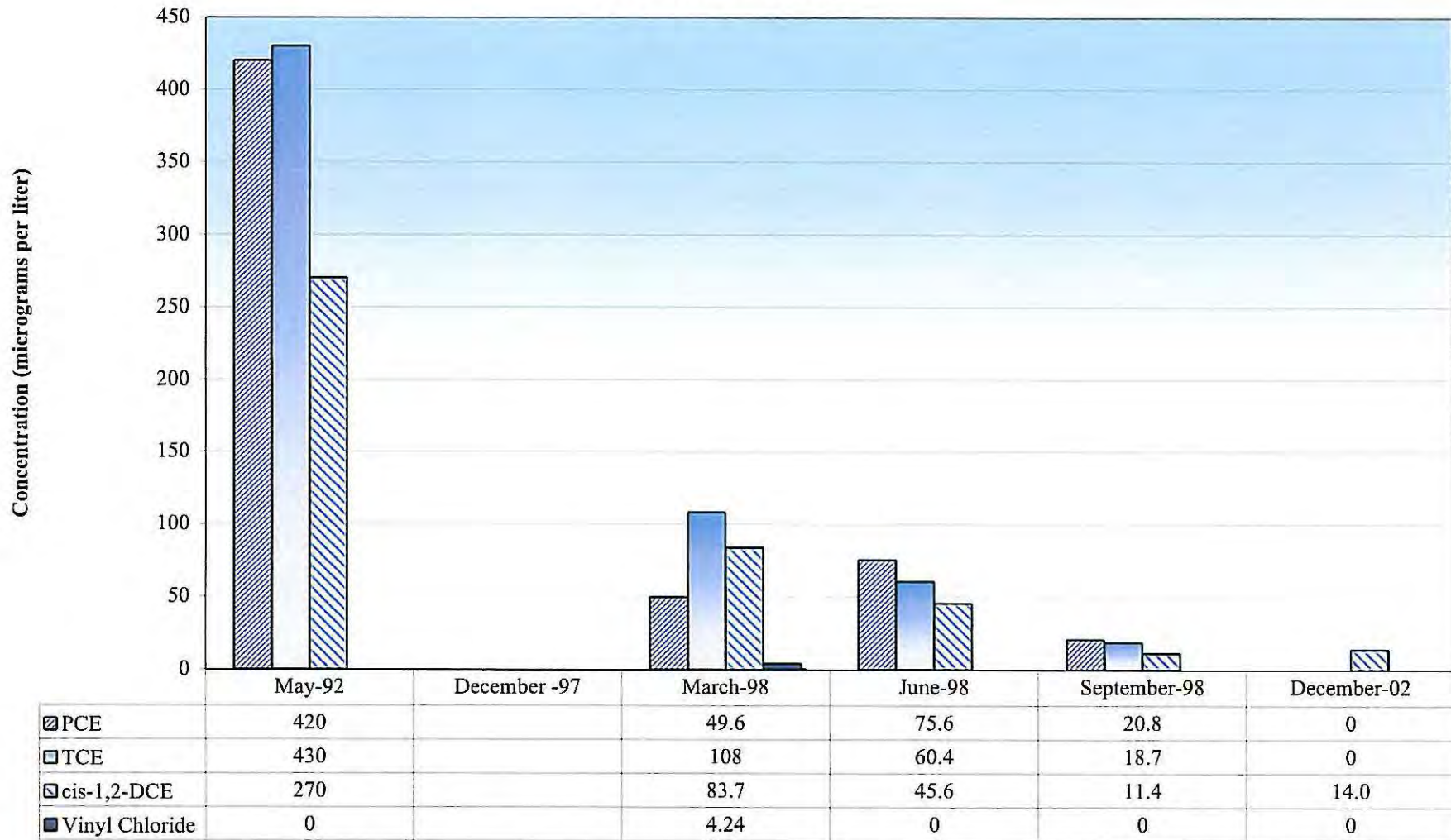
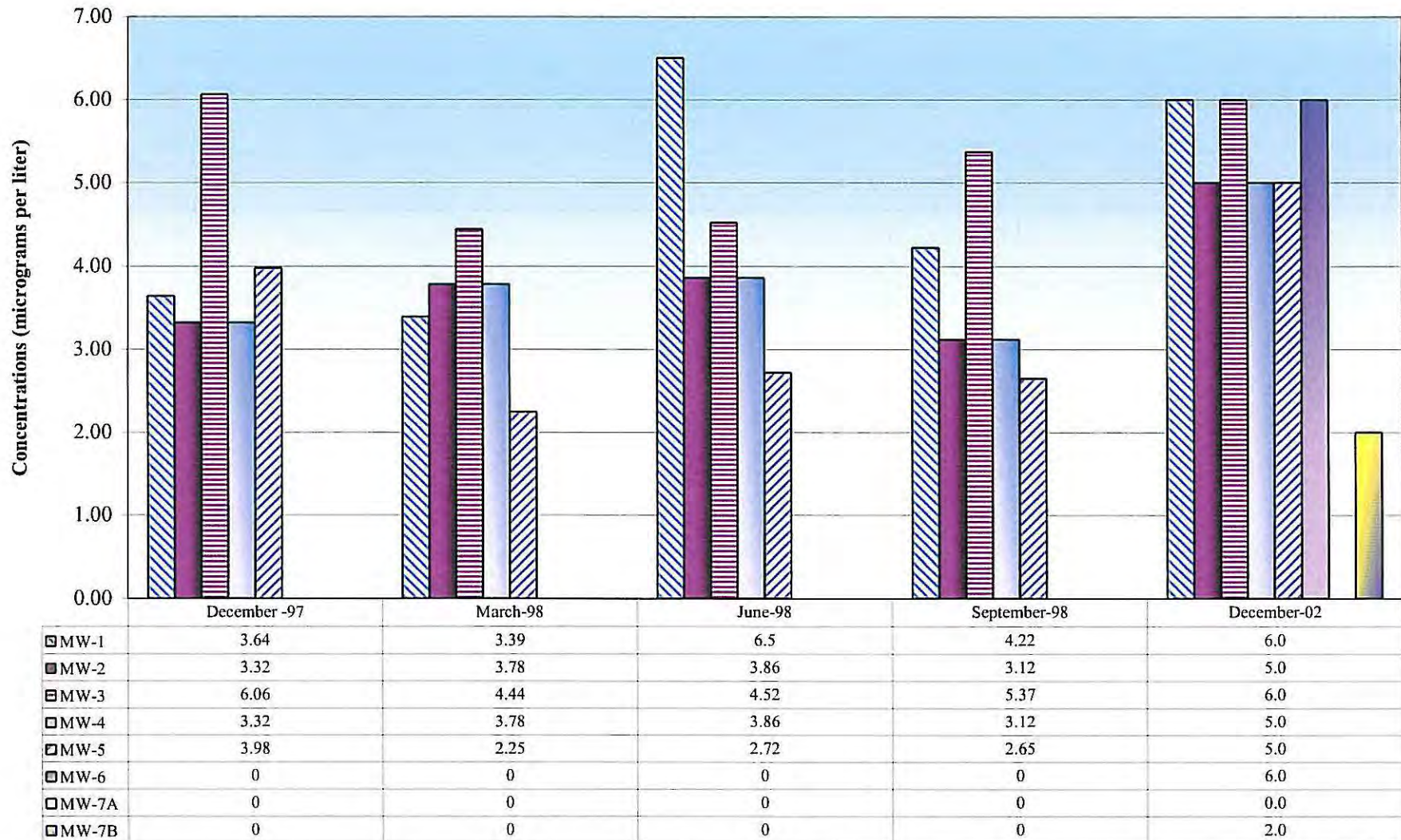


Figure 21 - Groundwater Analytical Results: PCE Concentrations
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001



LEGEND

- MW-7A SHALLOW MONITORING WELL INSTALLED BY FARALLON (2002)
 - MW-7B DEEP MONITORING WELL INSTALLED BY FARALLON
 - MW-2 SHALLOW MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
 - MW-5 DEEP MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
 - WDOE-6 MONITORING WELL INSTALLED BY ECOLOGY (1992)
- 4,4'-DDD = HEPTACHLOR
 4,4'-DDE = ALPHA-BHC
 -- = NOT ANALYZED

DATE	4,4'-DDD	DIELDRIN	4,4' DDE
12-3-02	0.365	0.055	0.257

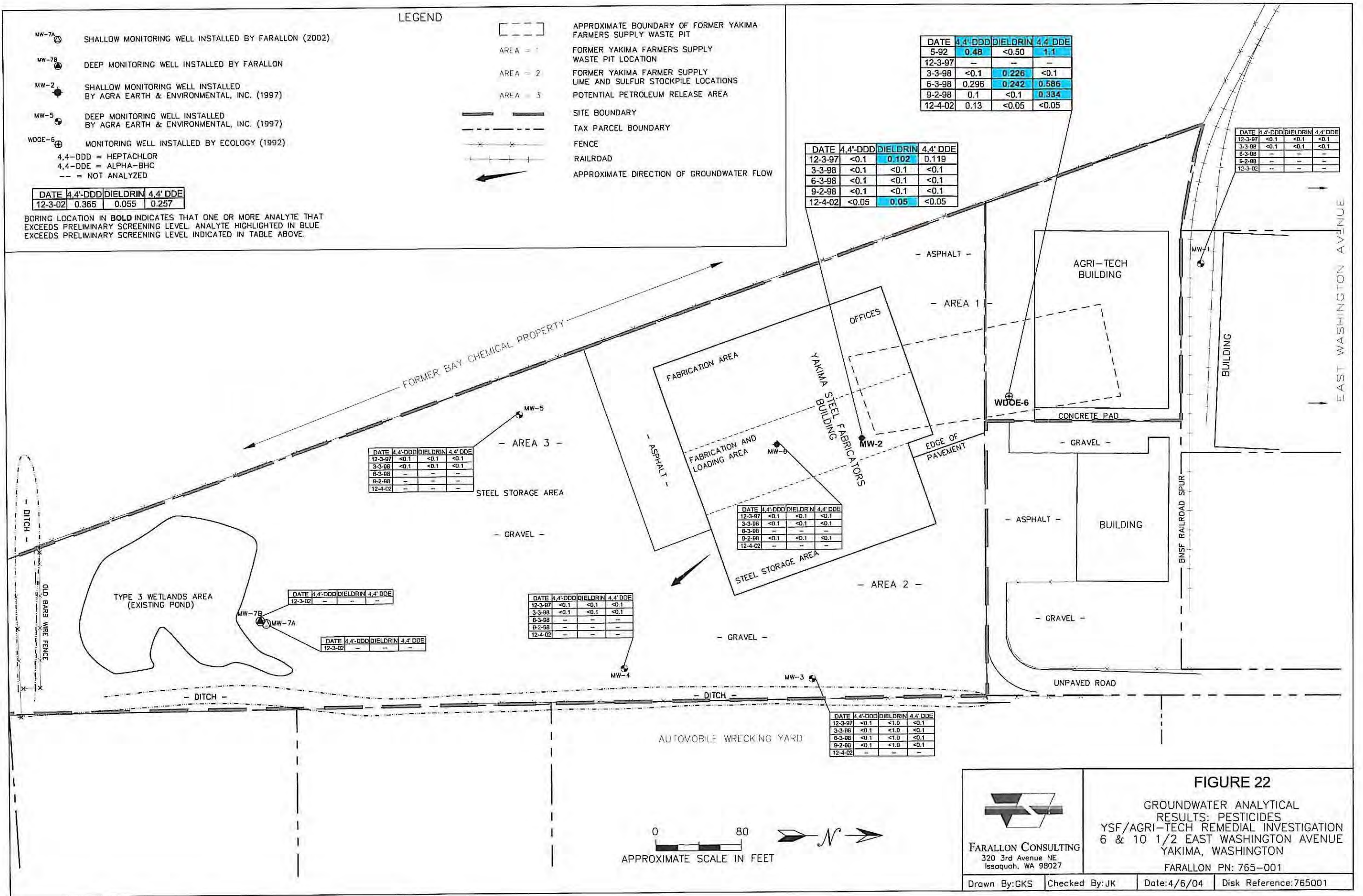
BORING LOCATION IN BOLD INDICATES THAT ONE OR MORE ANALYTE THAT EXCEEDS PRELIMINARY SCREENING LEVEL. ANALYTE HIGHLIGHTED IN BLUE EXCEEDS PRELIMINARY SCREENING LEVEL INDICATED IN TABLE ABOVE.

- APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA = 1 FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA = 2 FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA = 3 POTENTIAL PETROLEUM RELEASE AREA
- SITE BOUNDARY
- TAX PARCEL BOUNDARY
- FENCE
- RAILROAD
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

DATE	4,4'-DDD	DIELDRIN	4,4' DDE
5-92	0.48	<0.50	1.1
12-3-97	-	-	-
3-3-98	<0.1	0.226	<0.1
6-3-98	0.296	0.242	0.586
9-2-98	0.1	<0.1	0.334
12-4-02	0.13	<0.05	<0.05

DATE	4,4'-DDD	DIELDRIN	4,4' DDE
12-3-97	<0.1	0.102	0.119
3-3-98	<0.1	<0.1	<0.1
6-3-98	<0.1	<0.1	<0.1
9-2-98	<0.1	<0.1	<0.1
12-4-02	<0.05	0.05	<0.05

DATE	4,4'-DDD	DIELDRIN	4,4' DDE
12-3-97	<0.1	<0.1	<0.1
3-3-98	<0.1	<0.1	<0.1
6-3-98	-	-	-
9-2-98	-	-	-
12-3-02	-	-	-



DATE	4,4'-DDD	DIELDRIN	4,4' DDE
12-3-97	<0.1	<0.1	<0.1
3-3-98	<0.1	<0.1	<0.1
6-3-98	-	-	-
9-2-98	-	-	-
12-4-02	-	-	-

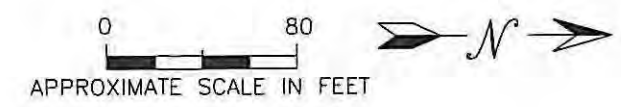
DATE	4,4'-DDD	DIELDRIN	4,4' DDE
12-3-97	<0.1	<0.1	<0.1
3-3-98	<0.1	<0.1	<0.1
6-3-98	-	-	-
9-2-98	<0.1	<0.1	<0.1
12-4-02	-	-	-


DATE	4,4'-DDD	DIELDRIN	4,4' DDE
12-3-02	-	-	-

DATE	4,4'-DDD	DIELDRIN	4,4' DDE
12-3-02	-	-	-

DATE	4,4'-DDD	DIELDRIN	4,4' DDE
12-3-97	<0.1	<0.1	<0.1
3-3-98	<0.1	<0.1	<0.1
6-3-98	-	-	-
9-2-98	-	-	-
12-4-02	-	-	-

DATE	4,4'-DDD	DIELDRIN	4,4' DDE
12-3-97	<0.1	<1.0	<0.1
3-3-98	<0.1	<1.0	<0.1
6-3-98	<0.1	<1.0	<0.1
9-2-98	<0.1	<1.0	<0.1
12-4-02	-	-	-





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FIGURE 22

GROUNDWATER ANALYTICAL RESULTS: PESTICIDES
 YSF/AGRI-TECH REMEDIAL INVESTIGATION
 6 & 10 1/2 EAST WASHINGTON AVENUE
 YAKIMA, WASHINGTON

FARALLON PN: 765-001

Drawn By:GKS
Checked By:JK
Date:4/6/04
Disk Reference:765001

- MW-7A SHALLOW MONITORING WELL INSTALLED BY FARALLON (2002)
- MW-7B DEEP MONITORING WELL INSTALLED BY FARALLON
- MW-2 SHALLOW MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- MW-5 DEEP MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- WDOE-6 MONITORING WELL INSTALLED BY ECOLOGY (1992)

DATE	DRO	ORO	cPAHs
3/3/98	500	500	0.012

DRO = DIESEL RANGE ORGANICS
 ORO = OIL RANGE ORGANICS
 cPAHs = CARCINOGENIC POLYAROMATIC HYDROCARBONS
 ANALYTICAL RESULTS (MICROGRAMS PER LITER)
 PRELIMINARY SCREENING LEVEL INDICATED IN TABLE ABOVE.

LEGEND

- APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA = 1 FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA = 2 FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA = 3 POTENTIAL PETROLEUM RELEASE AREA
- SITE BOUNDARY
- TAX PARCEL BOUNDARY
- FENCE
- RAILROAD
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

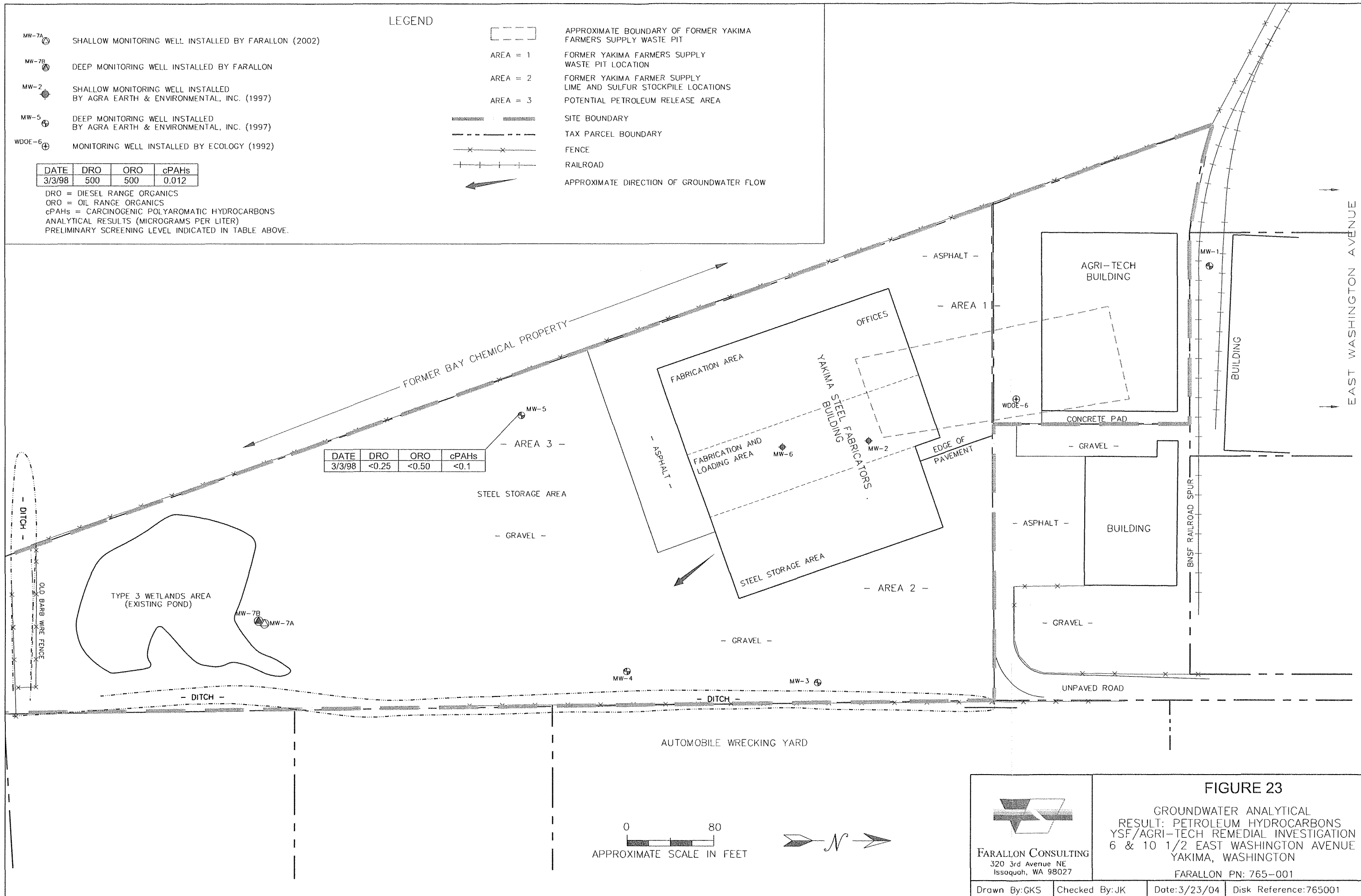


FIGURE 23

GROUNDWATER ANALYTICAL
 RESULT: PETROLEUM HYDROCARBONS
 YSF/AGRI-TECH REMEDIAL INVESTIGATION
 6 & 10 1/2 EAST WASHINGTON AVENUE
 YAKIMA, WASHINGTON

FARALLON CONSULTING
 320 3rd Avenue NE
 Issaquah, WA 98027

FARALLON PN: 765-001

DATE	Alk	Cl ⁻	SO ₄	SO ₂	NO ₃	P	TOC	Fe ³⁺	CH ₄	Eth
12/3/97	144	--	81.3	--	--	--	--	--	--	--
3/3/98	96.3	--	25.4	--	--	--	--	--	--	--
6/3/98	96	--	20.6	--	--	--	--	--	--	--
9/2/98	102	--	61.1	--	--	--	--	--	--	--
12/3/02	74	12	25	<0.050	2.9	0.2	1.1	0.088	<0.01	<0.01

DATE	Alk	Cl ⁻	SO ₄	SO ₂	NO ₃	P	TOC	Fe ³⁺	CH ₄	Eth
12/3/97	166	--	134	--	--	--	--	--	--	--
3/3/98	116	--	35.1	--	--	--	--	--	--	--
6/3/98	104	--	59.5	--	--	--	--	--	--	--
9/2/98	84	--	75.8	--	--	--	--	--	--	--
12/4/02	79	12	46	<0.050	<0.010	0.57	1.8	0.19	0.02	<0.01

- MW-7A SHALLOW MONITORING WELL INSTALLED BY FARALLON (2002)
- MW-7B DEEP MONITORING WELL INSTALLED BY FARALLON
- MW-2 SHALLOW MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- MW-5 DEEP MONITORING WELL INSTALLED BY AGRA EARTH & ENVIRONMENTAL, INC. (1997)
- WDOE-6 MONITORING WELL INSTALLED BY ECOLOGY (1992)

LEGEND

- [---] APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA = 1 FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA = 2 FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA = 3 POTENTIAL PETROLEUM RELEASE AREA
- [---] SITE BOUNDARY
- [---] TAX PARCEL BOUNDARY
- [X-X] FENCE
- [=] RAILROAD

DATE	Alk	Cl ⁻	SO ₄	SO ₂	NO ₃	P	TOC	Fe ³⁺	CH ₄	Eth
12/3/97	188	--	52	--	--	--	--	--	--	--

Alk = ALKALINITY P = TOTAL PHOSPHATE
 Cl⁻ = CHLORIDE TOC = TOTAL ORGANIC CARBON
 SO₄ = SULFATE Fe³⁺ = FERROUS IRON
 SO₂ = SULFIDE CH₄ = METHANE
 NO₃ = NITRATE Eth = ETHENE
 -- = NOT ANALYZED

DATE	Alk	Cl ⁻	SO ₄	SO ₂	NO ₃	P	TOC	Fe ³⁺	CH ₄	Eth
12/3/97	155	--	86.1	--	--	--	--	--	--	--
3/3/98	114	--	50.3	--	--	--	--	--	--	--
6/3/98	103	--	61.9	--	--	--	--	--	--	--
9/2/98	104	--	91.7	--	--	--	--	--	--	--
12/4/02	74	12	42	<0.050	2	0.11	0.75	0.044	<0.01	<0.01

DATE	Alk	Cl ⁻	SO ₄	SO ₂	NO ₃	P	TOC	Fe ³⁺	CH ₄	Eth
12/3/02	--	--	--	--	--	--	--	--	--	--

DATE	Alk	Cl ⁻	SO ₄	SO ₂	NO ₃	P	TOC	Fe ³⁺	CH ₄	Eth
12/3/02	210	16	130	<0.050	0.011	0.068	4.5	0.035	0.12	<0.01

DATE	Alk	Cl ⁻	SO ₄	SO ₂	NO ₃	P	TOC	Fe ³⁺	CH ₄	Eth
12/3/97	180	--	81.4	--	--	--	--	--	--	--
3/3/98	115	--	68.1	--	--	--	--	--	--	--
6/3/98	99	--	82.7	--	--	--	--	--	--	--
9/2/98	124	--	147	--	--	--	--	--	--	--
12/4/02	81	12	61	<0.050	0.027	0.12	0.79	0.46	0.11	<0.01

DATE	Alk	Cl ⁻	SO ₄	SO ₂	NO ₃	P	TOC	Fe ³⁺	CH ₄	Eth
3/3/98	85.5	--	209	--	--	--	--	--	--	--
6/3/98	79	--	74.8	--	--	--	--	--	--	--
9/2/98	97	--	95.6	--	--	--	--	--	--	--
12/3/02	78	14	57	0.2	0.019	0.091	2	4.1	0.04	<0.01

DATE	Alk	Cl ⁻	SO ₄	SO ₂	NO ₃	P	TOC	Fe ³⁺	CH ₄	Eth
12/3/97	188	--	52	--	--	--	--	--	--	--
3/3/98	113	--	23.1	--	--	--	--	--	--	--
6/3/98	110	--	26	--	--	--	--	--	--	--
9/2/98	110	--	55.2	--	--	--	--	--	--	--
12/4/02	79	12	34	<0.050	2.3	0.12	1.8	0.039	<0.01	<0.01

DATE	Alk	Cl ⁻	SO ₄	SO ₂	NO ₃	P	TOC	Fe ³⁺	CH ₄	Eth
12/3/97	156	--	21.1	--	--	--	--	--	--	--
3/3/98	110	--	18.2	--	--	--	--	--	--	--
6/3/98	102	--	17.4	--	--	--	--	--	--	--
9/2/98	108	--	32.4	--	--	--	--	--	--	--
12/4/02	--	--	--	--	--	--	--	--	--	--

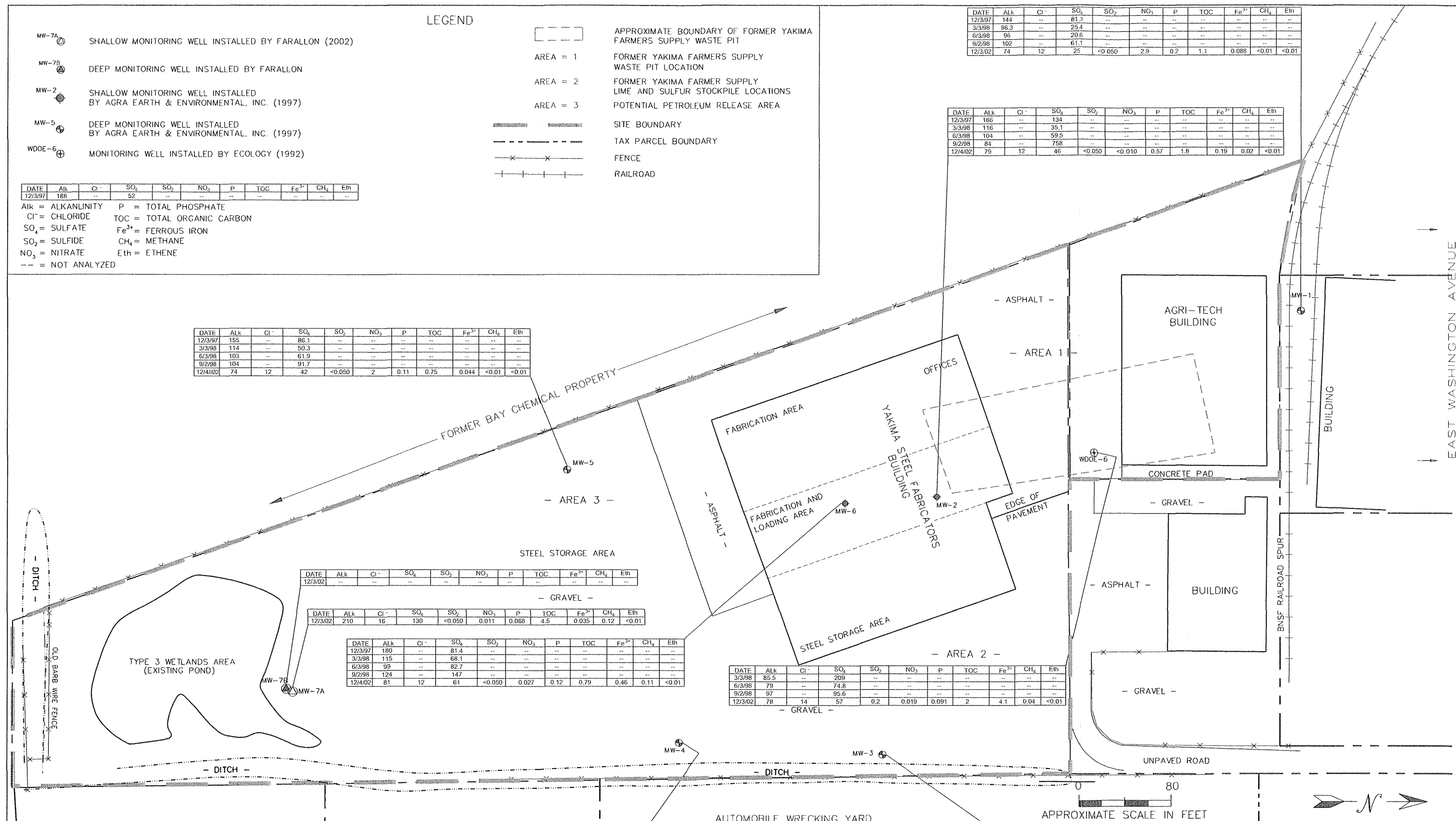


FIGURE 24

SITE PLAN WITH GROUNDWATER ANALYTICAL RESULTS: NATURAL ATTENUATION PARAMETERS
 YSF/AGRI-TECH REMEDIAL INVESTIGATION
 6 & 10 1/2 EAST WASHINGTON AVENUE
 YAKIMA, WASHINGTON

FARALLON CONSULTING
 320 3rd Avenue NE
 Issaquah, WA 98027
 FARALLON PN: 765-001

Drawn By:GKS Checked By:JK Date:6/16/03 Disk Reference:765001

Table 1
Summary of Soil Analytical Results - Volatile Organic Compounds
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Sample Number	Date Sampled	Depth ¹ (feet)	Soil Analytical Results (milligrams per kilogram)															
			Ethylbenzene	m,p-Xylene	o-Xylene	Toluene	4-Isopropyltoluene	n-Propylbenzene	Acetone	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Carbon Disulfide	1,2-Dichloropropane	MEK	Tetrachloroethene (PCE)	Trichloroethene (TCE)	1,1-Dichloroethene	(cis) 1,2-Dichloroethene
Washington State Department of Ecology (1992), Monitoring Well Boring WDOE-6																		
468110 (WDOE-6)	Nov-92	10	0.0035	0.0072	<0.0014	NA	NA	0.022	NA	NA	0.0019	0.002	<0.0027	2.2	0.67	<0.0014	0.17	
PLSA Engineering (1993), Test Pits TP-1 through TP-4																		
YSF-1 (TP-1)	May-93	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.25	NA	NA	NA	
YSF-2 (TP-1)	May-93	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.20	NA	NA	NA	
YSF-3 (TP-1)	May-93	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.25	NA	NA	NA	
YSF-4 (TP-2)	May-93	4.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.13	NA	NA	NA	
YSF-5 (TP-3)	May-93	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.25	NA	NA	NA	
YSF-6 (TP-4)	May-93	7.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.20	NA	NA	NA	
Ecology Duplicates of PLSA Test Pit Soil Samples (1993)																		
YSF-1 (TP-1)	May-93	4	<0.13	<0.13	<0.13	0.002	NA	NA	<0.13	NA	NA	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	
YSF-2 (TP-1)	May-93	5	<0.011	<0.011	<0.011	<0.011	NA	NA	0.018	NA	NA	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	
YSF-3 (TP-1)	May-93	8	<0.13	<0.13	<0.13	0.002	NA	NA	0.11	NA	NA	0.008	<0.13	0.022	<0.13	<0.13	<0.13	
YSF-4 (TP-2)	May-93	4.5	0.001	0.005	<0.13	NA	NA	0.17	NA	NA	0.011	0.007	<0.13	0.003	0.003	<0.13	0.022	
YSF-5 (TP-3)	May-93	6	<0.13	<0.13	<0.13	<0.13	NA	NA	0.019	NA	NA	0.008	<0.13	<0.13	<0.13	<0.13	<0.13	
YSF-6 (TP-4)	May-93	7.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
RI Preliminary Screening Level²			6.048	9.144	9.144	7.271	NA	NA	3.21	NA	NA	5.65	0.0031	22	0.0530	0.026	0.0005	0.35
CSM Selected Cleanup Levels for COCs³			---	---	---	---	---	---	---	---	---	0.025	---	0.050	0.025	0.046	0.078	
MTCA Cleanup Levels for Other Soil Analytes⁴			6.0⁵	9.0⁵	7.0⁵	NE	8,000	72,000	NE	800	8,000	---	48,000	---	---	---	---	

Table 1
Summary of Soil Analytical Results - Volatile Organic Compounds
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Sample Number	Date Sampled	Depth ¹ (feet)	Soil Analytical Results (milligrams per kilogram)															
			Ethylbenzene	m,p-Xylene	o-Xylene	Toluene	4-Isopropyltoluene	n-Propylbenzene	Acetone	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Carbon Disulfide	1,2-Dichloropropane	MEK	Tetrachloroethene (PCE)	Trichloroethene (TCE)	1,1-Dichloroethene	(cis) 1,2-Dichloroethene
AGRA Earth & Environmental Inc. (1997)																		
Area 1: Former Yakima Farmer Supply Waste Pit Area																		
SP1-4	10/21/1997	0.5-4.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<2.0	<1.0	<1.0	<0.1	<0.1	<1.0	2.1	0.840	<0.1	<0.1
SP2-4	10/21/1997	0.5-4.0	0.078	0.056	0.030	<0.1	<0.1	<0.1	<2.0	<1.0	<1.0	<0.1	<0.1	<1.0	45.0	0.790	<0.1	0.610
SP2A-6.5	10/21/1997	4.0-6.5	0.030	0.024	<0.1	<0.1	<0.1	<0.1	<2.0	<1.0	<1.0	<0.1	<0.1	<1.0	0.530	<1.0	<0.1	0.041
SP3-4	10/21/1997	0.5-4.0	<0.002	0.00274	<0.002	0.0021	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	0.0382	<0.002	<0.002	<0.002
SP4-7	10/21/1997	4.0-7.0	0.078	0.310	0.110	0.038	<0.1	0.088	<2.0	0.30	0.11	<0.1	<0.1	<1.0	770	1.20	0.029	1.80
SP5-6.5	10/21/1997	4.0-6.5	4.0	0.490	0.036	<0.1	0.031	<0.1	<2.0	0.052	0.052	<0.1	<0.1	<1.0	35.0	4.60	<0.1	4.50
SP6-5.5	10/21/1997	4.0-5.5	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	<0.002	<0.002	<0.002	<0.002
SP7-7	10/21/1997	4.0-7.0	<0.002	0.00537	0.00259	<0.002	<0.002	<0.002	0.056	0.00278	<0.002	0.010	0.00332	<0.020	0.0224	0.00205	<0.002	0.0116
SP8-7	10/21/1997	4.0-7.0	<0.1	<0.1	<0.1	0.036	<0.1	<0.1	<2.0	<1.0	<1.0	<0.1	<0.1	<1.0	0.0290	<1.0	<0.1	0.330
SP9-7.5	10/21/1997	4.0-7.5	<0.002	0.00359	<0.002	0.00338	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	0.00932	0.00318	<0.002	<0.002
SP10-4	10/21/1997	0.5-4	<0.1	0.032	<0.1	0.084	<0.1	<0.1	<0.04	<1.0	<1.0	<2.0	<0.1	<1.0	2.1	0.097	<0.1	0.028
SP11-6	10/22/1997	4.0-6.0	0.0020	0.00752	0.00362	0.0062	<0.002	<0.002	0.0526	0.00371	<0.002	<0.002	<0.002	<0.020	<0.002	<0.002	<0.002	<0.002
SP12-8	10/22/1997	4.0-8.0	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	0.0023	<0.002	<0.002	<0.002
SP13/14-6	10/22/1997	4.0-6.0	<0.002	0.00612	0.00312	0.00341	<0.002	<0.002	<0.04	0.00239	<0.002	<0.002	<0.002	<0.020	<0.002	<0.002	<0.002	<0.002
SP15-6	10/22/1997	4.0-6.0	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0426	<0.002	<0.002	<0.002	<0.002	<0.020	0.00793	0.00747	<0.002	0.00374
SP16-8	10/22/1997	4.0-8.0	<0.002	0.00338	<0.002	<0.002	<0.002	<0.002	<0.04	0.00211	<0.002	<0.002	<0.002	<0.020	0.00312	<0.002	<0.002	<0.002
SP17-4	10/22/1997	0.5-4.0	<0.002	0.00540	0.00253	0.00587	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	0.0322	0.00597	<0.002	0.00355
RI Preliminary Screening Level²			6.048	9.144	9.144	7.271	NA	NA	3.21	NA	NA	5.65	0.0031	22	0.0530	0.026	0.0005	0.35
CSM Selected Cleanup Levels for COCs³			---	---	---	---	---	---	---	---	---	---	0.025	---	0.050	0.025	0.046	0.078
MTCA Cleanup Levels for Other Soil Analytes⁴			6.0⁵	9.0⁵	7.0⁵	NE	8,000	72,000	NE	800	8,000	---	48,000	---	---	---	---	---

Table 1
Summary of Soil Analytical Results - Volatile Organic Compounds
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Sample Number	Date Sampled	Depth ¹ (feet)	Soil Analytical Results (milligrams per kilogram)															
			Ethylbenzene	m,p-Xylene	o-Xylene	Toluene	4-Isopropyltoluene	n-Propylbenzene	Acetone	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Carbon Disulfide	1,2-Dichloropropane	MEK	Tetrachloroethene (PCE)	Trichloroethene (TCE)	1,1-Dichloroethene	(cis) 1,2-Dichloroethene
SP18-4	10/22/1997	0.5-4.0	<0.002	0.00333	<0.002	0.00291	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	0.00203	<0.002	<0.002	<0.002
SP19-7	10/22/1997	4.0-7.0	<0.002	0.00384	<0.002	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	<0.002	<0.002	<0.002	<0.002
SP20-8	10/22/1997	4.0-8.0	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	<0.002	<0.002	<0.002	<0.002
SP21-5	10/22/1997	1.0-5.0	0.00240	0.00520	0.00461	0.00618	<0.002	<0.002	<0.04	0.00216	<0.002	<0.002	<0.002	<0.020	0.00402	<0.002	<0.002	<0.002
SP22-7	10/22/1997	4.0-7.0	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	<0.002	<0.002	<0.002	<0.002
MW1-5	10/23/1997	5.0-6.5	<0.002	0.00245	<0.002	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	<0.002	<0.002	<0.002	<0.002
MW1-10	10/23/1997	10.0-11.0	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	<0.002	<0.002	<0.002	<0.002
MW6-6	10/24/1997	6.0-8.0	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	<0.002	<0.002	<0.002	<0.002
B1-10	10/28/1997	10.0-11.0	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	0.00385	<0.002	<0.020	<0.002	<0.002	<0.002	<0.002
B1-30	10/28/1997	30.0-31.0	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	<0.002	<0.002	<0.002	<0.002
B2-10	10/28/1997	10.0-11.0	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	0.0216	<0.002	<0.002	<0.002
B2-25	10/28/1997	25.0-26.0	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	<0.002	<0.002	<0.002	<0.002
Area 2: Former Yakima Farmer Supply Lime and Sulfur Stockpile Locations																		
SP23-8	10/22/1997	4.0-8.0	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	<0.002	<0.002	<0.002	<0.002
SP24-7.5	10/22/1997	4.0-7.5	0.00733	0.0254	0.0118	0.0256	<0.002	0.00316	0.150	0.00945	0.00514	0.00525	<0.002	<0.020	0.00908	<0.002	<0.002	<0.002
SP25-4	10/22/1997	0.5-4.0	0.00379	0.0133	0.00536	0.0132	<0.002	<0.002	0.124	0.0043	0.00214	<0.002	<0.002	0.0233	0.00405	<0.002	<0.002	<0.002
RI Preliminary Screening Level²			6.048	9.144	9.144	7.271	NA	NA	3.21	NA	NA	5.65	0.0031	22	0.0530	0.026	0.0005	0.35
CSM Selected Cleanup Levels for COCs³			---	---	---	---	---	---	---	---	---	---	0.025	---	0.050	0.025	0.046	0.078
MTCA Cleanup Levels for Other Soil Analytes⁴			6.0⁵	9.0⁵	7.0⁵	NE	8,000	72,000	NE	800	8,000	---	48,000	---	---	---	---	---

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YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Sample Number	Date Sampled	Depth ¹ (feet)	Soil Analytical Results (milligrams per kilogram)															
			Ethylbenzene	m,p-Xylene	o-Xylene	Toluene	4-Isopropyltoluene	n-Propylbenzene	Acetone	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Carbon Disulfide	1,2-Dichloropropane	MEK	Tetrachloroethene (PCE)	Trichloroethene (TCE)	1,1-Dichloroethene	(cis) 1,2-Dichloroethene
Area 3: Potential Petroleum Release Area																		
SP26-6.5	10/22/1997	4.0-6.5	<0.002	0.00303	<0.002	0.00287	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	<0.002	<0.002	<0.002	<0.002
SP27-7.5	10/22/1997	4.0-7.5	<0.002	0.00471	0.00238	0.00351	<0.002	<0.002	0.0597	0.00347	<0.002	<0.002	<0.002	<0.020	0.00401	<0.002	<0.002	<0.002
SP28-7.5	10/22/1997	4.0-7.5	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.020	0.00275	<0.002	<0.002	<0.002
Farallon Consulting, L.L.C. (2002), Monitoring Well Borings MW-7A and MW-7B																		
Drum 1 (MW-7A)	11/21/2002	0 -15	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Drum 3 (MW-7B)	11/22/2002	15-25	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Drum 4 (MW-7B)	11/22/2002	25-32	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
RI Preliminary Screening Level²			6.048	9.144	9.144	7.271	NA	NA	3.21	NA	NA	5.65	0.0031	22	0.0530	0.026	0.0005	0.35
CSM Selected Cleanup Levels for COCs³			---	---	---	---	---	---	---	---	---	---	0.025	---	0.050	0.025	0.046	0.078
MTCA Cleanup Levels for Other Soil Analytes⁴			6.0⁵	9.0⁵	7.0⁵	NE	8,000	72,000	NE	800	8,000	---	48,000	---	---	---	---	---

NOTE:

All volatile organic compounds analyzed by EPA Method 8240 (PLSA), SW-846 (Ecology), or EPA Method 8260B (AGRA & Farallon).

Results in **bold** denote concentrations above preliminary screening levels.

Results highlighted in orange denote concentrations exceeding CSM selected cleanup levels or MTCA levels where CSM cleanup levels are not applicable.

< denotes concentration of compound is not above the laboratory practical quantitation limit indicated.

¹Depth below ground surface in feet.

²Preliminary screening level has been selected for preliminary evaluation of analytical data for the Remedial Investigation only.

³Cleanup level identified in Table 1 of the 2018 Conceptual Site Model (CSM) Technical Memo.

⁴Washington State Cleanup Levels and Risk Calculations under the Washington State Model Toxics Control Act Cleanup Regulation, Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, <https://fortress.wa.gov/ecy/clar/CLARCDatatables.aspx>, unless otherwise noted. Downloaded October 2018.

⁵Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.

COC = constituent of concern
 CSM = Conceptual Site Model
 MEK = methyl ethyl ketone
 NA = not applicable/not analyzed
 NE = not established
 PCE = tetrachloroethene
 RI = Remedial Investigation
 TCE = trichloroethene

Table 2
Summary of Soil Analytical Results - Pesticides and Polychlorinated Biphenyls
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Sample Number	Date Sampled	Depth ¹ (feet)	Analytical Results (milligrams per kilogram)											
			Aldrin ²	alpha-Chlordane ²	4,4-DDD ²	4,4-DDE ²	4,4-DDT ²	Dieldrin ²	Endosulfan I ²	Endosulfan II ²	Endosulfan Sulfate ²	Endrin ²	Heptachlor Epoxide ²	PCBs ³
Washington State Department of Ecology (1992), Monitoring Well Boring WDOE-6														
468110 (WDOE-6)	Nov-92	5	<0.0016	<0.0016	0.0021	0.0044	<0.0032	0.0021	<0.0016	<0.0016	0.009	<0.0032	<0.0016	NA
PLSA Engineering (1993), Test Pits TP-1 through TP-4														
YSF-1 (TP-1)	May-93	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
YSF-2 (TP-1)	May-93	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
YSF-3 (TP-1)	May-93	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
YSF-4 (TP-2)	May-93	4.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
YSF-5 (TP-3)	May-93	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
YSF-6 (TP-4)	May-93	7.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ecology Duplicates of PLSA Test Pit Soil Samples (1993)														
YSF-1 (TP-1)	May-93	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
YSF-2 (TP-1)	May-93	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
YSF-3 (TP-1)	May-93	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
YSF-4 (TP-2)	May-93	4.5	<0.004	<0.004	0.27	3.70	0.14	0.13	<0.004	<0.004	<0.004	0.046	0.019	NA
YSF-5 (TP-3)	May-93	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
YSF-6 (TP-4)	May-93	7.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AGRA Earth & Environmental Inc. (1997)														
Area 1: Former Yakima Farmer Supply Waste Pit Area														
SP1-4	10/21/1997	0.5-4.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	ND
SP2-4	10/21/1997	0.5-4.0	<0.050	0.564	0.167	0.175	0.335	0.211	<0.050	0.443	0.147	0.178	<0.050	ND
SP2A-6.5	10/21/1997	4.0-6.5	<0.025	<0.025	<0.025	<0.025	<0.025	0.0509	<0.025	<0.025	<0.025	<0.025	<0.025	ND
RI Preliminary Screening Level⁴			0.00503	0.258	0.335	0.446	3.485	0.0028	4.301	4.301	4.301	0.0404	0.0161	10
CSM Selected Cleanup Levels for COCs⁵			0.0025	2.06	0.34	0.45	---	0.0028	---	---	---	0.4	0.08	---
MTCA Cleanup Levels for Other Analytes⁶			---	---	---	---	3.0	---	480	480	480	---	---	1.0⁷

Table 2
Summary of Soil Analytical Results - Pesticides and Polychlorinated Biphenyls
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Sample Number	Date Sampled	Depth ¹ (feet)	Analytical Results (milligrams per kilogram)											
			Aldrin ²	alpha-Chlordane ²	4,4-DDD ²	4,4-DDE ²	4,4-DDT ²	Dieldrin ²	Endosulfan I ²	Endosulfan II ²	Endosulfan Sulfate ²	Endrin ²	Heptachlor Epoxide ²	PCBs ³
SP3-4	10/21/1997	0.5-4.0	<0.025	<0.025	<0.025	0.0418	0.130	<0.025	<0.025	0.0499	<0.025	<0.025	<0.025	ND
SP4-7	10/21/1997	4.0-7.0	0.635	0.939	2.07	11.5	1.81	3.36	<0.100	<0.500	<0.100	1.13	0.590	ND
SP5-6.5	10/21/1997	4.0-6.5	<0.050	<0.050	0.124	0.30	<0.050	0.847	<0.050	0.146	<0.050	<0.050	<0.050	ND
SP6-5.5	10/21/1997	4.0-5.5	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND
SP7-7	10/21/1997	4.0-7.0	<0.050	<0.050	0.0685	0.193	0.104	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND
SP8-7	10/21/1997	4.0-7.0	<0.025	<0.025	0.094	0.536	<0.025	0.060	<0.025	<0.025	<0.025	<0.025	<0.025	ND
SP9-7.5	10/21/1997	4.0-7.5	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND
SP10-4	10/21/1997	0.5-4	<0.050	<0.050	1.50	0.366	1.77	0.399	0.306	<0.500	0.165	0.101	<0.050	ND
SP11-6	10/22/1997	4.0-6.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND
SP12-8	10/22/1997	4.0-8.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	ND
SP13/14-6	10/22/1997	4.0-6.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	ND
SP15-6	10/22/1997	4.0-6.0	<0.050	<0.050	<0.050	0.132	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND
SP16-8	10/22/1997	4.0-8.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND
SP17-4	10/22/1997	0.5-4.0	<0.050	<0.050	0.131	0.0711	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND
SP18-4	10/22/1997	0.5-4.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	ND
SP19-7	10/22/1997	4.0-7.0	<0.025	<0.025	<0.025	<0.025	0.0353	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	ND
SP20-8	10/22/1997	4.0-8.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND
SP21-5	10/22/1997	1.0-5.0	<0.050	<0.050	<0.050	0.0641	0.0892	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND
SP22-7	10/22/1997	4.0-7.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND
B1-10	10/28/1997	10.0-11.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND
B1-30	10/28/1997	30.0-31.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND
RI Preliminary Screening Level⁴			0.00503	0.258	0.335	0.446	3.485	0.0028	4.301	4.301	4.301	0.0404	0.0161	10
CSM Selected Cleanup Levels for COCs⁵			0.0025	2.06	0.34	0.45	---	0.0028	---	---	---	0.4	0.08	---
MTCA Cleanup Levels for Other Analytes⁶			---	---	---	---	3.0	---	480	480	480	---	---	1.0⁷

Table 2
Summary of Soil Analytical Results - Pesticides and Polychlorinated Biphenyls
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Sample Number	Date Sampled	Depth ¹ (feet)	Analytical Results (milligrams per kilogram)											
			Aldrin ²	alpha-Chlordane ²	4,4-DDD ²	4,4-DDE ²	4,4-DDT ²	Dieldrin ²	Endosulfan I ²	Endosulfan II ²	Endosulfan Sulfate ²	Endrin ²	Heptachlor Epoxide ²	PCBs ³
B2-10	10/28/1997	10.0-11.0	<0.005	<0.005	0.0388	0.0188	0.0152	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND
B2-25	10/28/1997	25.0-26.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND
Area 2: Former Yakima Farmer Supply Lime and Sulfur Stockpile Locations														
SP23-8	10/22/1997	4.0-8.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	ND
SP24-7.5	10/22/1997	4.0-7.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND
SP25-4	10/22/1997	0.5-4.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND
Area 3: Potential Petroleum Release Area														
SP26-6.5	10/22/1997	4.0-6.5	<0.050	<0.050	0.257	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND
SP27-7.5	10/22/1997	4.0-7.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND
SP28-7.5	10/22/1997	4.0-7.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND
Farallon Consulting, L.L.C. (2002), Monitoring Well Borings MW-7A and MW-7B														
Drum 1 (MW-7A)	11/21/2002	0 -15	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Drum 3 (MW-7B)	11/22/2002	15-25	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Drum 4 (MW-7B)	11/22/2002	25-32	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
RI Preliminary Screening Level⁴			0.00503	0.258	0.335	0.446	3.485	0.0028	4.301	4.301	4.301	0.0404	0.0161	10
CSM Selected Cleanup Levels for COCs⁵			0.0025	2.06	0.34	0.45	---	0.0028	---	---	---	0.4	0.08	---
MTCA Cleanup Levels for Other Analytes⁶			---	---	---	---	3.0	---	480	480	480	---	---	1.0⁷

NOTE:

Results in **bold** denote concentrations above preliminary screening levels.

Results highlighted in orange denote concentrations exceeding CSM selected cleanup levels or MTCA levels where CSM cleanup levels are not applicable.

ND denotes not detected above PQL for each PCB aroclor.

< denotes concentration of compound is not above the laboratory practical quantitation limit indicated.

— denotes CSM cleanup level not applicable. MTCA cleanup levels provided for analytes not identified as COCs in the CSM Technical Memo.

¹Depth below ground surface in feet.

²Pesticides analyzed by EPA Method 8081.

³Polychlorinated biphenyls analyzed by EPA Method 8080.

⁴Preliminary screening level has been selected for preliminary evaluation of analytical data for the Remedial Investigation only.

⁵Cleanup level identified in Table 1 of the 2018 Conceptual Site Model (CSM) Technical Memo.

⁶ Washington State Cleanup Levels and Risk Calculations under the Washington State Model Toxics Control Act Cleanup Regulation, Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, <https://fortress.wa.gov/ecy/clarc/CLARCDATATables.aspx>, unless otherwise noted. Downloaded October 2018.

⁷ Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.

COC = constituent of concern

CSM = Conceptual Site Model

NA = Not Applicable

PCBs = polychlorinated biphenyls

RI = Remedial Investigation

Table 3
Summary of Groundwater Analytical Results - Volatile Organic Compounds
YSF/AGRI-Tech
Yakima, Washington
Farallon PN: 765-001

Monitoring Well / Sample No.	Date Sampled	Sampled By	Analytical Results (micrograms per liter)											
			PCE	TCE	cis 1,2-DCE	trans 1,2-DCE	Vinyl Chloride	1,1,1-TCA	1,1-DCA	MEK	Acetone	1,2-dichloropropane	Chloroform	Chloromethane
MW-1	12/3/1997	AGRA	3.64	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	3/3/1998	AGRA	3.39	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	6/3/1998	AGRA	6.5	1.18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	1.12	<1.0
	9/2/1998	AGRA	4.22	0.71	0.25	<1.0	<1.0	<1.0	0.15	<1.0	<1.0	<20	<1.0	1.88
	12/3/2002	Farallon	6.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.0
MW-2	12/3/1997	AGRA	<1.0	1.51	12.4	<1.0	2.42	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	3/3/1998	AGRA	1.59	1.46	3.21	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	6/3/1998	AGRA	<1.0	<1.0	7.13	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	12.1
	9/2/1998	AGRA	1.27	3.06	17.6	0.36	<1.0	<1.0	0.19	<1.0	<20	<1.0	<1.0	<1.0
	12/4/2002	Farallon	<2.0	<2.0	15.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-3	12/3/1997	AGRA	6.06	1.07	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	3/3/1998	AGRA	4.44	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	6/3/1998	AGRA	4.52	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	1.3	9.24
	9/2/1998	AGRA	5.37	0.81	0.22	<1.0	<1.0	<1.0	<1.0	0.23	<20	<1.0	1.93	<1.0
	12/4/2002	Farallon	6.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	<2.0
MW-4	12/3/1997	AGRA	3.32	<1.0	5.23	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	3/3/1998	AGRA	3.78	<1.0	1.64	<1.0	<1.0	<1.0	<1.0	<1.0	24.1	<1.0	<1.0	<1.0
	6/3/1998	AGRA	3.86	<1.0	3.25	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	2.78
	9/2/1998	AGRA	3.12	0.84	4.34	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	1.15	<1.0
	12/4/2002	Farallon	5.0	<2.0	5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-5	12/3/1997	AGRA	3.98	1.1	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	3/3/1998	AGRA	2.25	1.02	4.5	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	6/3/1998	AGRA	2.72	<1.0	2.52	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	2.59
	9/2/1998	AGRA	2.65	0.89	2.87	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	0.85	<1.0
	12/4/2002	Farallon	5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-6	12/3/1997	AGRA	<1.0	<1.0	7.68	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	3/3/1998	AGRA	<1.0	<1.0	13.2	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	6/3/1998	AGRA	<1.0	<1.0	13.3	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	9/2/1998	AGRA	<1.0	0.33	7.08	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	12/4/2002	Farallon	6.0	74.0	270	<2.0	4	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
WDOE-6	May-92	Ecology	420	430	270	<1.0	<10	<1.0	<1.0	<1.0	<20	<1.0	<5.0	<1.0
	12/3/1997	AGRA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/3/1998	AGRA	49.6	108	83.7	2.34	4.24	<1.0	<1.0	<1.0	<20	1.73	<1.0	<1.0
	6/3/1998	AGRA	75.6	60.4	45.6	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	9/2/1998	AGRA	20.8	18.7	11.4	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	12/3/2002	Farallon	<2.0	<2.0	14.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
RI Preliminary Screening Level⁷			5.0	3.98	70	100	0.0292	7,200	800	4,800	800	0.643	7.17	3.37
CSM Selected Cleanup Levels for COCs⁸			5.0	5.0	16	---	0.2	---	---	---	---	1.22	---	---
MTCA Cleanup Levels for Other Analytes⁹			---	---	---	160	---	200¹⁰	7.68	4,800	7,200	---	1.41	NE

Table 3
Summary of Groundwater Analytical Results - Volatile Organic Compounds
YSF/AGRI-Tech
Yakima, Washington
Farallon PN: 765-001

Monitoring Well / Sample No.	Date Sampled	Sampled By	Analytical Results (micrograms per liter)											
			PCE	TCE	cis 1,2-DCE	trans 1,2-DCE	Vinyl Chloride	1,1,1-TCA	1,1-DCA	MEK	Acetone	1,2-dichloropropane	Chloroform	Chloromethane
MW-7A	12/3/2002	Farallon	<2.0	<2.0	4.0	<1.0	<2.0	<1.0	<1.0	<1.0	<20	<1.0	<2	<2
MW-7B	12/3/2002	Farallon	2.0	<2.0	12.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Quality Assurance and Quality Control Field Samples														
12397QC-D ²	12/3/1997	AGRA	<1.0	<1.0	7.87	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
6398QC-D ⁴	6/3/1998	AGRA	3.54	<1.0	3.29	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
9298QC-D ⁵	9/2/1998	AGRA	20.5	18.8	11.1	<1.0	<1.0	<1.0	0.22	<1.0	<20	<1.0	<1.0	<1.0
RB-120302 ⁶	12/3/2002	Farallon	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
TRIP BLANK	12/3/1997	AGRA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	3/3/1998	AGRA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	6/3/1998	AGRA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
	9/2/1998	AGRA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
RI Preliminary Screening Level⁷			5.0	3.98	70	100	0.0292	7,200	800	4,800	800	0.643	7.17	3.37
CSM Selected Cleanup Levels for COCs⁸			5.0	5.0	16	---	0.2	---	---	---	---	1.22	---	---
MTCA Cleanup Levels for Other Analytes⁹			---	---	---	160	---	200¹⁰	7.68	4,800	7,200	---	1.41	NE

NOTE:

Results in **bold** denote concentrations above preliminary screening levels.

Results highlighted in orange denote concentrations exceeding CSM selected cleanup levels or MTCA levels where CSM cleanup levels are not applicable.

< denotes concentration of compound is not at or above the laboratory practical quantitation limit indicated.

— denotes CSM cleanup level not applicable. MTCA cleanup levels provided for analytes not identified as COCs in the CSM Technical Memo.

¹ Analyzed by EPA Method 8260B.

² Field Duplicate of Groundwater Sample Collected from Monitoring Well MW-6.

³ Field Duplicate of Groundwater Sample Collected from Monitoring Well MW-2

⁴ Field Duplicate of Groundwater Sample Collected from Monitoring Well MW-4

⁵ Field Duplicate of Groundwater Sample Collected from Monitoring Well WDOE-6

⁶ Equipment Rinsate Blank

⁷ Preliminary screening level has been selected for preliminary evaluation of analytical data for the Remedial Investigation only.

⁸ Cleanup level identified in Table 2 of the 2018 Conceptual Site Model (CSM) Technical Memo.

⁹ Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Cleanup Levels and Risk Calculations, Standard Method B Values for Groundwater, <https://fortress.wa.gov/ecy/clarc/CLARCDATATables.aspx>, unless otherwise noted. Downloaded October 2018.

¹⁰ Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.

cis-1,2-DCE = cis-1,2-dichloroethene

COC = constituent of concern

CSM = conceptual site model

MEK = methyl ethyl ketone

NA = Not Analyzed

NE = not established

PCE = tetrachloroethene

RI = Remedial Investigation

TCE = trichloroethene

trans 1,2-DCE = trans 1,2-dichloroethene

1,1-DCA = 1,1-dichloroethane

1,1,1-TCA = 1,1,1-trichloroethane

Table 4
Summary of Groundwater Analytical Results - Pesticides and Polychlorinated Biphenyls
YSF/AGRI-Tech
Yakima, Washington
Farallon PN: 765-001

Sample Number	Date Sampled	Analytical Results (micrograms per liter)			
		4,4-DDD ¹	4,4 DDE ¹	Dieldrin ¹	PCBs ²
MW-1	12/3/1997	<0.1	<0.1	<0.1	ND
	3/3/1998	<0.1	<0.1	<0.1	NA
	6/3/1998	NA	NA	NA	NA
	9/2/1998	NA	NA	NA	NA
	12/3/2002	NA	NA	NA	NA
MW-2	12/3/1997	<0.1	0.119	0.102	ND
	3/3/1998	<0.1	<0.1	<0.1	NA
	6/3/1998	<0.1	<0.1	<0.1	NA
	9/2/1998	<0.1	<0.1	<0.1	NA
	12/4/2002	<0.05	<0.05	0.05	NA
MW-3	12/3/1997	<0.1	<0.1	<1.0	ND
	3/3/1998	<0.1	<0.1	<1.0	NA
	6/3/1998	<0.1	<0.1	<1.0	NA
	9/2/1998	<0.1	<0.1	<1.0	NA
	12/4/2002	NA	NA	NA	NA
MW-4	12/3/1997	<0.1	<0.1	<0.1	ND
	3/3/1998	<0.1	<0.1	<0.1	NA
	6/3/1998	NA	NA	NA	NA
	9/2/1998	NA	NA	NA	NA
	12/4/2002	NA	NA	NA	NA
MW-5	12/3/1997	<0.1	<0.1	<0.1	ND
	3/3/1998	<0.1	<0.1	<0.1	NA
	6/3/1998	NA	NA	NA	NA
	9/2/1998	NA	NA	NA	NA
	12/4/2002	NA	NA	NA	NA
MW-6	12/3/1997	<0.1	<0.1	<0.1	ND
	3/3/1998	<0.1	<0.1	<0.1	NA
	6/3/1998	NA	NA	NA	NA
	9/2/1998	<0.1	<0.1	<0.1	NA
	12/4/2002	NA	NA	NA	NA
WDOE-6	May-92	0.48	<0.50	1.1	<5.0
	12/3/1997	NA	NA	NA	NA
	3/3/1998	<0.1	<0.1	0.226	NA
	6/3/1998	0.296	0.586	0.242	NA
	9/2/1998	0.100	0.334	<0.1	NA
	12/3/2002	0.13	<0.05	<0.05	NA
MW-7A	12/3/2002	NA	NA	NA	NA
MW-7B	12/3/2002	NA	NA	NA	NA
RI Preliminary Screening Level⁸		0.365	0.257	0.0055	0.1
CSM Selected Cleanup Levels for COCs⁹		0.36	0.26	0.0055	---
MTCA Cleanup Levels for Other Analytes¹⁰		---	---	---	0.1

Table 4
Summary of Groundwater Analytical Results - Pesticides and Polychlorinated Biphenyls
YSF/AGRI-Tech
Yakima, Washington
Farallon PN: 765-001

Sample Number	Date Sampled	Analytical Results (micrograms per liter)			
		4,4-DDD ¹	4,4 DDE ¹	Dieldrin ¹	PCBs ²
Quality Assurance and Quality Control Field Samples					
12397QC-D ³	12/3/1997	<0.1	<0.1	<0.1	ND
030398QC-D ⁴	3/3/1998	<0.1	<0.1	<0.1	NA
6398QC-D ⁵	6/3/1998	NA	NA	NA	NA
9298QC-D ⁶	9/2/1998	NA	NA	NA	NA
RB-120302 ⁷	12/3/2002	NA	NA	NA	NA
TRIP BLANK	12/3/1997	<0.1	<0.1	<0.1	ND
	3/3/1998	<0.1	<0.1	<0.1	NA
	9/2/1998	NA	NA	NA	NA
RI Preliminary Screening Level⁸		0.365	0.257	0.0055	0.1
CSM Selected Cleanup Levels for COCs⁹		0.36	0.26	0.0055	---
MTCA Cleanup Levels for Other Analytes¹⁰		---	---	---	0.1

NOTE:

Results in **bold** denote concentrations above preliminary screening levels.

COC = constituent of concern

Results highlighted in orange denote concentrations exceeding CSM selected cleanup levels or MTCA levels where CSM cleanup levels are not applicable.

CSM = conceptual site model

NA = Not Analyzed

< denotes concentration of compound is not above the laboratory practical quantitation limit indicated.

ND = Not Detected above PQL for each PCB aroclor

— denotes CSM cleanup level not applicable. MTCA cleanup levels provided for analytes not identified as COCs in the CSM Technical Memo.

PCBs = polychlorinated biphenyls

¹ Analyzed by EPA Method 8081.

² Analyzed by EPA Method 8080.

³ Field Duplicate of Groundwater Sample Collected from Monitoring Well MW-6.

⁴ Field Duplicate of Groundwater Sample Collected from Monitoring Well MW-2.

⁵ Field Duplicate of Groundwater Sample Collected from Monitoring Well MW-4.

⁶ Field Duplicate of Groundwater Sample Collected from Monitoring Well WDOE-6.

⁷ Equipment Rinsate Blank

⁸ Preliminary screening level has been selected for preliminary evaluation of analytical data for the Remedial Investigation only.

⁹ Cleanup level identified in Table 2 of the 2018 Conceptual Site Model (CSM) Technical Memo.

¹⁰ Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.

Table 5
Soil Screening Level Evaluation
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Constituent of Potential Concern	Frequency of Detection in Soil ¹	Maximum Concentration Detected in Soil (milligram per kilogram)	Carcinogen or Non-Carcinogen (C or NC)	Calculation of Site-Specific Cleanup Levels Performed (Yes or No)	Method A Soil Screening Levels (milligrams per kilogram)		Method B Soil Screening Levels (milligrams per kilogram)				Method C Soil Screening Levels (milligrams per kilogram)				Preliminary Soil Screening Level Selected for Remedial Investigation	COPC Retained as Indicator Hazardous Substance (Yes or No)
					Standard MTCA Method A Cleanup Level for Unrestricted Land Use ²	Standard MTCA Method A Cleanup Level for Industrial Soils ²	Standard Method B ² (Direct Contact/Ingestion Only)	Modified Method B ³ (Direct Contact/Dermal & Ingestion HQ=1.0)	Modified Method B ³ (Direct Contact/Dermal & Ingestion Risk of 1.0E-6)	Modified Method B ³ (Protection of Groundwater)	Standard Method C ² (Direct Contact/Ingestion Only)	Modified Method C ³ (Direct Contact/Dermal & Ingestion HQ=1.0)	Modified Method C ³ (Direct Contact/Dermal & Ingestion Risk of 1.0E-5)	Modified Method C ³ (Protection of Groundwater)		
Volatile Organic Compounds																
Tetrachloroethene (PCE)	24	770	C	Yes	0.05	0.05	19.6	739	18.11	0.05303	8.58	14,550	1,070	0.05303	0.05303	Yes
Trichloroethene (TCE)	11	4.6	C	Yes	0.03	0.03	90.9	Not Available	83.98	0.02631	39.8	Not Available	4,959	0.02631	0.02631	Yes
1,1-dichloroethene	1	0.029	C	Yes	Not Available	Not Available	1.67	719	1.664	0.0005216	219	17,890	124.2	0.0005216	0.0005216	No
cis 1,2-dichloroethene	11	4.5	NC	Yes	Not Available	Not Available	800	798.9	Not Available	0.35	35,000	19,880	Not Available	0.35	0.35	Yes
trans 1,2-dichloroethene	0	ND	NC	No	Not Available	Not Available	1,600	—	—	—	70,000	—	—	—	1,600	No
Vinyl Chloride	0	ND	C	Yes	Not Available	Not Available	0.667	239.7	0.6658	0.0001838	87.5	5,963	49.69	0.0001838	0.0001838	Yes
Ethylbenzene	10	4.0	NC	Yes	6	6	8,000	7,989	Not Available	6.048	350,000	198,800	Not Available	6.048	6.048	No
Toluene	16	0.084	NC	Yes	7	7	16,000	14,780	Not Available	7.271	700,000	290,900	Not Available	7.271	7.271	No
Total xylenes	22	0.526	NC	Yes	9	9	160,000	147,800	Not Available	9.144	7,000,000	2,909,000	Not Available	9.144	9.144	No
n-Propylbenzene	2	0.088	NC	No	Not Available	Not Available	Not Available	—	—	—	Not Available	—	—	—	Not Available	No
1,3,5-trimethylbenzene	4	0.11	NC	No	Not Available	Not Available	Not Available	—	—	—	Not Available	—	—	—	Not Available	No
1,2,4-trimethylbenzene	10	0.30	NC	No	Not Available	Not Available	Not Available	—	—	—	Not Available	—	—	—	Not Available	No
4-isopropyltoluene	1	0.031	NC	No	Not Available	Not Available	Not Available	—	—	—	Not Available	—	—	—	Not Available	No
1,2-dichloropropane	3	0.007	C	Yes	Not Available	Not Available	14.7	Not Available	10.21	0.00305	1,930	Not Available	367.6	0.00305	0.00305	Yes
Acetone	11	0.17	NC	Yes	Not Available	Not Available	8,000	7,989	Not Available	3.211	350,000	198,800	Not Available	3.211	3.211	No
Carbon Disulfide	7	0.011	NC	Yes	Not Available	Not Available	8,000	7,828	Not Available	5.651	350,000	181,800	Not Available	5.651	5.651	No
2-Butanone (MEK)	0	0.023	NC	Yes	Not Available	Not Available	48,000	33,330	Not Available	22	2,100,000	400,000	Not Available	22	22	No
Chloroform	0	ND	C	No	Not Available	Not Available	164	—	—	—	21,500	—	—	—	164	No
Chloromethane	0	ND	C	No	Not Available	Not Available	76.9	—	—	—	10,100	—	—	—	76.9	Yes
1,1,1-trichloroethane	0	ND	NC	No	2	2	72,000	—	—	—	3,150,000	—	—	—	2	No
1,1-dichloroethane	0	ND	NC	No	Not Available	Not Available	800	—	—	—	350,000	—	—	—	800	No
Pesticides and Herbicides																
4,4-DDT	9	1.81	C	Yes	3	4	2.94	27.78	2.042	3.485	386	333.3	73.53	3.485	3.485	No
4,4-DDE	13	11.5	C	Yes	Not Available	Not Available	2.94	Not Available	2.042	0.4459	386	Not Available	73.53	0.4459	0.4459	Yes
4,4-DDD	11	2.07	C	Yes	Not Available	Not Available	4.17	Not Available	2.894	0.3354	547	Not Available	104.2	0.3354	0.3354	Yes
Dieldrin	8	3.36	C	Yes	Not Available	Not Available	0.0625	2.778	0.0434	0.002817	8.2	33.33	1.56	0.002817	0.002817	Yes
Endrin	4	1.13	NC	Yes	Not Available	Not Available	24	16.67	Not Available	0.0404	1,050	200	Not Available	0.0404	0.0404	Yes
Heptachlor epoxide	2	0.59	C	Yes	Not Available	Not Available	0.110	0.7222	0.07631	0.01605	14.4	8.667	2.747	0.01605	0.01605	Yes
Endosulfan compounds	5	0.443	NC	Yes	Not Available	Not Available	480	333.3	Not Available	4.301	21,000	4,000	Not Available	4.301	4.301	No
Aldrin	1	0.635	C	Yes	Not Available	Not Available	0.0588	1.667	0.04085	0.005033	7.72	20.0	1.471	0.005033	0.005033	No
Alpha-chlordane (Chlordane-based)	2	0.939	C	Yes	Not Available	Not Available	2.86	27.78	1.984	0.2576	375	333.3	71.43	0.2576	0.2576	Yes
Ethion	1	0.021	NC	No	Not Available	Not Available	40	—	—	—	1,750	—	—	—	40	No
Metals																
Arsenic	2	6.3	C	No	20	20	0.667	21.62	0.6006	2.92	87.5	400	33.33	2.92	20	No
Antimony	1	0.624	NC	No	Not Available	Not Available	32	28.83	Not Available	5.786	1,400	533.3	Not Available	5.786	32	No
Cadmium	3	23.4	NC	No	2	2	80	72.07	Not Available	0.069	3,500	1,333	Not Available	0.069	2	Yes
Chromium III	3	104	NC	No	2,000	2,000	120,000	108,100	Not Available	1,000	5,250,000	2,000,000	Not Available	1,000	2,000	No
Copper	3	422	NC	No	Not Available	Not Available	2,960	2,667	Not Available	262.8	130,000	49,330	Not Available	262.8	2,960	No
Lead	2	155	C	No	250	1,000	Not Available	Not Available	Not Available	3,000	Not Available	Not Available	Not Available	3,000	1,000	No
Mercury	2	5.09	NC	No	2	2	24	21.62	Not Available	2.088	1,050	400	Not Available	2.088	2	Yes
Nickel	3	88.6	NC	No	Not Available	Not Available	Not Available	—	—	—	Not Available	—	—	—	Not Available	No
Silver	1	3.04	NC	No	Not Available	Not Available	400	360.4	Not Available	13.6	17,500	6,667	Not Available	13.6	400	No
Thallium	1	1.44	NC	No	Not Available	Not Available	Not Available	—	—	—	Not Available	—	—	—	Not Available	No
Zinc	3	5,750	NC	No	Not Available	Not Available	24,000	21,620	Not Available	5,971	1,050,000	400,000	Not Available	5,971	24,000	No

Table 5
Soil Screening Level Evaluation
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Constituent of Potential Concern	Frequency of Detection in Soil ¹	Maximum Concentration Detected in Soil (milligram per kilogram)	Carcinogen or Non-Carcinogen (C or NC)	Calculation of Site-Specific Cleanup Levels Performed (Yes or No)	Method A Soil Screening Levels (milligrams per kilogram)		Method B Soil Screening Levels (milligrams per kilogram)				Method C Soil Screening Levels (milligrams per kilogram)				Preliminary Soil Screening Level Selected for Remedial Investigation	COPC Retained as Indicator Hazardous Substance (Yes or No)
					Standard MTCA Method A Cleanup Level for Unrestricted Land Use ²	Standard MTCA Method A Cleanup Level for Industrial Soils ²	Standard Method B ² (Direct Contact/Ingestion Only)	Modified Method B ³ (Direct Contact/Dermal & Ingestion HQ=1.0)	Modified Method B ³ (Direct Contact/Dermal & Ingestion Risk of 1.0E-6)	Modified Method B ³ (Protection of Groundwater)	Standard Method C ² (Direct Contact/Ingestion Only)	Modified Method C ³ (Direct Contact/Dermal & Ingestion HQ=1.0)	Modified Method C ³ (Direct Contact/Dermal & Ingestion Risk of 1.0E-5)	Modified Method C ³ (Protection of Groundwater)		
Other Hazardous Substances																
PCBs	0	ND	C	No	1	10	Not Available	—	—	—	Not Available	—	—	—	10	No
TPH as Diesel-Range Organics	1	35	NC	No	2,000	2,000	Not Available	—	—	—	Not Available	—	—	—	2,000	No
TPH as Oil-Range Organics	1	260	NC	No	2,000	2,000	Not Available	—	—	—	Not Available	—	—	—	2,000	No
Total Carcinogenic PAHs	2	0.042	C	No	0.1	2	0.137	—	—	—	18	—	—	—	0.137	No

NOTE:

ND denotes not detected above the laboratory Practical Quantitation Limit.

Not Available denotes there was no information in State or Federal regulations available for standard cleanup levels or MCLs or additional parameters needed to calculate site-specific soil or groundwater cleanup levels.

— denotes calculation of cleanup level not performed.

¹ Frequency of detection is based on all soil samples collected between 1992 and 2002. The total number of soil samples is 51.

² Standard Model Toxics Control Act (MTCA) Methods A, B, and C soil (direct contact pathway [ingestion only]) cleanup levels obtained from Ecology Publication, Cleanup levels and Risk Calculations (CLARC) Version 3.1, November 2001.

³ Modified Methods B and C soil and groundwater cleanup levels have been calculated using Ecology worksheet for calculating soil cleanup levels for unrestricted and industrial land use. Modified Methods B and C soil cleanup levels presented are the more stringent cleanup levels for the direct contact, ingestion, and dermal pathways.

COPC = constituent of potential Concern

HQ = hazard quotient

NT = not tested.

PAHs = polycyclic aromatic hydrocarbons

PCBs = polychlorinated biphenyls

TPH = total petroleum hydrocarbons

Table 6
Groundwater Screening Level Evaluation
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Constituent of Potential Concern	Monitoring Wells COPC has been Detected	Maximum Concentration Detected in Groundwater (micrograms per liter)	Carcinogen or Non-Carcinogen (C or NC)	Calculation of Site-Specific Cleanup Levels Performed (Yes or No)	Groundwater Screening Levels (micrograms per liter)						Surface Water Screening Levels (micrograms per liter)		Preliminary Groundwater Screening Level Selected for Remedial Investigation	COPC Retained as Indicator Hazardous Substance (Yes or No)
					Standard Method A ¹	MCL ²	Standard Method B ¹	Modified Method B ³	Standard Method C ¹	Modified Method C ³	Standard Method B ¹	Standard Method C ¹		
Volatile Organic Compounds														
Tetrachloroethene (PCE)	All but MW-7A	420	C	Yes	5.0	5.0	0.858	4.75	8.58	4.75	4.15	104	5.0	Yes
Trichloroethene (TCE)	All but MW-7A/7B	430	C	Yes	5.0	5.0	3.98	3.98	39.8	3.98	55.6	1,390	3.98	Yes
1,1-dichloroethene	None	ND	C	Yes	Not Available	7	0.0729	0.0729	0.729	0.0729	1.93	48.2	0.0729	No
cis 1,2-dichloroethene	All	270	NC	Yes	Not Available	70	80	70	175	80	Not Available	Not Available	70	Yes
trans 1,2-dichloroethene	MW-2/WDOE-6	2.34	NC	No	Not Available	100	160	—	350	—	32,800	82,000	100	No
Vinyl Chloride	MW-2/MW-6/WDOE-6	4.24	C	Yes	0.2	2.0	0.0292	0.0292	0.292	0.0292	3.69	92.3	0.0292	Yes
Ethylbenzene	None	ND	NC	Yes	700	700	800	700.0	1,750	700.0	6,190	17,300	700.0	No
Toluene	None	ND	NC	Yes	1,000	1,000	1,600	1,000	3,500	1,000	48,500	121,000	1,000	No
Total xylenes	None	ND	NC	Yes	1,000	10,000	16,000	10,000	35,000	10,000	Not Available	Not Available	1,000	No
n-Propylbenzene	None	ND	NC	No	Not Available	Not Available	Not Available	—	Not Available	—	Not Available	Not Available	Not Available	No
1,3,5-trimethylbenzene	None	ND	NC	No	Not Available	Not Available	Not Available	—	Not Available	—	Not Available	Not Available	Not Available	No
1,2,4-trimethylbenzene	None	ND	NC	No	Not Available	Not Available	Not Available	—	Not Available	—	Not Available	Not Available	Not Available	No
4-isopropyltoluene	None	ND	NC	No	Not Available	Not Available	Not Available	—	Not Available	—	Not Available	Not Available	Not Available	No
1,2-dichloropropane	WDOE-6	1.73	C	Yes	Not Available	5	0.643	0.643	6.43	0.643	23.2	580	0.643	Yes
Acetone	MW-4	24.1	NC	Yes	Not Available	Not Available	800	800	1,750	800	Not Available	Not Available	800	No
Carbon Disulfide	None	ND	NC	Yes	Not Available	Not Available	800	800	1,750	800	Not Available	Not Available	800	No
2-Butanone (MEK)	MW-3	0.23	NC	Yes	Not Available	Not Available	4,800	4,800	1,400	4,800	Not Available	Not Available	4,800	No
Chloroform	MW-1/MW-3/MW-4/MW-5	3.0	C	No	Not Available	Not Available	7.17	—	71.7	—	283	7,080	7.17	No
Chloromethane	MW-2/MW-3/MW-4/MW-5	12.1	C	No	Not Available	Not Available	3.37	—	33.7	—	133	3,320	3.37	Yes
1,1,1-trichloroethane	MW-1	0.15	NC	No	Not Available	200	7,200	—	15,800	—	417,000	15,800	7,200	No
1,1-dichloroethane	MW-2	0.22	NC	No	Not Available	Not Available	800	—	1,750	—	Not Available	Not Available	800	No
Pesticides and Herbicides														
4,4-DDT	None	ND	C	Yes	0.3	Not Available	0.257	0.254	2.57	0.254	0.000356	0.00889	0.257	No
4,4-DDE	MW-2/WDOE-6	0.586	C	Yes	Not Available	Not Available	0.257	0.257	2.57	0.257	0.000356	0.00889	0.257	Yes
4,4-DDD	WDOE-6	0.48	C	Yes	Not Available	Not Available	0.365	0.365	3.65	0.365	0.000504	0.0126	0.365	Yes
Dieldrin	MW-2/WDOE-6	1.1	C	Yes	Not Available	Not Available	0.00547	0.0055	0.0547	0.0055	0.0000867	0.00217	0.0055	Yes
Endrin	None	ND	NC	Yes	Not Available	2	4.80	2.0	10.5	2.0	0.196	0.490	2.0	No
Heptachlor epoxide	None	ND	C	Yes	Not Available	0.2	0.00962	0.0096	0.0962	0.0096	0.0000636	0.00159	0.0096	No
Endosulfan compounds	None	ND	NC	Yes	Not Available	Not Available	96.0	96.0	210	96.0	57.6	144	96.0	No
Aldrin	None	ND	C	Yes	Not Available	Not Available	0.00515	0.0051	0.0515	0.0051	0.0000816	0.00204	0.0051	No
Alpha-chlordane (Chlordane-based)	None	ND	C	Yes	Not Available	2	0.25	0.250	2.5	0.250	0.00131	0.0328	0.250	No
Ethion	None	ND	NC	No	Not Available	Not Available	8.00	—	17.5	—	Not Available	Not Available	8.00	No

**Table 6
Groundwater Screening Level Evaluation
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001**

Constituent of Potential Concern	Monitoring Wells COPC has been Detected	Maximum Concentration Detected in Groundwater (micrograms per liter)	Carcinogen or Non-Carcinogen (C or NC)	Calculation of Site-Specific Cleanup Levels Performed (Yes or No)	Groundwater Screening Levels (micrograms per liter)						Surface Water Screening Levels (micrograms per liter)		Preliminary Groundwater Screening Level Selected for Remedial Investigation	COPC Retained as Indicator Hazardous Substance (Yes or No)
					Standard Method A ¹	MCL ²	Standard Method B ¹	Modified Method B ³	Standard Method C ¹	Modified Method C ³	Standard Method B ¹	Standard Method C ¹		
Metals														
Arsenic	NT	NT	C	No	5.0	50.0	0.0583	—	0.583	—	0.0982	2.46	5.0	No
Antimony	NT	NT	NC	No	Not Available	6	6.4	—	14.0	—	1,040	2,590	6.4	No
Cadmium	NT	NT	NC	No	5.0	5.0	8.0	—	17.5	—	20.3	50.6	5.0	Yes
Chromium III	NT	NT	NC	No	50.0	100.0	24,000	—	52,500	—	243,000	608,000	50.0	No
Copper	NT	NT	NC	No	Not Available	1,300	592	—	1,300	—	2,660	6,660	592	No
Lead	NT	NT	C	No	15.0	15.0	Not Available	—	Not Available	—	Not Available	Not Available	15.0	No
Mercury	NT	NT	NC	No	2.0	2.0	4.8	—	10.5	—	Not Available	Not Available	2.0	Yes
Nickel	NT	NT	NC	No	Not Available	Not Available	Not Available	—	Not Available	—	Not Available	Not Available	Not Available	No
Silver	NT	NT	NC	No	Not Available	100	80	—	175	—	25,900	64,800	80	No
Thallium	NT	NT	NC	No	Not Available	Not Available	Not Available	—	Not Available	—	Not Available	Not Available	Not Available	No
Zinc	NT	NT	NC	No	Not Available	5,000	4,800	—	10,500	—	16,500	41,400	4,800	No
Other Hazardous Substances														
PCBs	None	ND	C	No	0.1		Not Available	—	Not Available	—	Not Available	Not Available	0.1	No
TPH as Diesel Range Organics	None	ND	NC	No	500		Not Available	—	Not Available	—	Not Available	Not Available	500	No
TPH as Oil Range Organics	None	ND	NC	No	500		Not Available	—	Not Available	—	Not Available	Not Available	500	No
Total Carcinogenic PAHs	None	ND	C	No	0.1		0.0120	—	0.120	—	Not Available	Not Available	0.0120	No

NOTE:

ND denotes not detected above the laboratory Practical Quantitation Limit.

NONE denotes COPC was not detected in any of the groundwater samples collected between 1992 and 2002.

Not Available denotes there was no information in State or Federal regulations available for standard cleanup levels or MCLs or additional parameters needed to calculate site-specific soil or groundwater cleanup levels

— denotes calculation of cleanup level not performed.

¹Standard Model Toxics Control Act (MTCA) Method A, B, and C groundwater cleanup levels obtained from Ecology Publication 94-145, Cleanup Levels and Risk Calculations (CLARC) Version 3.1, November 2001.

²MCLs reported as presented in the CLARC, November 2001 which consider Federal and State ARARs for potable groundwater.

³Modified Method B and C groundwater cleanup levels have been calculated using Ecology worksheet for calculating soil cleanup levels for unrestricted and industrial land use.

COPC = Constituent of Potential Concern

MCL = Maximum Contaminant Level

NT = Not tested. Analysis for the analyte was not performed.

PAHs = Polycyclic Aromatic Hydrocarbons

PCBs = Polychlorinated Biphenyls

TPH = Total petroleum hydrocarbons

Table 7
Average Monthly Climate Data
YSF\Agri-Tech
Yakima, Washington
Farallon PN: 765-001

	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Average Maximum Temperature (Fahrenheit)	37.1	45.7	55.2	63.8	72.6	79.7	87.3	86	77.7	64.1	48.1	38	62.9
Average Minimum Temperature (Fahrenheit)	20.2	25.7	29.9	34.8	42.2	49	53	51.6	44.1	34.7	27.9	22.5	36.3
Average Total Precipitation (Inches)	1.27	0.78	0.68	0.52	0.54	0.69	0.2	0.32	0.36	0.55	1.04	1.27	8.22
Average Total Snowfall (Inches)	8.4	3.2	1.4	0	0	0	0	0	0	0.1	2.7	8.3	24.1

NOTE:

Period of Record: 1946 to 2000 (Data collection provided by Western Regional Climate Center website)

Table 8
Summary of Soil Analytical Results - Petroleum Hydrocarbons
and Polycyclic Aromatic Hydrocarbons
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Sample Number	Sample Date	Depth (feet) ¹	Analytical Results (milligrams per kilogram)										Total cPAHs TEC ^{4,5}	
			ORO ²	DRO ²	Fluoranthene	Benzo(b)fluoranthene ³	Chrysene ³	Dibenzo(a,h)anthracene	Benzo(a)anthracene	Indeno(1,2,3-cd)pyrene	Benzo(k)fluoranthene ³	Benzo(a)pyrene		
Area 3 Soil Analytical Results without Acid Silica Gel Cleanup for DRO and ORO.														
SP-23-8	10/22/1997	4.0-8.0	<100	<25	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.008
SP24-7.5	10/22/1997	4.0-7.5	200	37	0.012	0.019	0.011	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.009
SP25-4	10/22/1997	0.5-4.0	580	69	0.020	0.018	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	0.013
Area 3 Soil Analytical Results with Acid Silica Gel Cleanup for DRO and ORO.														
SP-23-8	10/22/1997	4.0-8.0	<100	<25	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.008
SP24-7.5	10/22/1997	4.0-7.5	<100	<25	0.012	0.019	0.011	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.009
SP25-4	10/22/1997	0.5-4.0	260	35	0.020	0.018	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	0.013
RI Preliminary Screening Level⁶			2,000	2,000	0.137	0.137	0.137	NA	NA	NA	0.137	NA	---	
CSM Selected Cleanup Levels for COCs⁷			2,000	2,000	---	---	---	---	---	---	---	---	2.33	
MTCA Cleanup Levels for Other Analytes⁸			---	---	3,200	---	---	---	---	---	---	---	---	

NOTE:

< denotes concentration of compound is not at or above the laboratory practical quantitation limit indicated.

¹Depth below ground surface in feet.

²Analyzed by Ecology Method NWTPH-Dx. Acid silica gel cleanup used to remove contribution of organic materials observed in soil.

³Analyzed by EPA Method 8270-SIM. Carcinogenic PAHs are depicted only.

⁴Total carcinogenic polycyclic aromatic hydrocarbons derived using the total toxicity equivalency method in Section 708(8) of Chapter 173-340 of the Washington Administrative Code.

⁵For concentrations reported at less than the laboratory reporting limit, half the reporting limit was used to calculate the TEC.

⁶Preliminary screening level has been selected for preliminary evaluation of analytical data for the Remedial Investigation only.

⁷Cleanup level identified in Table 1 of the 2018 Conceptual Site Model (CSM) Technical Memo.

⁸Washington State Cleanup Levels and Risk Calculations under the Washington State Model Toxics Control Act Cleanup Regulation, Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, <https://fortress.wa.gov/ecy/clarc/CLARCDATATables.aspx>.

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COC = constituent of concern

cPAHs = carcinogenic polycyclic aromatic hydrocarbons

CSM = Conceptual Site Model

DRO = TPH as diesel-range organics

NA = not applicable to noncarcinogenic PAHs

ORO = TPH as heavy-oil-range organics

PAHs = polycyclic aromatic hydrocarbons

RI = Remedial Investigation

TEC = toxic equivalent concentration

TPH = total petroleum hydrocarbons

Table 9
Summary of Soil Analytical Results - Metals
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Sample Number	Date	Depth ¹ (feet)	Analytical Results (milligrams per kilogram)										
			Total Metals ²										
			Arsenic	Antimony	Cadmium	Chromium	Copper	Lead	Nickel	Mercury	Silver	Thallium	Zinc
Area 3, Potential Petroleum Release Area, and Western Site Boundary with the Bay Chemical Site.													
SP-23-8	10/22/1997	4.0-8.0	<5.0	<0.500	1.65	104	422	155	88.6	<0.050	<1.0	<0.500	579
SP24-7.5	10/22/1997	4.0-7.5	3.35	<0.500	23.4	38.8	119	<0.500	19.6	5.09	3.04	<0.500	5,750
SP25-8	10/22/1997	4.0-8.0	6.3	0.624	5.49	17.5	27.0	47.7	17.0	0.137	<1.0	1.44	3,240
Natural Background Concentrations³			5.0	NA	1	38	27.0	11	46.0	0.05	NA	NA	79
RI Preliminary Screening Level⁴			20.0	32	2	2,000	2960.0	1000	NA	2	400	NA	24,000
CSM Selected Cleanup Levels for COCs⁵			2.92	5.42	0.69	---	284	220	---	2.09	---	---	570
MTCA Cleanup Levels for Other Analytes⁶			---	---	---	2,000⁷	---	---	1,600	---	400	0.80	---

NOTE:

Results in **bold** denote concentrations above preliminary screening levels.

Results highlighted in orange denote concentrations exceeding CSM selected cleanup levels or MTCA levels where CSM cleanup levels are not applicable.

< denotes concentration of compound is not at or above the laboratory practical quantitation limit indicated.

— denotes CSM cleanup level not applicable. MTCA cleanup levels provided for analytes not identified as COCs in the CSM Memo.

¹Depth below ground surface in feet.

²Analyzed by EPA Method 6000 and 7000 Series Methods.

³Natural Background concentrations of metals for the Yakima Basin as presented in Natural Background Soil Metals Concentrations in Washington State, Ecology Publication 94-115, October 1994.

⁴Preliminary screening level has been selected for preliminary evaluation of analytical data for the Remedial Investigation only.

⁵Cleanup level identified in Table 1 of the 2018 Conceptual Site Model (CSM) Technical Memo.

⁶ Washington State Cleanup Levels and Risk Calculations under the Washington State Model Toxics Control Act Cleanup Regulation, Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, <https://fortress.wa.gov/ecy/clarc/CLARCDataTables.aspx>, unless otherwise noted. Downloaded October 2018.

⁷ Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.

COC = constituent of concern

CSM = Conceptual Site Model

NA = not applicable, no cleanup levels available

RI = Remedial Investigation

Table 10
Monitoring Well Construction Details
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Monitoring Well Identification	Total Depth of Well (feet below TOC) ¹	Diameter (inches)	Screened Interval (feet bgs) ²	Well Screen Slot Size (inches)	Well Construction Material	Top of Well Casing Elevation (feet MSL) ³	Latitude (degrees-minutes-seconds) ⁴	Longitude (degrees-minutes-seconds) ⁴
MW-1	26	2	6 - 26	0.020	PVC	1002.88	N46-34-12	W120-29-28
MW-2	12	2	2 - 12	0.020	PVC	1002.59	N46-34-08	W120-29-26
MW-3	27	2	7 - 27	0.020	PVC	1000.81	N46-34-08	W120-29-23
MW-4	25	2	5 - 25	0.020	PVC	1000.82	N46-34-06	W120-29-23
MW-5	28	2	8 - 28	0.020	PVC	1001.45	N46-34-05	W120-29-27
MW-6	13	2	3 - 13	0.020	PVC	1002.28	N46-34-05	W120-29-26
MW-7A	17	2	7 - 17	0.020	PVC	999.96	N46-34-02	W120-29-24
MW-7B	33	2	28 - 33	0.020	PVC	999.82	N46-34-02	W120-29-24
WDOE-6	16	2	11 - 16	0.020	Galvanized steel blank/stainless steel well screen	1002.27	N46-34-08	W120-29-26

NOTE:

¹Total depth of well is based on average field measurements between December 1997 and December 2002.

²Screened interval is based on total well depth measurements.

³Top of well casing elevations provided by Upton Surveying, using City of Yakima datum benchmark NAVD29.

⁴Latitude and longitude provided by Upton Surveying, using City of Yakima horizontal datum benchmark NAD83.

bgs = below ground surface

MSL = mean sea level

PVC = polyvinyl chloride

TOC = top of well casing

Table 11
Summary of Groundwater Elevation Data
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Well Number	Date Measured	Measured By	Well Elevation (msl)	Depth to Water (bgs)	Groundwater Elevation (msl)
MW-1	12/3/1997	AGRA	1002.88	4.41	998.47
	3/3/1998	AGRA		5.78	997.10
	6/3/1998	AGRA		4.60	998.28
	9/2/1998	AGRA		2.52	1,000.36
	12/3/2002	Farallon		4.91	997.97
MW-2	12/3/1997	AGRA	1002.59	5.15	997.44
	3/3/1998	AGRA		6.75	995.84
	6/3/1998	AGRA		5.46	997.13
	9/2/1998	AGRA		3.36	999.23
	12/4/2002	Farallon		5.86	996.73
MW-3	12/3/1997	AGRA	1000.81	4.18	996.63
	3/3/1998	AGRA		5.65	995.16
	6/3/1998	AGRA		4.64	996.17
	9/2/1998	AGRA		2.57	998.24
	12/4/2002	Farallon		4.92	995.89
MW-4	12/3/1997	AGRA	1000.82	4.56	996.26
	3/3/1998	AGRA		6.02	994.80
	6/3/1998	AGRA		5.02	995.80
	9/2/1998	AGRA		3.03	997.79
	12/4/2002	Farallon		5.36	995.46
MW-5	12/3/1997	AGRA	1001.45	4.92	996.53
	3/3/1998	AGRA		6.49	994.96
	6/3/1998	AGRA		5.28	996.17
	9/2/1998	AGRA		3.35	998.10
	12/4/2002	Farallon		5.72	995.73
MW-6	12/3/1997	AGRA	1002.28	5.23	997.05
	3/3/1998	AGRA		6.78	995.50
	6/3/1998	AGRA		5.56	996.72
	9/2/1998	AGRA		3.50	998.78
	12/4/2002	Farallon		5.94	996.34
WDOE-6	12/3/1997	AGRA	1002.27	NM	—
	3/3/1998	AGRA		5.51	996.76
	6/3/1998	AGRA		4.29	997.98
	9/2/1998	AGRA		2.20	1,000.07
	12/3/2002	Farallon		4.55	997.72
MW-7A	12/3/2002	Farallon	999.96	5.57	994.39
MW-7B	12/3/2002	Farallon	999.82	5.75	994.07

NOTE:

Wells resurveyed 12/2002

bgs = below ground surface

— denotes data not available.

msl = feet above mean sea level relative to City of Yakima NAVD29 datum/benchmark.

NM = not measured

Table 12
Water Quality Parameters
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Sample Number	Date Sampled	Sampled By	Temperature (°C)	Specific Conductance (mS/cm)	Dissolved Oxygen (mg/l)	pH	ORP (mV)
MW-1	12/3/1997	AGRA	14.50	3.30	0.61	6.58	—
	3/3/1998	AGRA	14.30	1.97	2.28	7.10	—
	6/3/1998	AGRA	14.50	—	2.88	7.03	360
	9/2/1998	AGRA	15.70	3.40	2.07	6.90	130
	12/3/2002	Farallon	14.08	—	5.25	6.91	189
MW-2	12/3/1997	AGRA	13.20	5.07	0.41	6.98	—
	3/3/1998	AGRA	13.80	2.03	1.59	7.00	—
	6/3/1998	AGRA	14.40	—	0.50	7.85	205
	9/2/1998	AGRA	20.70	10.92	0.39	6.40	126
	12/4/2002	Farallon	15.52	—	0.92	6.62	21
MW-3	12/3/1997	AGRA	15.00	3.63	0.42	6.00	—
	3/3/1998	AGRA	12.40	1.61	3.58	7.00	—
	6/3/1998	AGRA	14.10	—	4.12	7.48	398
	9/2/1998	AGRA	17.80	3.04	1.45	7.00	143
	12/4/2002	Farallon	13.36	—	4.32	6.82	67
MW-4	12/3/1997	AGRA	14.10	3.04	1.10	6.60	—
	3/3/1998	AGRA	11.70	1.98	1.79	6.90	—
	6/3/1998	AGRA	14.20	—	1.71	8.68	255
	9/2/1998	AGRA	17.90	4.04	0.96	6.80	156
	12/4/2002	Farallon	14.08	—	3.14	6.75	61
MW-5	12/3/1997	AGRA	15.80	4.84	0.58	6.00	—
	3/3/1998	AGRA	12.70	1.70	1.94	7.00	—
	6/3/1998	AGRA	13.90	—	3.10	6.86	333
	9/2/1998	AGRA	17.90	4.19	1.64	6.90	137
	12/4/2002	Farallon	14.06	—	2.94	6.67	58
MW-6	12/3/1997	AGRA	15.70	3.90	1.00	6.30	—
	3/3/1998	AGRA	12.80	3.90	1.46	6.80	—
	6/3/1998	AGRA	13.70	—	1.36	7.90	171
	9/2/1998	AGRA	19.30	5.61	1.01	6.80	90
	12/4/2002	Farallon	15.40	—	1.25	6.70	-1
WDOE-6	May-92	Ecology	—	—	—	—	—
	12/3/1997	AGRA	—	—	—	—	—
	3/3/1998	AGRA	10.80	5.65	1.57	6.40	—
	6/3/1998	AGRA	15.40	—	0.74	8.51	135
	9/2/1998	AGRA	17.00	3.77	0.65	6.80	19
	12/3/2002	Farallon	14.07	—	0.49	6.51	-94
MW-7A	12/3/2002	Farallon	9.13	—	1.20	6.70	-82
MW-7B	12/3/2002	Farallon	12.80	—	1.54	6.83	9

NOTES:

— denotes water quality parameter data not collected

°C - degrees Celsius

mg/l - milligrams per liter

mS/cm - milliSiemens per centimeter

mV - milli volts

ORP = oxidation reduction potential

Table 13
Groundwater Analytical Results - Natural Attenuation Parameters
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Sample Number	Date Sampled	Sampled By	Analytical Results (milligrams per liter)										
			Alkalinity ¹	Sulfate ²	Sulfide ³	Methane ⁴	Ethane ⁴	Ethene ⁴	Ferrous Iron ⁵	Nitrate ⁶	Total Phosphate ⁷	Chloride ⁸	Total Organic Carbon ⁹
MW-1	12/3/1997	AGRA	144	81.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/3/1998	AGRA	96.3	25.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/3/1998	AGRA	96	20.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/2/1998	AGRA	102	61.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/3/2002	Farallon	74	25	<0.050	<0.01	<0.01	<0.01	0.088	2.9	0.2	12	1.1
MW-2	12/3/1997	AGRA	166	134	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/3/1998	AGRA	116	35.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/3/1998	AGRA	104	59.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/2/1998	AGRA	84	758	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/4/2002	Farallon	79	46	<0.050	0.02	<0.01	<0.01	0.19	<0.010	0.57	12	1.8
MW-3	12/3/1997	AGRA	156	21.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/3/1998	AGRA	110	18.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/3/1998	AGRA	102	17.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/2/1998	AGRA	108	32.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/4/2002	Farallon	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-4	12/3/1997	AGRA	188	52	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/3/1998	AGRA	113	23.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/3/1998	AGRA	110	26	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/2/1998	AGRA	110	55.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/4/2002	Farallon	79	34	<0.050	<0.01	<0.01	<0.01	0.039	2.3	0.12	12	1.8
MW-5	12/3/1997	AGRA	155	86.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/3/1998	AGRA	114	50.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/3/1998	AGRA	103	61.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/2/1998	AGRA	104	91.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/4/2002	Farallon	74	42	<0.050	<0.01	<0.01	<0.01	0.044	2	0.11	12	0.75
MW-6	12/3/1997	AGRA	180	81.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/3/1998	AGRA	115	68.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/3/1998	AGRA	99	82.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/2/1998	AGRA	124	147	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/4/2002	Farallon	81	61	<0.050	0.11	<0.01	<0.01	0.46	0.027	0.12	12	0.79
WDOE-6	3/3/1998	AGRA	85.5	209	NA	NA	NA	NA	NA	N	NA	NA	NA
	6/3/1998	AGRA	79	74.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/2/1998	AGRA	97	95.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/3/2002	Farallon	78	57	0.2	0.04	<0.01	<0.01	4.1	0.019	0.091	14	2
MW-7A	12/3/2002	Farallon	210	130	<0.050	0.12	<0.01	<0.01	0.035	0.011	0.068	16	4.5
MW-7B	12/3/2002	Farallon	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTE:

Results in **BOLD** indicate the analyte was not detected at a concentration above the laboratory practical quantitation limit.

NA = Not Analyzed

< denotes concentration of compound is not at or above the laboratory practical quantitation limit initiated.

¹Analyzed by EPA Method 310.1.

⁴Analyzed by Method -GC in house.

⁷Analyzed by EPA Method 365.1.

²Analyzed by EPA Method 375.4.

⁵Analyzed by Method SM18 3500FED.

⁸Analyzed by EPA Method 325.3.

³Analyzed by EPA Method 376.1.

⁶Analyzed by EPA Method 353.2, 354.1.

⁹Analyzed by EPA Method 415.2.

Table 14
Locations that Exceed Preliminary Soil and Groundwater Screening Levels
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Sample Number	Depth ¹ (feet)	Indicator Hazardous Substance ²													
		Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis 1,2- dichloroethene	Vinyl Chloride	1,2- dichloropropane	Chloromethane	4,4-DDE	4,4-DDD	Dieldrin	Endrin	Heptachlor epoxide	Alpha- chlordane	Cadmium	Mercury
SOIL															
Area 1: Former Yakima Farmer Supply Waste Pit Area															
468110 (WDOE-6)	10	Yes	Yes	No	No	No	No	No	No	No	No	No	No	NA	NA
YSF-1 (TP-1)	4	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
YSF-2 (TP-1)	5	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
YSF-3 (TP-1)	8	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
YSF-4 (TP-2)	4.5	Yes	No	No	No	Yes	No	Yes	No	Yes	Yes	Yes	No	NA	NA
YSF-5 (TP-3)	6	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
YSF-6 (TP-4)	7.5	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
SP1-4	0.5-4.0	Yes	Yes	No	No	No	No	No	No	No	No	No	No	NA	NA
SP2-4	0.5-4.0	Yes	Yes	Yes	No	No	No	No	No	Yes	Yes	No	Yes	NA	NA
SP2A-6.5	4.0-6.5	Yes	No	No	No	No	No	No	No	Yes	No	No	No	NA	NA
SP3-4	0.5-4.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
SP4-7	4.0-7.0	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	NA	NA
SP5-6.5	4.0-6.5	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No	NA	NA
SP6-5.5	4.0-5.5	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
SP7-7	4.0-7.0	Yes	No	No	No	Yes	No	No	No	No	No	No	No	NA	NA
SP8-7	4.0-7.0	No	No	No	No	No	No	Yes	No	Yes	No	No	No	NA	NA
SP9-7.5	4.0-7.5	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
SP10-4	0.5-4	Yes	Yes	No	No	No	No	No	Yes	Yes	Yes	No	No	NA	NA
SP11-6	4.0-6.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
SP12-8	4.0-8.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
SP13/14-6	4.0-6.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
SP15-6	4.0-6.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
SP16-8	4.0-8.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
SP17-4	0.5-4.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
SP18-4	0.5-4.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
SP19-7	4.0-7.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
SP20-8	4.0-8.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
SP21-5	1.0-5.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
SP22-7	4.0-7.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
MW1-5	5.0-6.5	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
MW1-10	10.0-11.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
MW6-6	6.0-8.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
B1-10	10.0-11.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
B1-30	30.0-31.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
B2-10	10.0-11.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
Preliminary Screening Level (milligrams per kilogram)		0.053	0.02631	0.35	0.0001838	0.00305	76.9	0.4459	0.3354	0.002817	0.0404	0.01605	0.2576	2	2

Table 14
Locations that Exceed Preliminary Soil and Groundwater Screening Levels
YSF/Agri-Tech
Yakima, Washington
Farallon PN: 765-001

Sample Number	Depth ¹ (feet)	Indicator Hazardous Substance ²													
		Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis 1,2-dichloroethene	Vinyl Chloride	1,2-dichloropropane	Chloromethane	4,4-DDE	4,4-DDD	Dieldrin	Endrin	Heptachlor epoxide	Alpha-chlordane	Cadmium	Mercury
Area 2: Former Yakima Farmer Supply Lime and Sulfur Stockpile Locations															
SP23-8	4.0-8.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
SP24-7.5	4.0-7.5	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
SP25-4	0.5-4.0	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
Area 3: Potential Petroleum Release Area															
SP26-6.5	4.0-6.5	No	No	No	No	No	No	No	No	No	No	No	No	No	No
SP27-7.5	4.0-7.5	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes
SP28-7.5	4.0-7.5	No	No	No	No	No	No	No	No	No	No	No	No	Yes	No
Type 3 Wetlands Area															
Drum 1 (MW-7A)	0 -15	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
Drum 3 (MW-7B)	15-25	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
Drum 4 (MW-7B)	25-32	0	No	No	No	No	No	No	No	No	No	No	No	NA	NA
Preliminary Screening Level (milligrams per kilogram)		0.053	0.02631	0.35	0.0001838	0.00305	76.9	0.4459	0.3354	0.002817	0.0404	0.01605	0.2576	2	2
GROUNDWATER															
MW-1	Deep	Yes	No	No	No	No	No	No	No	No	No	No	No	NA	NA
MW-2	Shallow	No	No	No	Yes	No	Yes	No	No	Yes	No	No	No	NA	NA
MW-3	Deep	Yes	No	No	No	No	Yes	No	No	No	No	No	No	NA	NA
MW-4	Deep	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
MW-5	Deep	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
MW-6	Shallow	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	NA	NA
WDOE-6	Shallow	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	No	NA	NA
MW-7A	Shallow	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
MW-7B	Deep	No	No	No	No	No	No	No	No	No	No	No	No	NA	NA
Preliminary Screening Level (micrograms per liter)		5.0	3.98	70	0.0292	0.643	3.37	0.257	0.365	0.0055	2.0	0.0096	0.250	5.0	2.0

NOTE:

Highlighted analyte exceeds preliminary screening level.

Deep denotes the groundwater monitoring well was designed to monitor deeper regional groundwater up to a depth of 33 feet bgs.

NA denotes that the soil or groundwater sample was not analyzed for this substance.

No denotes compound has not been detected at a concentration above the preliminary screening level selected for the Remedial Investigation.

Shallow denotes the groundwater monitoring well was designed to monitor shallow groundwater in direct contact with the waste pit materials.

Yes denotes that the compound has been detected at a concentration above the preliminary screening level selected for the Remedial Investigation.

¹Depth below ground surface in feet.

²Indicator Hazardous Substances represent those constituents of potential concern that have been detected in two or more soil samples or have been detected at a minimum frequency of one groundwater sampling event for groundwater samples. The concentrations of these substances have also exceeded the preliminary screening level selected for the Remedial Investigation.

ATTACHMENT B
WASHINGTON DEPARTMENT OF ECOLOGY TEST PIT SAMPLING
TABLES

CONCEPTUAL SITE MODEL TECHNICAL MEMORANDUM
Agri-Tech and Yakima Steel Fabricators Site
Yakima Steel Fabricators
Yakima, Washington

Farallon PN: 765-001

Table 1
Soil Analytical Results for Petroleum Hydrocarbons
Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

Grid	Test Pit	Sample Identification	Lab Report	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²		Benzene ³	Toluene ³	Ethylbenzene ³	Xylenes ³
						DRO	ORO ³				
Soil Samples											
I	3	I-TP3-052411-3.0	580-26377-1	5/24/2011	3.0	4,600 Y	220	<0.00099	<0.002	0.029	0.036
		I-TP3-052411-7.5	580-26377-1	5/24/2011	7.5	390 Y	<60	<0.00095	<0.0019	0.0056	<0.00285
	4	I-TP4-052711-2.5	580-26530-1	5/27/2011	2.5	120 Y	930	<0.0011	<0.0023	<0.0011	<0.0034
	6	I-TP6-052711-4.5	580-26530-1	5/27/2011	4.5	98 Y	91	<0.0018	<0.0036	<0.0018	<0.0084
FS Work Plan Preliminary Screening Levels⁴						2,000	2,000	NE	7.271	6.048	9.144
CSM Selected Cleanup Levels for COCs⁵						2,000	2,000	---	---	---	---
MTCA Cleanup Levels for Other Analytes⁶						---	---	0.03	7.0	6.0	9.0

NOTES:

Results in **bold** denote concentrations above preliminary screening levels.

Results highlighted in orange denote concentrations exceeding CSM selected cleanup levels or MTCA levels where CSM cleanup levels are not applicable.

< denotes analyte not detected at or above the laboratory reporting limit listed.

— denotes CSM cleanup level not applicable. MTCA cleanup levels provided for analytes not identified as COCs in the CSM Technical Memo.

¹ Depth in feet below ground surface.

² Analyzed by Northwest Method NWTPH-Dx.

³ Compound was not retained as a COPC following completion of the June 2004 Revised Remedial Investigation Report.

⁴ Preliminary screening level as identified in the May 2011 Feasibility Study Work Plan.

⁵ Cleanup level identified in Table 1 of the 2018 Conceptual Site Model (CSM) Technical Memo.

⁶ Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.

COC = constituent of concern

COPC = constituent of potential concern

CSM = Conceptual Site Model

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics

FS = Feasibility Study

ORO = TPH as oil-range organics

NA = not applicable

Y = The chromatographic response resembles a typical fuel pattern.

Table 2
Soil Analytical Results for Volatile Organic Compounds
Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

Grid	Test Pit	Sample Identification	Lab Report	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²												
						Benzene ³	Ethylbenzene ³	m,p-Xylene ³	o-Xylene ³	Toluene ³	Naphthalene ³	n-Butylbenzene ³	Sec-Butylbenzene ³	Isopropylbenzene ³	Methylene Chloride ³	4-Methyl-2-Pentanone ³	4-Isopropyltoluene ³	n-Propylbenzene ³
Soil Samples																		
B	1	B-TP1-052611-6.0	580-26451-1	5/26/2011	6.0	<0.0012 H	0.0012 H	0.0049 H	0.0017 H	<0.0025 H	<0.0062 H	<0.0025 H	<0.0025 H	<0.0025 H	<0.019 H	<0.0062 H	<0.0025 H	<0.0012 H
		B-TP1-052611-6.5	580-26451-1	5/26/2011	6.5	<0.00088	<0.00088	<0.0018	<0.00088	<0.0018	<0.0044	<0.0018	<0.0018	<0.0018	<0.013	<0.0044	<0.0018	<0.00088
	2	B-TP2-052611-5.5	580-26451-1	5/26/2011	5.5	<0.00096	<0.00096	<0.0019	<0.00096	<0.0019	<0.0048	<0.0019	<0.0019	<0.0019	<0.014	<0.0048	<0.0019	<0.00096
		B-TP3-052611-5.5	580-26451-1	5/26/2011	5.5	<0.00094	<0.00094	<0.0019	<0.0019	<0.0019	<0.0047	<0.0019	<0.0019	<0.0019	<0.014	<0.0047	<0.0019	<0.00094
H	1	H-TP1-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<0.00094	<0.00094	<0.0019	0.0021	<0.0019	<0.0047	<0.0019	<0.0019	<0.0019	<0.014	<0.0047	<0.0019	<0.00094
		H-TP1-052611-3.5-4.0	580-26451-1	5/26/2011	4.0	<0.0011	<0.0011	<0.0021	<0.0011	<0.0021	<0.0053	<0.0021	<0.0021	<0.0021	<0.016	<0.0053	<0.0021	<0.0011
	2	H-TP2-052611-1.0-1.5	580-26451-1	5/26/2011	1.5	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0055	<0.0022	<0.0022	<0.0022	<0.016	<0.0055	<0.0022	<0.0011
		H-TP2-052611-2.0-2.5	580-26451-1	5/26/2011	2.5	<0.0011 H	0.0024 H	0.011 H	0.004 H	0.0042 H	<0.0057 H	<0.0023 H	<0.0023 H	<0.0023 H	<0.017 H	<0.0057 H	<0.0023 H	<0.0011 H
	3	H-TP3-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<0.0011 H	<0.0011 H	<0.0022 H	<0.0011 H	<0.0022 H	<0.0056 H	<0.0022 H	<0.0022 H	<0.0022 H	<0.017 H	<0.0056 H	<0.0022 H	<0.0011 H
		H-TP3-052611-3.5-4.0	580-26451-1	5/26/2011	4.0	<0.00093	<0.00093	<0.0019	<0.00093	<0.0019	<0.0047	<0.0019	<0.0019	<0.0019	<0.014	<0.0047	<0.0019	<0.00093
I	3	I-TP3-052411-3.0	580-26377-1	5/24/2011	3.0	<0.00099	0.029	0.013	0.023	<0.002	1.7 H	0.230 H	0.320 H	0.15	<0.015	<0.0050	0.250 H	0.180 H
		I-TP3-052411-7.5	580-26377-1	5/24/2011	7.5	<0.00095	0.0056	<0.0019	<0.00095	<0.0019	0.12	0.091	0.029	0.015	<0.014	<0.0047	0.032	0.030
	4	I-TP4-052711-2.5	580-26530-1	5/27/2011	2.5	<0.0011	<0.0011	<0.0023	<0.0011	<0.0023	<0.0056	<0.0023	<0.0023	<0.0023	<0.017	<0.0056	<0.0023	<0.0011
		I-TP4-052711-8.0	580-26530-1	5/27/2011	8.0	<0.0011	<0.0011	<0.0023	<0.0011	<0.0023	<0.0057	<0.0023	<0.0023	<0.0023	<0.017	<0.0057	<0.0023	<0.0011
	5	I-TP5-052711-4.5	580-26530-1	5/27/2011	4.5	<0.0014	<0.0014	<0.0029	<0.0014	<0.0029	<0.0072	<0.0029	<0.0029	<0.0029	<0.021	<0.0072	<0.0029	<0.0014
		I-TP6-052711-4.5	580-26530-1	5/27/2011	4.5	<0.0018	<0.0018	<0.0036	<0.0018	<0.0036	<0.0089	<0.0036	<0.0036	<0.0036	<0.027	<0.0089	<0.0036	<0.0018
Wetland Samples																		
E	Wetsoil	E-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<0.0019	<0.0019*	<0.0038 *	<0.0019 *	<0.0038	<0.0094 *	<0.0038 *	<0.0038 *	<0.0038 *	<0.028	<0.0094	<0.0038 *	<0.0019 *
		E-wetsoil-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<0.0012 H	<0.0012 H	<0.0024 H	<0.0012 H	<0.0024 H	<0.0060 H	<0.0024 H	<0.0024 H	<0.0024 H	<0.018 H	<0.0060 H	<0.0024 H	<0.0012 H
	Wetsoil-2	E-wetsoil-2-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<0.00091 H	<0.00091 H	<0.0018 H	<0.00091 H	<0.0018 H	<0.0045 H	<0.0018 H	<0.0018 H	<0.0018 H	<0.014 H	<0.0045 H	<0.0018 H	<0.00091 H
		E-wetsoil-2-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<0.0013 H	<0.0013 H	<0.0026 H	<0.0013 H	<0.0026 H	<0.0065 H	<0.0026 H	<0.0026 H	<0.0026 H	<0.019 H	<0.0065 H	<0.0026 H	<0.0013 H
	Wetsed	E-wetsed-1-053111	580-26502-1	5/23/2011	0.5	<0.0027	<0.0027	<0.0054	<0.0027	<0.0054	<0.014	<0.0054	<0.0054	<0.054	<0.041	<0.014	<0.0054	<0.0027
		E-wetsed-2-053111	580-26502-1	5/23/2011	0.5	<0.0026	<0.0026	<0.0052	<0.0026	<0.0052	<0.013	<0.0052	<0.0052	<0.0052	<0.039	<0.013	<0.0052	<0.0026
E-wetsed-3-053111		580-26502-1	5/23/2011	0.5	<0.0033	<0.0033	<0.0066	<0.0033	<0.0066	<0.017	<0.0066	<0.0066	<0.0066	<0.050	<0.017	<0.0066	<0.0033	
G	Wetsoil	G-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<0.0013 H	<0.0013 H	<0.0025 H	<0.0013 H	<0.0025 H	<0.0064 H	<0.0025 H	<0.0025 H	<0.0025 H	<0.019 H	<0.0064 H	<0.0025 H	<0.0013 H
		G-wetsoil-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<0.00094	<0.00094	<0.0019	<0.00094	<0.0019	<0.0047	<0.0019	<0.0019	<0.0019	<0.014	<0.0047	<0.0019	<0.00094
FS Work Plan Preliminary Screening Levels						180⁶	6.048⁵	9.144⁵	9.144⁵	7.271⁵	1,600⁶	NE	NE	NE	1,300⁶	NE	NE	NE
CSM Selected Soil Cleanup Levels for COCs⁵						---	---	---	---	---	---	---	---	---	---	---	---	---
MTCA Cleanup Levels for Other Soil Analytes⁸						0.03⁹	6.0⁹	9.0⁹	7.0⁹	5.0⁹	4,000	8,000	8,000	0.02⁹	6,400	NE	8,000	

NOTES:

Results in **bold** denote concentrations above preliminary screening levels.
 < denotes analyte not detected at or above the reporting limit listed.
 --- denotes CSM cleanup level not applicable. MTCA cleanup levels provided for analytes not identified as COCs in the CSM Memo.
¹ Depth in feet below ground surface.
² Analyzed by U.S. Environmental Protection Agency Method 8260B.
³ Compound was not retained as a COPC following completion of the 2004 Revised Remedial Investigation Report.
⁴ Identified and retained as a COPC in the June 2004 Remedial Investigation Report.
⁵ Preliminary screening level as identified in the May 2011 Feasibility Study Work Plan.
⁶ Washington State Department of Ecology Cleanup Levels and Risk Calculations under the Washington State Model Toxics Control Act Cleanup Regulation, Version 3.1 Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway.
⁷ Cleanup level identified in Table 1 of the 2018 Conceptual Site Model (CSM) Technical Memo.
⁸ Washington State Cleanup Levels and Risk Calculations under the Washington State Model Toxics Control Act Cleanup Regulation, Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, <https://fortress.wa.gov/ecy/clarc/CLARCDatatables.aspx>, unless otherwise noted. Downloaded October 2018.
⁹ Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.

-- = The initial calibration curve was outside acceptance criteria for carbon disulfide and the result was not reported.
 * = ISTD response or retention time outside acceptable limits.
 COC = constituent of concern
 COPC = constituent of potential concern
 CSM = Conceptual Site Model
 FS = Feasibility Study
 H = Sample was prepped or analyzed beyond specified holding time.
 MEK = 2 butanone
 NE = not established
 PCE = tetrachloroethene
 TCE = trichloroethene
 VOCs = volatile organic compounds

Table 2
Soil Analytical Results for Volatile Organic Compounds
Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

Grid	Test Pit	Sample Identification	Lab Report	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²												
						Acetone ³	1,2,4-Trimethylbenzene ³	1,3,5-Trimethylbenzene ³	Carbon Disulfide ³	1,2-Dichloropropane ⁴	MEK ³	Chloroform ³	PCE ⁴	TCE ⁴	1,1-Dichloroethene ³	(cis) 1,2-Dichloroethene ⁴	tert-Butylbenzene ³	
Soil Samples																		
B	1	B-TP1-052611-6.0	580-26451-1	5/26/2011	6.0	<0.019 H	<0.0025 H	<0.0062 H	<0.0012 H	<0.0012 H	<0.0062 H	<0.0012 H	<0.0012 H	<0.0012 H	<0.0062 H	<0.0012 H	<0.0025 H	
		B-TP1-052611-6.5	580-26451-1	5/26/2011	6.5	<0.013	<0.0018	<0.0044	<0.00088	<0.00088	<0.0044	<0.00088	<0.00088	<0.00088	<0.00088	<0.0044	<0.00088	<0.0018
	2	B-TP2-052611-5.5	580-26451-1	5/26/2011	5.5	0.036	<0.0019	<0.0048	<0.00096	<0.00096	0.0055	<0.00096	<0.00096	<0.00096	<0.00096	<0.0048	<0.00096	<0.0019
	3	B-TP3-052611-5.5	580-26451-1	5/26/2011	5.5	<0.014	<0.0019	<0.0047	<0.00094	<0.00094	<0.0047	<0.00094	<0.00094	<0.00094	<0.00094	<0.0047	<0.00094	<0.0019
H	1	H-TP1-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<0.014	<0.0019	<0.0047	<0.00094	<0.00094	<0.0047	<0.00094	<0.00094	<0.00094	<0.0047	<0.00094	<0.0019	
		H-TP1-052611-3.5-4.0	580-26451-1	5/26/2011	4.0	<0.016	<0.0021	<0.0053	<0.0011	<0.0011	<0.0053	<0.0011	<0.0011	<0.0011	<0.0053	<0.0011	<0.0021	
	2	H-TP2-052611-1.0-1.5	580-26451-1	5/26/2011	1.5	<0.016	<0.0022	<0.0055	<0.0011	<0.0011	<0.0055	<0.0011	<0.0011	<0.0011	<0.0055	<0.0011	<0.0022	
		H-TP2-052611-2.0-2.5	580-26451-1	5/26/2011	2.5	<0.017 H	<0.0023 H	<0.0057 H	<0.0011 H	<0.0011 H	<0.0057 H	<0.0011 H	<0.0011 H	0.0020 H	<0.0057 H	<0.0011 H	<0.0023 H	
	3	H-TP3-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<0.017 H	<0.0022 H	<0.0056 H	<0.0011 H	<0.0011 H	<0.0056 H	<0.0011 H	<0.0011 H	<0.0011 H	<0.0056 H	<0.0011 H	<0.0022 H	
		H-TP3-052611-3.5-4.0	580-26451-1	5/26/2011	4.0	<0.014	<0.0019	<0.0047	<0.00093	<0.00093	<0.0047	<0.00093	<0.00093	<0.00093	<0.0047	<0.00093	<0.0019	
I	3	I-TP3-052411-3.0	580-26377-1	5/24/2011	3.0	0.390	0.760 H	0.15	--	<0.00099	0.068	<0.00099	<0.0099	<0.00099	<0.0050	<0.00099	0.032	
		I-TP3-052411-7.5	580-26377-1	5/24/2011	7.5	0.029	0.140	0.023	--	<0.00095	0.065	<0.00095	<0.0095	<0.00095	<0.0047	<0.00095	0.022	
	4	I-TP4-052711-2.5	580-26530-1	5/27/2011	2.5	<0.017	<0.0023	<0.0056	<0.0011	<0.0011	<0.0056	<0.0011	<0.0011	<0.0011	<0.0056	<0.0011	<0.0023	
		I-TP4-052711-8.0	580-26530-1	5/27/2011	8.0	<0.017	<0.0023	<0.0057	<0.0011	<0.0011	<0.0057	<0.0011	<0.0011	<0.0011	<0.0057	<0.0011	<0.0023	
	5	I-TP5-052711-4.5	580-26530-1	5/27/2011	4.5	<0.021	<0.0029	<0.0072	<0.0014	<0.0014	<0.0072	<0.0014	<0.0014	<0.0014	<0.0072	<0.0014	<0.0029	
		I-TP6-052711-4.5	580-26530-1	5/27/2011	4.5	<0.027	<0.0036	<0.0089	0.0019	<0.0018	<0.0089	<0.0018	<0.0018	<0.0018	<0.0089	<0.0018	<0.0036	
Wetland Samples																		
E	Wetsoil	E-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	0.094	<0.0038 *	<0.0094 *	0.0064	<0.0019	0.010	<0.0019	<0.0019	<0.0019	<0.0094	<0.0019	<0.0038 *	
		E-wetsoil-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<0.018 H	<0.0024 H	<0.0060 H	<0.0012 H	<0.0012 H	<0.0060 H	<0.0012 H	<0.0012 H	<0.0012 H	<0.0060 H	<0.0012 H	<0.0024 H	
	Wetsoil-2	E-wetsoil-2-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	0.029 H	<0.0018 H	<0.0045 H	0.0010 H	<0.00091 H	<0.0045 H	<0.00091 H	<0.00091 H	<0.00091 H	<0.0045 H	<0.00091 H	<0.0018 H	
		E-wetsoil-2-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	0.038 H	<0.0026 H	<0.0065 H	<0.0013 H	<0.0013 H	<0.0065 H	<0.0013 H	<0.0013 H	<0.0013 H	<0.0065 H	<0.0013 H	<0.0026 H	
	Wetsed	E-wetsed-1-053111	580-26502-1	5/23/2011	0.5	0.082	<0.0054	<0.014	<0.0027	<0.0027	<0.014	<0.0027	<0.0027	<0.0027	<0.014	<0.0027	<0.0054	
		E-wetsed-2-053111	580-26502-1	5/23/2011	0.5	<0.039	<0.0052	<0.013	0.0032	<0.0026	<0.013	<0.0026	<0.0026	<0.0026	<0.013	<0.0026	<0.0052	
E-wetsed-3-053111		580-26502-1	5/23/2011	0.5	0.110	<0.0066	<0.017	<0.0033	<0.0033	0.025	<0.0033	<0.0033	<0.0033	<0.017	<0.0033	<0.0066		
G	Wetsoil	G-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<0.019 H	<0.0025 H	<0.0013 H	<0.0013 H	<0.0013 H	<0.0064 H	<0.0013 H	<0.0013 H	<0.0064 H	<0.0013 H	<0.0025 H		
		G-wetsoil-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<0.014	<0.0019	<0.0047	<0.00094	<0.00094	<0.0047	<0.00094	<0.00094	<0.00094	<0.0047	<0.00094	<0.0019	
FS Work Plan Preliminary Screening Levels						3.21⁵	NE	NE	5.651⁵	0.00305⁵	22⁵	164⁵	0.05303⁵	0.02631⁵	0.0005216⁵	0.35⁵	NE	
CSM Selected Soil Cleanup Levels for COCs⁵						---	---	---	---	0.025	---	---	0.050	0.025	0.046	0.078	---	
MTCA Cleanup Levels for Other Soil Analytes⁸						72,000	NE	800	8,000	---	48,000	32.3	---	---	---	---	8,000	

NOTES:

Results in **bold** denote concentrations above preliminary screening levels.
 < denotes analyte not detected at or above the reporting limit listed.
 --- denotes CSM cleanup level not applicable. MTCA cleanup levels provided for analytes not identified as COCs in the CSM Memo.
¹ Depth in feet below ground surface.
² Analyzed by U.S. Environmental Protection Agency Method 8260B.
³ Compound was not retained as a COPC following completion of the 2004 Revised Remedial Investigation Report.
⁴ Identified and retained as a COPC in the June 2004 Remedial Investigation Report.
⁵ Preliminary screening level as identified in the May 2011 Feasibility Study Work Plan.
⁶ Washington State Department of Ecology Cleanup Levels and Risk Calculations under the Washington State Model Toxics Control Act Cleanup Regulation, Version 3.1 Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway.
⁷ Cleanup level identified in Table 1 of the 2018 Conceptual Site Model (CSM) Technical Memo.
⁸ Washington State Cleanup Levels and Risk Calculations under the Washington State Model Toxics Control Act Cleanup Regulation, Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, <https://fortress.wa.gov/ecy/clarc/CLARCDatatables.aspx>, unless otherwise noted. Downloaded October 2018.
⁹ Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.

-- = The initial calibration curve was outside acceptance criteria for carbon disulfide and the result was not reported.
 * = ISTD response or retention time outside acceptable limits.
 COC = constituent of concern
 COPC = constituent of potential concern
 CSM = Conceptual Site Model
 FS = Feasibility Study
 H = Sample was prepped or analyzed beyond specified holding time.
 MEK = 2 butanone
 NE = not established
 PCE = tetrachloroethene
 TCE = trichloroethene
 VOCs = volatile organic compounds

Table 3
Soil Analytical Results for Metals
Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

DRAFT - Issued for Client Review

Grid	Test Pit	Sample Identification	Laboratory Report	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²								
						Antimony ³	Arsenic ³	Cadmium ⁴	Copper ³	Lead ³	Manganese ³	Mercury ⁴	Zinc ³	
Soil Samples														
A	1	A-TP1-052711-5.0	580-26530-1	5/27/2011	5.0	<2.9	<2.9	<0.49	24	6.3	170	0.035	830	
	2	A-TP2-052711-5.0	580-26530-1	5/27/2011	5.0	<3.1	<3.1	<0.51	23	5.9	310	0.26	54	
B	2	B-TP2-052611-5.5	580-26451-1	5/26/2011	5.5	<2.9	<2.9	<0.48	24	4.6	210	0.052	56	
	3	B-TP3-052611-5.5	580-26451-1	5/26/2011	5.5	<2.7	<2.7	<0.45	20	13	330	0.053	69	
C	1	C-TP1-052611-5.0	580-26451-1	5/26/2011	5.0	<3.5	<3.5	<0.58	29	5.8	280	0.088	69	
	2	C-TP2-052611-8.0	580-26451-1	5/26/2011	8.0	<2.9	<2.9	0.95	25	41	240	0.09	610	
	3	C-TP3-052611-4.5	580-26451-1	5/26/2011	4.5	<3.1	<3.1	<0.51	23	5.2	340	0.05	58	
D	1	D-TP1-052511-4.5	580-26451-1	5/25/2011	4.5	<3.5	<3.5	<0.59 L	27	20	370	0.1	340	
	2	D-TP2-052511-5.5	580-26451-1	5/25/2011	5.5	<5.3	<5.3	88	74	1,000	410	0.43	7,000	
	3	D-TP3-052611-4.5	580-26451-1	5/26/2011	4.5	<2.9	<2.9	<0.49	24	13	330	0.041	260	
E	1	E-TP1-052511-4.5	580-26451-1	5/25/2011	4.5	<2.5 L	<2.5	8.8	19	27	570	0.041	2,200	
	2	E-TP2-052511-3.0	580-26451-1	5/25/2011	3.0	<2.7 L	<2.7	6.2	28	100	480	0.087	2,400	
G	1	G-TP1-052511-0.0-0.5	580-26451-1	5/25/2011	0.5	<2.8 L	8.6	1.3	19	27	540	0.19	61	
		G-TP1-052511-2.0-2.5	580-26451-1	5/25/2011	2.5	<3.3 L	7.6	1.6	25	44	550	2.4	150	
	2	G-TP2-052511-0.0-0.5	580-26451-1	5/25/2011	0.5	<3.7	5.2	1.3	25	31	510	0.07	80	
		G-TP3-052511-0.0-0.5	580-26451-1	5/25/2011	0.5	<3.3 L	4.4	1.7	28	30	530	0.055	100	
H	1	H-TP1-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	3.3	<2.7	1.0	360	72	440	0.048	270	
		H-TP1-052611-3.5-4.0	580-26451-1	5/26/2011	4.0	<2.8	7.1	<0.46	23	36	420	0.086	82	
	2	H-TP2-052611-1.0-1.5	580-26451-1	5/26/2011	1.5	<2.7	4.1	1.1	39	110	460	0.13	350	
		H-TP2-052611-2.0-2.5	580-26451-1	5/26/2011	2.5	<3.3	<3.3	<0.55	24	84	530	0.19	200	
	3	H-TP3-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<2.5	4.3	0.76	25	42	400	0.054	150	
		H-TP3-052611-3.5-4.0	580-26451-1	5/26/2011	4.0	<2.8	<2.8	1.1	100	170	360	0.053	210	
	I	3	I-TP3-052411-0.0-0.5	580-26377-1	5/24/2011	0.5	<2.1	<2.9	<0.49	41	67	560	0.14	210
			I-TP3-052411-1.5	580-26377-1	5/24/2011	1.5	3.6	8.2	<0.51	53	370	380	0.40	570
I-TP3-052411-3.0			580-26377-1	5/24/2011	3.0	3.2	<3.0	0.82	160	730	390	0.38	870	
J	1	J-TP1-052411-0.0-0.5	580-26377-1	5/24/2011	0.5	2.9	<2.9	<0.48	57	50	380	0.25	190	
	2	J-TP2-052411-0.0-0.5	580-26377-1	5/24/2011	0.5	7.1	<3.1	1.4	74	410	520	0.38	790	
	3	J-TP3-052511-1.5-2.0	580-26451-1	5/25/2011	2.0	<2.8	8.5	0.48	29	600	300	0.17	480	
M	1	M-TP1-052511-0.0-0.5	580-26451-1	5/25/2011	0.5	<3.1	6.2	2.8	1,300	130	550	0.07	120	
		M-TP1-052511-3.0-3.5	580-26451-1	5/25/2011	3.5	<3.7	4.4	<0.62 L	23	13	430	0.095	37	
	2	M-TP2-052511-0.0-0.5	580-26451-1	5/25/2011	0.5	<3.0	5.3	1.4	67	160	420	0.26	490	
N	1	N-TP1-052411-0.0-0.5	580-26377-1	5/24/2011	0.5	<3.3	4.9	<0.54 L	25	40	500	0.096	97	
FS Work Plan Preliminary Screening Levels						32⁵	20⁵	2.0⁵	2,960⁵	1,000⁵	11,000⁶	2⁵	24,000⁵	
CSM Selected Soil Cleanup Levels for COCs⁷						5.42	2.92	0.69	284	220	---	2.09	570	
MTCA Cleanup Levels for Other Soil Analytes⁸						---	---	---	---	---	11,200	---	---	

Table 3
Soil Analytical Results for Metals
Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

Grid	Test Pit	Sample Identification	Laboratory Report	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²							
						Antimony ³	Arsenic ³	Cadmium ⁴	Copper ³	Lead ³	Manganese ³	Mercury ⁴	Zinc ³
Wetland Samples													
E	WetSoil	E-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<5.1	<5.1	3.7	39	110	190	0.14	1,700
		E-wetsoil-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<2.4	<2.4	<0.40	17	4.2	160	0.043	310
	WetSoil-2	E-wetsoil-2-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<3.4	<3.4	1.6	19	19	250	0.071	670
		E-wetsoil-2-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<3.0	<3.0	1.8	20	4.4	270	0.059	870
	Wetsed	E-wetsed-1-053111	580-26360-1	5/23/2011	0.5	<5.8	<5.8	9.2	36	190	210	—	2,700
		E-wetsed-2-053111	580-26360-1	5/23/2011	0.5	<6.9	7.6	6.8	41	150	220	—	2,800
E-wetsed-3-053111		580-26360-1	5/23/2011	0.5	<6.1	8.5	7.8	52	180	270	—	2,700	
G	WetSoil	G-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<2.4	<2.4	<0.40	16	3.5	210	0.044	41
		G-wetsoil-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<4.2	<4.2	1.5	40	80	470	0.14	510
FS Work Plan Preliminary Screening Levels						32⁵	20⁵	2.0⁵	2,960⁵	1,000⁵	11,000⁶	2⁵	24,000⁵
CSM Selected Soil Cleanup Levels for COCs⁷						5.42	2.92	0.69	284	220	---	2.09	570
MTCA Cleanup Levels for Other Soil Analytes⁸						---	---	---	---	---	11,200	---	---
CSM Selected Sediment Cleanup Levels for COCs⁷						NE	14	2.10	400	360	---	0.66	3,200

NOTES:

Results in **bold** denote concentrations above preliminary screening levels.

Results highlighted in orange denote concentrations exceeding CSM selected cleanup levels or MTCA levels where CSM cleanup levels are not applicable.

— = denotes sample not analyzed

< denotes analyte not detected at or above the laboratory reporting limit listed.

— denotes CSM cleanup level not applicable. MTCA cleanup levels provided for analytes not identified as COCs in the CSM Memo.

¹ Depth in feet below ground surface.

² Analyzed by U.S. Environmental Protection Agency Methods 6000/6010/7000 Series.

³ Constituent was not retained as a COPC following completion of the June 2004 Revised Remedial Investigation Report.

⁴ Identified and retained as COPC in June 2004 Revised Remedial Investigation Report.

⁵ Preliminary screening level as identified in the May 2011 Feasibility Study Work Plan.

⁶ Washington State Department of Ecology Cleanup Levels and Risk Calculations under the Washington State Model Toxics Control Act Cleanup Regulation, Version 3.1 Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway.

⁷ Cleanup level identified in Table 1 of the 2018 Conceptual Site Model (CSM) Technical Memo.

⁸ Washington State Cleanup Levels and Risk Calculations under the Washington State Model Toxics Control Act Cleanup Regulation, Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, <https://fortress.wa.gov/ecy/clarc/CLARCDatatables.aspx>. Downloaded October 2018.

COC = constituent of concern

COPC = constituent of potential concern

CSM = Conceptual Site Model

FS = Feasibility Study

L = A negative instrument reading had an absolute value greater than the reporting limit.

Table 4
Soil Analytical Results for Pesticides
Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

Grid	Test Pit	Lab Report	Sample Identification	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²												
						Aldrin ³	Alpha Chlordane ⁴	4,4'-DDD ⁴	4,4'-DDE ⁴	4,4'-DDT ³	Dieldrin ⁴	Endosulfan Sulfate ⁵	Endrin ⁴	Heptachlor Epoxide ⁴	Endrin Aldehyde ³	Gamma Chlordane ⁵	Heptachlor ³	Endosulfan II
Soil Samples																		
A	1	580-26530-1	A-TP1-052711-5.0	5/27/2011	5.0	<0.0011	<0.0011	<0.0023	<0.0023	<0.0023 ^	<0.0023	<0.0023	<0.0023	<0.0011	<0.0023	<0.0011	<0.0011	<0.0023
	2	580-26530-1	A-TP2-052711-5.0	5/27/2011	5.0	<0.0012	<0.0012	<0.0023	<0.0023	<0.0023 ^	<0.0023	<0.0023	<0.0023	<0.0012	<0.0023	<0.0012	<0.0012	<0.0023
B	2	580-26451-1	B-TP2-052611-5.5	5/26/2011	5.5	<0.0011	<0.0011	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0011	<0.0023	<0.0011	<0.0011	<0.0023
	3	580-26451-1	B-TP3-052611-5.5	5/26/2011	5.5	<0.0012	<0.0012	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0012	<0.0024	<0.0012	<0.0012	<0.0024
C	1	580-26451-1	C-TP1-052611-5.0	5/26/2011	5.0	<0.0012	<0.0012	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0012	<0.0025	<0.0012	<0.0012	<0.0025
	2	580-26451-1	C-TP2-052611-8.0	5/26/2011	8.0	<0.0012	<0.0012	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0012	<0.0025	<0.0012	<0.0012	<0.0025
	3	580-26451-1	C-TP3-052611-4.5	5/26/2011	4.5	<0.0011	<0.0011	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0011	<0.0023	<0.0011	<0.0011	<0.0023
D	1	580-26451-1	D-TP1-052511-4.5	5/25/2011	4.5	<0.0013	<0.0013	<0.0025	<0.0025	<0.0025 ^	<0.0025	<0.0025 ^	<0.0025	<0.0013	<0.0025 ^	<0.0013	<0.0013	<0.0025 ^
	2	580-26451-1	D-TP2-052511-5.5	5/25/2011	5.5	<0.0018	<0.0018	<0.0036	<0.0036	<0.0036 ^	<0.0036	<0.0036 ^	<0.0036	<0.0018	<0.0036 ^	<0.0018	<0.0018	<0.0036 ^
	3	580-26451-1	D-TP3-052611-4.5	5/26/2011	4.5	<0.0012	<0.0012	<0.0024	0.0048	<0.0024	<0.0024	<0.0024	<0.0024	<0.0012	<0.0024	<0.0012	<0.0012	<0.0024
G	1	580-26451-1	G-TP1-052511-0.0-0.5	5/25/2011	0.5	<0.0011 H	<0.0011 H	<0.0022 H	0.0073 H	0.0062 H^	<0.0022 H	<0.0022 H	0.0066 H	<0.0011 H	<0.0022 H	0.0018 H	<0.0011 H	<0.0022 H
			G-TP1-052511-2.0-2.5	5/25/2011	2.5	<0.0011 H	<0.0011 H	0.010 H	0.061 H	0.0036 H^	<0.0022 H	<0.0022 H	0.0044 H	<0.0011 H	<0.0022 H	<0.0011 H	<0.0022 H	
	2	580-26451-1	G-TP2-052511-0.0-0.5	5/25/2011	0.5	<0.0012 H	0.0050 H	0.0035 H	0.059 H	0.0082 H^	0.039 H	<0.0024 H	<0.0024 H	<0.0012 H	<0.0024 H	0.0029 H	<0.0012 H	<0.0024 H
			G-TP2-052511-2.0-2.5	5/25/2011	2.5	<0.0011 H	<0.0011 H	0.0065 H	0.032 H	<0.0022 H^	<0.0022 H	<0.0022 H	<0.0011 H	<0.0022 H	<0.0011 H	<0.0022 H	<0.0011 H	<0.0022 H
	3	580-26451-1	G-TP3-052511-0.0-0.5	5/25/2011	0.5	<0.0011 H	<0.0011 H	<0.0022 H	<0.0022 H	<0.0022 H^	<0.0022 H	<0.0022 H	<0.0022 H	<0.0011 H	<0.0022 H	<0.0011 H	<0.0011 H	<0.0022 H
			G-TP3-052511-3.5-4.0	5/25/2011	4.0	<0.0011	<0.0011	0.0038	0.0087	0.0075 ^	<0.0023	<0.0023	<0.0023	<0.0011	<0.0023	<0.0011	<0.0011 ^	0.031
H	1	580-26451-1	H-TP1-052611-0.0-0.5	5/26/2011	0.5	<0.0011	<0.0011	<0.0021	0.0075	0.012 ^	<0.0021 ^	<0.0021 ^	<0.0021	<0.0011	<0.0021 ^	<0.0011	<0.0011	<0.0021 ^
			H-TP1-052611-3.5-4.0	5/26/2011	4.0	<0.0012	0.0017	0.0064	0.022	0.0055 ^	<0.0023	<0.0023 ^	<0.0023	<0.0012	<0.0023 ^	0.0019	<0.0012	<0.0023 ^
	2	580-26451-1	H-TP2-052611-1.0-1.5	5/26/2011	1.5	<0.0011	0.0028	<0.0021	0.013	0.026 ^	0.0040	<0.0021 ^	<0.0021	<0.0011	<0.0021 ^	0.0019	<0.0011	<0.0021 ^
			H-TP2-052611-2.0-2.5	5/26/2011	2.5	<0.0012	<0.0012	<0.0024	0.0056	0.0045 ^	<0.0024	<0.0024 ^	<0.0024	<0.0012 ^	<0.0024 ^	<0.0012	<0.0012	<0.0024
	3	580-26451-1	H-TP3-052611-0.0-0.5	5/26/2011	0.5	<0.0010	0.0032	0.0030	0.0044	0.0031	0.0030	<0.0021	<0.0021	<0.0010	<0.0021	0.0038	<0.0010	<0.0021
			H-TP3-052611-3.5-4.0	5/26/2011	4.0	<0.0011	<0.0011	0.0065	0.0042	<0.0022	<0.0022	<0.0022	<0.0022	<0.0011	<0.0022	<0.0011	<0.0011	<0.0022
I	1	580-26377-1	I-TP1-052411-0.0-0.5	5/24/2011	0.5	<0.0011	<0.0011	<0.0023	<0.0023	<0.0023 ^	<0.0023	<0.0023 ^	<0.0023	<0.0011	<0.0023 ^	<0.0011	<0.0011	<0.0023 ^
			I-TP1-052411-6.0	5/24/2011	6.0	<0.0011	<0.0011	<0.0023	<0.0023	<0.0023 ^	<0.0023	<0.0023	<0.0023	<0.0011	<0.0023	<0.0011	<0.0011	<0.0023
	2	580-26377-1	I-TP2-052411-0.0-0.5	5/24/2011	0.5	<0.0010	<0.0010	<0.0020	0.0037	0.0035 ^	<0.0020	<0.0020 ^	<0.0020	<0.0010	<0.0020 ^	<0.0010	<0.0010	<0.0020
			I-TP2-052411-2.0-2.5	5/24/2011	2.5	<0.0011	<0.0011	<0.0023	<0.0023	<0.0023 ^	<0.0023	<0.0023 ^	<0.0023	<0.0011	<0.0023 ^	<0.0011	<0.0011	<0.0023
	3	580-26377-1	I-TP3-052411-0.0-0.5	5/24/2011	0.5	<0.0010	<0.0010	0.0052	0.0052	0.0022 ^	<0.0020	<0.0020 ^	<0.0020	<0.0010	<0.0020 ^	<0.0010	<0.0010	<0.0020
			I-TP3-052411-1.5	5/24/2011	1.5	<0.0011	<0.0011	0.028 P	<0.0022	<0.0022 ^	<0.0022	<0.0022 ^	<0.0022	<0.0011	<0.0022 ^	<0.0011	<0.0011	<0.0022
J	1	580-26377-1	J-TP1-052411-0.0-0.5	5/24/2011	0.5	<0.0010	<0.0010	0.0024	0.010	<0.0021 ^	<0.0021	<0.0021 ^	<0.0021	<0.0010	<0.0021 ^	<0.0010	<0.0010	<0.0021 ^
			J-TP1-052411-3.0-3.5	5/24/2011	3.5	<0.0016	<0.0016	<0.0033	<0.0033	<0.0033 ^	<0.0033	<0.0033 ^	<0.0033	<0.0016	<0.0033 ^	<0.0016	<0.0016	<0.0033 ^
	2	580-26377-1	J-TP2-052411-0.0-0.5	5/24/2011	0.5	<0.0011	<0.0011	<0.0021	0.024	0.030 ^	<0.0021	<0.0021 ^	0.0028	<0.0011	<0.0021 ^	<0.0011	<0.0011	<0.0021
			J-TP2-052411-2.0-2.5	5/24/2011	2.5	<0.0010 ^	0.0030 P^	<0.0021	0.0050 ^	0.022 P^	<0.0021 ^	<0.0021 ^	<0.0021	<0.0010	<0.0021 ^	0.0038 P^	<0.0010	<0.0021 ^
	3	580-26451-1	J-TP3-052511-0.5-1.0	5/25/2011	1.0	<0.0010	<0.0010	<0.0020	<0.0020	<0.0020 ^	<0.0020	<0.0020 ^	<0.0020	<0.0010	<0.0020 ^	<0.0010	<0.0010	<0.0020 ^
			J-TP3-052511-3.5-4.0	5/25/2011	4.0	<0.0016	<0.0016	<0.0032	<0.0032	<0.0032 ^	<0.0032	<0.0032 ^	<0.0032	<0.0016	<0.0032 ^	<0.0016	<0.0016	<0.0032 ^
K	1	580-26377-1	K-TP1-052311-0.0-0.5	5/23/2011	0.5	<0.0011	<0.0011	<0.0022	0.0091	0.013 ^	0.0029	<0.0022 ^	<0.0022	<0.0011	<0.0022 ^	<0.0011	<0.0011	<0.0022 ^
			K-TP1-052311-2.0-2.5	5/23/2011	2.5	<0.0011	0.0086 P	<0.0022	<0.0022	<0.0022 ^	<0.0022	<0.0022 ^	<0.0022	<0.0011	<0.0022 ^	0.0095	<0.0011	<0.0022 ^
	2	580-26377-1	K-TP2-052311-1.0-1.5	5/23/2011	1.5	<0.0010	<0.0010	<0.0021	<0.0021	<0.0021 ^	<0.0021	<0.0021 ^	<0.0021	<0.0010	<0.0021 ^	<0.0010	<0.0010	<0.0021 ^
			K-TP2-052311-3.5-4.0	5/23/2011	4.0	<0.0012	<0.0012	<0.0023	<0.0023	<0.0023 ^	<0.0023	<0.0023 ^	<0.0023	<0.0012	<0.0023 ^	<0.0012	<0.0012	<0.0023 ^
	3	580-26377-1	K-TP3-052311-0.0-0.5	5/23/2011	0.5	<0.0010	<0.0010	<0.0021	0.0081	0.0038 ^	<0.0021	<0.0021 ^	<0.0021	<0.0010	<0.0021 ^	<0.0010	<0.0010	<0.0021 ^
			K-TP3-052311-2.0-2.5	5/23/2011	2.5	<0.0011	0.036 P	0.0051 P	0.0087	0.022 ^	0.0055 ^P	<0.0021 ^	<0.0021	0.0016 P	<0.0021 ^	0.041 P	<0.0011	<0.0021 ^
FS Work Plan Preliminary Screening Levels						0.00503 ⁵	0.2576 ⁵	0.3354 ⁵	0.4459 ⁵	3.485 ⁵	0.002817 ⁵	4.301 ⁵	0.0404 ⁵	0.01605 ⁵	NE	NE	0.22 ⁶	4,301 ⁵
CSM Selected Soil Cleanup Levels for COCs ⁷						0.0025	2.06	0.34	0.45	---	0.0028	---	0.4	0.08	---	---	---	---
MTCA Cleanup Levels for Other Soil Analytes ⁸						---	---	---	---	3.0	---	480	---	---	NE	2.06	0.222	480

Table 4
Soil Analytical Results for Pesticides
Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

Grid	Test Pit	Lab Report	Sample Identification	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²												
						Aldrin ³	Alpha Chlordane ⁴	4,4'-DDD ⁴	4,4'-DDE ⁴	4,4'-DDT ³	Dieldrin ⁴	Endosulfan Sulfate ⁵	Endrin ⁴	Heptachlor Epoxide ⁴	Endrin Aldehyde ³	Gamma Chlordane ⁵	Heptachlor ³	Endosulfan II
L	1	580-26377-1	L-TP1-052311-0.0-0.5	5/23/2011	0.5	<0.0011	<0.0011	<0.0021	<0.0021	<0.0021 ^	<0.0021	<0.0021 ^	<0.0021	<0.0011	<0.0021 ^	<0.0011	<0.0011	<0.0021 ^
			L-TP1-052311-3.0-3.5	5/23/2011	3.5	<0.0043	<0.0043	<0.0085	<0.0085	<0.0085 ^	<0.0085	<0.0085 ^	<0.0085	<0.0043	<0.0085 ^	<0.0043	<0.0043	<0.0085 ^
	2	580-26377-1	L-TP2-052311-0.0-0.5	5/23/2011	0.5	<0.0011	0.0029 P	0.0044	0.0059	0.013 ^	0.0029	<0.0021 ^	<0.0021	0.0024 P	<0.0021 ^	0.0027 P	<0.0011	0.0036 ^
			L-TP2-052311-2.0-2.5	5/23/2011	2.5	<0.0011	0.0017 P	0.0030	0.0035	0.0032 ^	<0.0021	<0.0021 ^	<0.0021	<0.0011	<0.0021 ^	0.0017	<0.0011	<0.0021 ^
	3	580-26377-1	L-TP3-052411-0.0-0.5	5/24/2011	0.5	<0.0010	0.013	0.0050	0.028	0.0041 ^	<0.0020	<0.0020 ^	0.0026	0.0023 P	<0.0020 ^	0.012	<0.0010	<0.0020 ^
			L-TP3-052511-2.0-2.5	5/24/2011	2.5	<0.0010	<0.0010	<0.0021	<0.0021	<0.0021 ^	<0.0021	<0.0021 ^	<0.0021	<0.0010	<0.0021 ^	<0.0010	<0.0010	<0.0021 ^
M	1	580-26451-1	M-TP1-052511-0.0-0.5	5/25/2011	0.5	<0.0011	<0.0011	0.0029	0.025	0.014 ^	<0.0022	<0.0022	<0.0022	<0.0011	<0.0022	<0.0011	<0.0011 ^	<0.0022
			M-TP1-052511-3.0-3.5	5/25/2011	3.5	<0.0012	<0.0012	<0.0024	0.0034	<0.0024 ^	<0.0024	<0.0024	<0.0024	<0.0012	<0.0024	<0.0012	<0.0012 ^	<0.0024
	2	580-26451-1	M-TP2-052511-0.0-0.5	5/25/2011	0.5	<0.0010	<0.0010	<0.0020	0.0035	0.019 ^	<0.0020	<0.0020 ^	<0.0020	<0.0010	<0.0020 ^	<0.0010	<0.0010	<0.0020 ^
			M-TP2-052511-3.5-4.0	5/25/2011	4.0	0.0054	0.0018 P	0.0049	0.0089	0.0038 ^	0.014	<0.0026 ^	<0.0026	<0.0013	<0.0026 ^	0.0022	<0.0013	<0.0026 ^
N	1	580-26377-1	N-TP1-052411-0.0-0.5	5/24/2011	0.5	<0.0011 ^	<0.0011 ^	<0.0022	<0.0022 ^	0.0046 ^	<0.0022 ^	<0.0022 ^	<0.0022	<0.0011	<0.0022 ^	<0.0011 ^	<0.0011	<0.0022 ^
			N-TP1-052411-2.0-2.5	5/24/2011	2.5	<0.0011	<0.0011	<0.0021	0.0024	0.0029 ^	<0.0021	<0.0021 ^	<0.0021	<0.0011	<0.0021 ^	<0.0011	<0.0011	<0.0021
FS Work Plan Preliminary Screening Levels						0.00503⁵	0.2576⁵	0.3354⁵	0.4459⁵	3.485⁵	0.002817⁵	4.301⁵	0.0404⁵	0.01605⁵	NE	NE	0.22⁶	4,301⁵
CSM Selected Soil Cleanup Levels for COCs⁷						0.0025	2.06	0.34	0.45	---	0.0028	---	0.4	0.08	---	---	---	---
MTCA Cleanup Levels for Other Soil Analytes⁸						---	---	---	---	3.0	---	480	---	---	NE	2.06	0.222	480

Table 4
Soil Analytical Results for Pesticides
Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

Grid	Test Pit	Lab Report	Sample Identification	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²												
						Aldrin ³	Alpha Chlordane ⁴	4,4'-DDD ⁴	4,4'-DDE ⁴	4,4'-DDT ³	Dieldrin ⁴	Endosulfan Sulfate ³	Endrin ⁴	Heptachlor Epoxide ⁴	Endrin Aldehyde ³	Gamma Chlordane ³	Heptachlor ³	Endosulfan II
Wetland Samples																		
E	WetSoil	580-26451-1	E-wetsoil-052611-0.0-0.5	5/26/2011	0.5	<0.0019	<0.0019	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0019	<0.0038	<0.0019	<0.0019	<0.0038
			E-wetsoil-052611-0.5-1.0	5/26/2011	1.0	<0.0011	<0.0011	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0011	<0.0022	<0.0011	<0.0011
	WetSoil-2	580-26451-1	E-wetsoil-2-052611-0.5-1.0	5/26/2011	1.0	<0.0011	<0.0011	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0011	<0.0023	<0.0011	<0.0011	<0.0023
			E-wetsoil-2-052611-1.0-2.0	5/26/2011	2.0	<0.0011	<0.0011	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0011	<0.0023	<0.0011	<0.0011	<0.0023
	Wetsed	580-26360-1	E-wetsed-1-053111	5/23/2011	0.5	<0.0021 H	<0.0021 H	<0.0042 H	<0.0042 H	<0.0042 H	<0.0042 H	<0.0042 H	<0.0042 H	<0.0021 H*	<0.0042 H	<0.0021 H	<0.0021 H	<0.0042 H
			E-wetsed-2-053111	5/23/2011	0.5	<0.0022 H	<0.0022 H	<0.0044 H	<0.0044 H	<0.0044 H	<0.0044 H	<0.0044 H	<0.0044 H	<0.0022 H*	<0.0044 H	<0.0022 H	<0.0022 H	<0.0044 H
E-wetsed-3-053111			5/23/2011	0.5	<0.0023 H	<0.0023 H	<0.0047 H	<0.0047 H	<0.0047 H	<0.0047 H	<0.0047 H	<0.0047 H	<0.0023 H*	<0.0047 H	<0.0023 H	<0.0023 H	<0.0047 H	
G	WetSoil	580-26451-1	G-wetsoil-052611-0.0-0.5	5/26/2011	0.5	<0.0012	<0.0012	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0012	<0.0024	<0.0012	<0.0012	<0.0024	
			G-wetsoil-052611-1.0-2.0	5/26/2011	2.0	<0.0016	<0.0016	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0016	<0.0031	<0.0016	<0.0016	<0.0031
FS Work Plan Preliminary Screening Levels						0.00503⁵	0.2576⁵	0.3354⁵	0.4459⁵	3.485⁵	0.002817⁵	4.301⁵	0.0404⁵	0.01605⁵	NE	NE	0.22⁶	4,301⁵
CSM Selected Soil Cleanup Levels for COCs⁷						0.0025	2.06	0.34	0.45	---	0.0028	---	0.4	0.08	---	---	---	---
MTCA Cleanup Levels for Other Soil Analytes⁸						---	---	---	---	3.0	---	480	---	---	NE	2.06	0.222	480
CSM Selected Sediment Cleanup Levels for COCs⁷						---	---	0.31	---	---	0.0049	---	0.0085	---	---	---	---	---

NOTES:

Results in **bold** denote concentrations at or above the Preliminary Screening Level indicated.

Results highlighted in orange denote concentrations exceeding CSM selected cleanup levels or MTCA levels where CSM cleanup levels are not applicable.

< denotes analyte not detected at or above the reporting limit listed.

--- denotes CSM cleanup level not applicable. MTCA cleanup levels provided for analytes not identified as COCs in the CSM Memo.

¹ Depth in feet below ground surface.

² Analyzed by U.S. Environmental Protection Agency Method 8081.

³ Compound was not retained as a COPC following completion of the June 2004 Revised Remedial Investigation.

⁴ Identified and retained as a COPC in the June 2004 Revised Remedial Investigation Report.

⁵ Preliminary screening level as identified in the May 2011 Feasibility Study Work Plan.

⁶ Washington State Department of Ecology Cleanup Levels and Risk Calculations under the Washington State Model Toxics Control Act Cleanup Regulation, Version 3.1 Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway.

⁷ Cleanup level identified in Table 1 of the 2018 Conceptual Site Model (CSM) Technical Memo.

⁸ Washington State Cleanup Levels and Risk Calculations under the Washington State Model Toxics Control Act Cleanup Regulation, Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, <https://fortress.wa.gov/ecy/clarc/CLARCDatatables.aspx>. Downloaded October 2018.

^ = Instrument-related quality control exceeds the control limits.

* = Response or retention time outside acceptable limits.

COC = constituent of concern

COPC = constituent of potential concern

CSM = Conceptual Site Model

FS = Feasibility Study

H = Sample was prepped or analyzed beyond the specified holding time.

NE = Not established

P = The analyte was detected on both chromatographic columns, but the quantified values differ by ≥40 percent relative percent difference with no obvious chromatographic interference.

Table 5
Summary Groundwater Elevation Data
Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

DRAFT - Issued for Client Review

Well Number	Date Measured	Well Elevation ¹	Depth to Water (bgs)	Groundwater Elevation
MW-1	12/3/1997	1002.88	4.41	998.47
	3/3/1998		5.78	997.10
	6/3/1998		4.60	998.28
	9/2/1998		2.52	1,000.36
	12/3/2002		4.91	997.97
	6/1/2011		5.79	997.09
MW-2	12/3/1997	1002.59	5.15	997.44
	3/3/1998		6.75	995.84
	6/3/1998		5.46	997.13
	9/2/1998		3.36	999.23
	12/4/2002		5.86	996.73
	6/1/2011		6.93	995.66
MW-3	12/3/1997	1000.81	4.18	996.63
	3/3/1998		5.65	995.16
	6/3/1998		4.64	996.17
	9/2/1998		2.57	998.24
	12/4/2002		4.92	995.89
	6/1/2011		6.00	994.81
MW-4	12/3/1997	1000.82	4.56	996.26
	3/3/1998		6.02	994.80
	6/3/1998		5.02	995.80
	9/2/1998		3.03	997.79
	12/4/2002		5.36	995.46
	6/1/2011		6.45	994.37
MW-5	12/3/1997	1001.45	4.92	996.53
	3/3/1998		6.49	994.96
	6/3/1998		5.28	996.17
	9/2/1998		3.35	998.10
	12/4/2002		5.72	995.73
MW-6	12/3/1997	1002.28	5.23	997.05
	3/3/1998		6.78	995.50
	6/3/1998		5.56	996.72
	9/2/1998		3.50	998.78
	12/4/2002		5.94	996.34
	6/1/2011		7.06	995.22
WDOE-6	12/3/1997	1002.27	--	--
	3/3/1998		5.51	996.76
	6/3/1998		4.29	997.98
	9/2/1998		2.20	1,000.07
	12/3/2002		4.55	997.72
	6/1/2011		5.50	996.77
MW-7A	12/3/2002	999.96	5.57	994.39
	6/1/2011		6.83	993.13
MW-7B	12/3/2002	999.82	5.75	994.07
	6/1/2011		6.95	992.87
MW-10	6/1/2011	1002.99	7.31	995.68
MW-11	6/1/2011	1000.51	6.75	993.76

NOTES:

¹Based on survey relative to City of Yakima NAVD29.

bgs = below ground surface

-- = not measured

Table 6
Groundwater Analytical Results for Volatile Organic Compounds
Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

Location	Lab Report	Sample Date	Analytical Results (micrograms per liter) ¹											
			PCE ³	TCE ³	cis 1,2-DCE ³	trans 1,2-DCE ²	Vinyl Chloride ³	1,1,1-TCA ²	1,1-DCA ²	MEK ²	Acetone ²	1,2-dichloropropane ³	Chloroform ²	Chloromethane ³
MW-1	580-26540-1	12/3/1997	3.64	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
		3/3/1998	3.39	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
		6/3/1998	6.5	1.18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	1.12	<1.0
		9/2/1998	4.22	0.71	0.25	<1.0	<1.0	<1.0	0.15	<1.0	<1.0	<20	<1.0	1.88
		12/3/2002	6.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.0
		6/2/2011	3.2	0.31	0.10	<0.10	<0.020	<0.10	<0.10	<2.0	<2.0	<2.0	<0.10	2.2
MW-2	580-26520-1	12/3/1997	<1.0	1.51	12.4	<1.0	2.42	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
		3/3/1998	1.59	1.46	3.21	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
		6/3/1998	<1.0	<1.0	7.13	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	12.1
		9/2/1998	1.27	3.06	17.6	0.36	<1.0	<1.0	0.19	<1.0	<20	<1.0	<1.0	<1.0
		12/4/2002	<2.0	<2.0	15.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
		6/1/2011	1.6	1.5	8.9	<0.10	0.025	<0.10	<0.10	<2.0	<2.0	<2.0	<0.10	0.52
MW-3	580-26520-1	12/3/1997	6.06	1.07	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
		3/3/1998	4.44	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
		6/3/1998	4.52	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	1.3	9.24
		9/2/1998	5.37	0.81	0.22	<1.0	<1.0	<1.0	<1.0	0.23	<20	<1.0	1.93	<1.0
		12/4/2002	6.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
		6/1/2011	3.2	0.23	<0.10	<0.10	<0.020	<0.10	<0.10	<2.0	<2.0	<2.0	<0.10	1.9
MW-4	580-26520-1	12/3/1997	3.32	<1.0	5.23	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
		3/3/1998	3.78	<1.0	1.64	<1.0	<1.0	<1.0	<1.0	<1.0	24.1	<1.0	<1.0	<1.0
		6/3/1998	3.86	<1.0	3.25	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	2.78
		9/2/1998	3.12	0.84	4.34	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	1.15	<1.0
		12/4/2002	5.0	<2.0	5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
		6/1/2011	2.2	0.29	0.87	<0.10	<0.020	<0.10	<0.10	<2.0	<2.0	<2.0	<0.10	1.7
MW-5 ⁸	NA	12/3/1997	3.98	1.10	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
		3/3/1998	2.25	1.02	4.5	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
		6/3/1998	2.72	<1.0	2.52	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	2.59
		9/2/1998	2.65	0.89	2.87	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	0.85	<1.0
		12/4/2002	5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-6	580-26520-1	12/3/1997	<1.0	<1.0	7.68	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
		3/3/1998	<1.0	<1.0	13.2	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
		6/3/1998	<1.0	<1.0	13.3	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
		9/2/1998	<1.0	0.33	7.08	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0
		12/4/2002	6.0	74.0	270	<2.0	4	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
		6/1/2011	<0.10	<0.10	6.6	<0.10	0.20	<0.10	<0.10	<2.0	<2.0	<2.0	<0.10	<0.10
RI Preliminary Screening Level⁴			5.0	3.98	70	100	0.0292	7,200	800	4,800	800	0.643	7.17	3.37
CSM Selected Cleanup Levels for COCs⁵			5.0	5.0	16	---	0.20	---	---	---	---	1.22	---	---
MTCA Cleanup Levels for Other Analytes⁶			---	---	---	160	---	200⁷	7.68	4,800	7,200	---	1.41	NE

**Table 6
Groundwater Analytical Results for Volatile Organic Compounds
Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001**

Location	Lab Report	Sample Date	Analytical Results (micrograms per liter) ¹												
			PCE ³	TCE ³	cis 1,2-DCE ³	trans 1,2-DCE ²	Vinyl Chloride ³	1,1,1-TCA ²	1,1-DCA ²	MEK ²	Acetone ²	1,2-dichloropropane ³	Chloroform ²	Chloromethane ³	
WDOE-6	580-26540-1	May-92	420	430	270	<1.0	<10	<1.0	<1.0	<1.0	<20	<1.0	<5.0	<1.0	
		12/3/1997	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		3/3/1998	49.6	108	83.7	2.34	4.24	<1.0	<1.0	<1.0	<20	1.73	<1.0	<1.0	
		6/3/1998	75.6	60.4	45.6	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0	
		9/2/1998	20.8	18.7	11.4	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<1.0	
		12/3/2002	<2.0	<2.0	14.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
		6/1/2011	5.7	31	300	0.57	37	<0.10	3.1	<2.0	<2.0	<0.10	<0.10	<0.10	
MW-7A	580-26540-1	12/3/2002	<2.0	<2.0	4.0	<1.0	<2.0	<1.0	<1.0	<1.0	<20	<1.0	<2	<2	
		6/2/2011	<0.10	<0.10	<0.10	<0.10	<0.020	<0.10	<0.10	<2.0	<2.0	<0.10	<0.10	<0.10	
MW-7B	580-26540-1	12/3/2002	2.0	<2.0	12.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
		6/2/2011	1.9	0.44	3.8	<0.10	<0.020	<0.10	<0.10	<2.0	<2.0	<0.10	1.1	<0.10	
MW-10	580-26540-1	6/2/2011	1.8	0.10	<0.10	<0.10	<0.020	<0.10	<0.10	<2.0	<2.0	<0.10	1.5	<0.10	
MW-11	580-26540-1	6/2/2011	1.6	0.22	<0.10	<0.10	<0.020	<0.10	<0.10	<2.0	<2.0	<0.10	1.3	<0.10	
RI Preliminary Screening Level⁴			5.0	3.98	70	100	0.0292	7,200	800	4,800	800	0.643	7.17	3.37	
CSM Selected Cleanup Levels for COCs⁵			5.0	5.0	16	---	0.20	---	---	---	---	1.22	---	---	
MTCA Cleanup Levels for Other Analytes⁶			---	---	---	160	---	200⁷	7.68	4,800	7,200	---	1.41	NE	

NOTES:

Results in **bold** denote concentrations above preliminary screening levels.

Results highlighted in orange denote concentrations exceeding CSM selected cleanup levels or MTCA levels where CSM cleanup levels are not applicable.

< denotes analyte not detected at or above the reporting limit listed.

--- denotes CSM cleanup level not applicable. MTCA cleanup levels provided for analytes not identified as COCs in the CSM Technical Memo.

¹ Analyzed by U.S. Environmental Protection Agency Method 8260B.

² Compound was not retained as a COPC following completion of the 2004 Revised Remedial Investigation Report.

³ Identified and retained as a COPC in the June 2004 Remedial Investigation Report.

⁴ Preliminary screening level as identified in the June 2004 Revised Remedial Investigation Report.

⁵ Cleanup level identified in Table 2 of the 2018 Conceptual Site Model (CSM) Technical Memo.

⁶ Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Cleanup Levels and Risk Calculations, Standard Method B Values for Groundwater, <https://fortress.wa.gov/ecy/clarc/CLARCDatatables.aspx>, unless otherwise noted. Downloaded October 2018.

⁷ Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.

⁸ Monitoring well MW-5 was decommissioned in 2007 during Bay Chemical Cleanup.

1,1-DCA = 1,1-dichloroethane
 1,1,1-TCA = 1,1,1-trichloroethane
 cis-1,2-DCE = cis-1,2-dichloroethene
 COC = constituent of concern
 COPC = constituent of potential concern
 CSM = conceptual site model
 MEK = methyl ethyl ketone
 NA = not analyzed
 NE = not established
 PCE = tetrachloroethene
 RI = Remedial Investigation
 TCE = trichloroethene
 trans 1,2-DCE = trans 1,2-dichloroethene

**Table 7
Groundwater Analytical Results for Metals
Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001**

Location	Lab Report	Sample Date	Analytical Results (micrograms per liter)																
			Antimony ^{1,3}		Arsenic ^{1,3}		Cadmium ^{1,4}		Copper ^{1,3}		Lead ^{1,3}		Manganese ^{1,3}		Mercury ^{2,4}		Zinc ^{1,3}		
			Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	
MW-1	580-26540-1	6/2/2011	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	70	<2.0	<0.20	<0.20	<7.0	<7.0
MW-2	580-26520-1	6/1/2011	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	180	190	<0.20	<0.20	540	550
MW-3	580-26520-1	6/1/2011	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.20	<0.20	7.3	<7.0
MW-4	580-26520-1	6/1/2011	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	11	<2.0	<0.20	<0.20	<7.0	<7.0
MW-6	580-26520-1	6/1/2011	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	280	280	<0.20	<0.20	<7.0	<7.0
WDOE-6	580-26540-1	6/2/2011	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	400	420	<0.20	<0.20	450	99
MW-7A	580-26540-1	6/2/2011	5.4	5.4	6.4	6.0	<2.0	<2.0	6.3	6.0	<2.0	<2.0	5.3	3.5	<0.20	<0.20	37	40	
MW-7B	580-26540-1	6/2/2011	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.20	<0.20	<7.0	11
MW-10	580-26540-1	6/2/2011	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.20	<0.20	70	72
MW-11	580-26540-1	6/2/2011	<2.0	<2.0	<2.0	<2.0	22	22	<2.0	<2.0	3.8	<2.0	180	18	<0.20	<0.20	7,700	7,500	
RI Preliminary Screening Level			6.4⁵		5.0⁵		5.0⁵		592⁵		15⁵		2,200⁶		2.0⁵		4,800⁵		
CSM Selected Cleanup Levels for COCs⁷			6.4		5.0		5.0		640		15		---		2.0		4,800		
MTCA Cleanup Levels for Other Analytes⁸			---		---		---		---		---		2,240		---		---		

NOTES:

Results in **bold** denote concentrations above preliminary screening levels.

Results highlighted in orange denote concentrations exceeding CSM selected cleanup levels or MTCA levels where CSM cleanup levels are not applicable.

< denotes analyte not detected at or above the reporting limit listed.

— denotes CSM cleanup level not applicable. MTCA cleanup levels provided for analytes not identified as COCs in the CSM Technical Memo.

¹Analyzed by U.S. Environmental Protection Agency Method 6020.

²Analyzed by U.S. Environmental Protection Agency Method 7470A.

³Constituent was not retained as a COPC following completion of the June 2004 Revised Remedial Investigation Report.

⁴Identified and retained as COPC in June 2004 Revised Remedial Investigation Report.

⁵Preliminary screening level as identified in the June 2004 Revised Remedial Investigation Report.

⁶Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Cleanup Levels and Risk Calculations, Standard Method B Values for Groundwater.

⁷Cleanup level identified in Table 2 of the 2018 Conceptual Site Model (CSM) Technical Memo.

⁸Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Cleanup Levels and Risk Calculations, Standard Method B Values for Groundwater, <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>. Downloaded October 2018.

COC = constituent of concern

COPC = constituent of potential concern

CSM = conceptual site model

RI = Remedial Investigation

Table 8 *DRAFT - Issued for Client Review*
Groundwater Analytical Results for Organochlorine Pesticides
Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

Location	Lab Report	Sample Date	Analytical Results (micrograms per liter) ¹			
			4,4-DDD ²	4,4-DDE ²	Dieldrin ²	gamma-Chlordane ³
MW-1	580-26540-1	12/3/1997	<0.1	<0.1	<0.1	--
		3/3/1998	<0.1	<0.1	<0.1	--
		6/3/1998	--	--	--	--
		9/2/1998	--	--	--	--
		12/3/2002	--	--	--	--
		6/2/2011	<0.020	<0.020	<0.020	<0.010
MW-2	580-26520-1	12/3/1997	<0.1	0.119	0.102	--
		3/3/1998	<0.1	<0.1	<0.1	--
		6/3/1998	<0.1	<0.1	<0.1	--
		9/2/1998	<0.1	<0.1	<0.1	--
		12/4/2002	<0.05	<0.05	0.05	--
		6/1/2011	<0.021	<0.021	0.033	<0.010
MW-3	580-26520-1	12/3/1997	<0.1	<0.1	<1.0	--
		3/3/1998	<0.1	<0.1	<1.0	--
		6/3/1998	<0.1	<0.1	<1.0	--
		9/2/1998	<0.1	<0.1	<1.0	--
		12/4/2002	--	--	--	--
		6/1/2011	<0.020	<0.020	<0.020	<0.010
MW-4	580-26520-1	12/3/1997	<0.1	<0.1	<0.1	--
		3/3/1998	<0.1	<0.1	<0.1	--
		6/3/1998	--	--	--	--
		9/2/1998	--	--	--	--
		12/4/2002	--	--	--	--
		6/1/2011	<0.019	<0.019	<0.019	<0.0097
MW-5 ⁴	NA	12/3/1997	<0.1	<0.1	<0.1	--
		3/3/1998	<0.1	<0.1	<0.1	--
		6/3/1998	--	--	--	--
		9/2/1998	--	--	--	--
		12/4/2002	--	--	--	--
MW-6	580-26520-1	12/3/1997	<0.1	<0.1	<0.1	--
		3/3/1998	<0.1	<0.1	<0.1	--
		6/3/1998	--	--	--	--
		9/2/1998	<0.1	<0.1	<0.1	--
		12/4/2002	--	--	--	--
		6/1/2011	<0.019	<0.019	<0.019	<0.0097
WDOE-6	580-26540-1	May-92	0.48	<0.50	1.1	--
		12/3/1997	--	--	--	--
		3/3/1998	<0.1	<0.1	0.226	--
		6/3/1998	0.296	0.586	0.242	--
		9/2/1998	0.100	0.334	<0.1	--
		12/3/2002	0.13	<0.05	<0.05	--
		6/2/2011	0.028	<0.020	0.063	0.011
RI Preliminary Screening Level⁵			0.365	0.257	0.0055	0.25
CSM Selected Cleanup Levels for COCs⁶			0.36	0.26	0.0055	---
MTCA Cleanup Levels for Other Analytes⁷			---	---	---	0.25

Table 8 *DRAFT - Issued for Client Review*
Groundwater Analytical Results for Organochlorine Pesticides
Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

Location	Lab Report	Sample Date	Analytical Results (micrograms per liter) ¹			
			4,4-DDD ²	4,4-DDE ²	Dieldrin ²	gamma-Chlordane ³
MW-7A	580-26540-1	12/3/2002	--	--	--	--
		6/2/2011	<0.020	<0.020	<0.020	<0.0099
MW-7B	580-26540-1	12/3/2002	--	--	--	--
		6/2/2011	<0.020	<0.020	<0.020	<0.010
MW-10	580-26540-1	6/2/2011	<0.020	<0.020	<0.020	<0.010
MW-11	580-26540-1	6/2/2011	<0.020	<0.020	<0.020	<0.010
RI Preliminary Screening Level⁵			0.365	0.257	0.0055	0.25
CSM Selected Cleanup Levels for COCs⁶			0.36	0.26	0.0055	---
MTCA Cleanup Levels for Other Analytes⁷			---	---	---	0.25

Notes:

Results in **bold** denote concentrations above preliminary screening levels.

Results highlighted in orange denote concentrations exceeding CSM selected cleanup levels or MTCA levels where CSM cleanup levels are not applicable.

< denotes analyte not detected at or above the reporting limit listed.

-- denotes sample not analyzed

— denotes CSM cleanup level not applicable. MTCA cleanup levels provided for analytes not identified as COCs in the CSM Technical Memo.

¹ Analyzed by U.S. Environmental Protection Agency Method 8081A.

² Identified and retained as COPC in June 2004 Revised Remedial Investigation Report.

³ Constituent was not retained as a COPC following completion of the June 2004 Revised Remedial Investigation Report.

⁴ Monitoring well MW-5 was decommissioned in 2007 during the Bay Chemical cleanup.

⁵ Preliminary screening level as identified in the June 2004 Revised Remedial Investigation Report.

⁶ Cleanup level identified in Table 2 of the 2018 Conceptual Site Model (CSM) Technical Memo.

⁷ Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Cleanup Levels and Risk Calculations, Standard Method B Values for Groundwater, <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>. Downloaded October 2018.

COC = constituent of concern

COPC = constituent of potential concern

CSM = conceptual site model

RI = Remedial Investigation

Table 9
Groundwater Analytical Results for Natural Attenuation Parameters
Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

Location	Lab Report	Sample Identification	Sampled By	Sample Date	Analytical Results (milligrams per liter)										
					Alkalinity ¹	Sulfate ²	Sulfide ³	Methane ⁴	Ethane ⁴	Ethylene ⁴	Ferrous Iron ⁵	Nitrate ⁶	Total Phosphate ⁷	Chloride ⁸	Total Organic Carbon ⁹
MW-1	580-26540-1	MW-1-060211	AGRA	12/3/1997	144	81.3	--	--	--	--	--	--	--	--	--
			AGRA	3/3/1998	96.3	25.4	--	--	--	--	--	--	--	--	--
			AGRA	6/3/1998	96	20.6	--	--	--	--	--	--	--	--	--
			AGRA	9/2/1998	102	61.1	--	--	--	--	--	--	--	--	--
			Farallon	12/3/2002	74	25	<0.050	<0.01	<0.01	<0.01	0.088	2.9	0.2	12	1.1
			Farallon	6/2/2011	81	16	--	<0.00058	<0.0011	<0.001	--	4.0	--	22	1.4
MW-2	580-26520-1	MW-2-060111	AGRA	12/3/1997	166	134	--	--	--	--	--	--	--	--	
			AGRA	3/3/1998	116	35.1	--	--	--	--	--	--	--	--	
			AGRA	6/3/1998	104	59.5	--	--	--	--	--	--	--	--	
			AGRA	9/2/1998	84	758	--	--	--	--	--	--	--	--	
			Farallon	12/4/2002	79	46	<0.050	0.02	<0.01	<0.01	0.19	<0.010	0.57	12	1.8
			Farallon	6/1/2011	97	39	--	<0.00058	<0.0011	<0.001	--	1.7	--	20	1.5
MW-3	580-26520-1	MW-3-060111	AGRA	12/3/1997	156	21.1	--	--	--	--	--	--	--	--	
			AGRA	3/3/1998	110	18.2	--	--	--	--	--	--	--	--	
			AGRA	6/3/1998	102	17.4	--	--	--	--	--	--	--	--	
			AGRA	9/2/1998	108	32.4	--	--	--	--	--	--	--	--	
			Farallon	12/4/2002	NA	NA	--	--	--	--	--	--	--	--	
			Farallon	6/1/2011	NA	NA	--	--	--	--	--	--	--	--	
MW-4	580-26520-1	MW-4-060111	AGRA	12/3/1997	188	52	--	--	--	--	--	--	--	--	
			AGRA	3/3/1998	113	23.1	--	--	--	--	--	--	--	--	
			AGRA	6/3/1998	110	26	--	--	--	--	--	--	--	--	
			AGRA	9/2/1998	110	55.2	--	--	--	--	--	--	--	--	
			Farallon	12/4/2002	79	34	<0.050	<0.01	<0.01	<0.01	0.039	2.3	0.12	12	1.8
			Farallon	6/1/2011	--	--	--	--	--	--	--	--	--	--	
MW-5 ¹⁰	NA	MW-5	AGRA	12/3/1997	155	86.1	--	--	--	--	--	--	--	--	
			AGRA	3/3/1998	114	50.3	--	--	--	--	--	--	--	--	
			AGRA	6/3/1998	103	61.9	--	--	--	--	--	--	--	--	
			AGRA	9/2/1998	104	91.7	--	--	--	--	--	--	--	--	
			Farallon	12/4/2002	74	42	<0.050	<0.01	<0.01	<0.01	0.044	2	0.11	12	0.75
MW-6	580-26520-1	MW-6-060111	AGRA	12/3/1997	180	81.4	--	--	--	--	--	--	--	--	
			AGRA	3/3/1998	115	68.1	--	--	--	--	--	--	--	--	
			AGRA	6/3/1998	99	82.7	--	--	--	--	--	--	--	--	
			AGRA	9/2/1998	124	147	--	--	--	--	--	--	--	--	
			Farallon	12/4/2002	81	61	<0.050	0.11	<0.01	<0.01	0.46	0.027	0.12	12	0.79
			Farallon	6/1/2011	72	120	--	0.0017	<0.0011	<0.001	--	<0.90	--	20	1.1
WDOE-6	580-26540-1	WDOE-6-060211	AGRA	3/3/1998	85.5	209	--	--	--	--	--	--	--		
			AGRA	6/3/1998	79	74.8	--	--	--	--	--	--	--		
			AGRA	9/2/1998	97	95.6	--	--	--	--	--	--	--		
			Farallon	12/3/2002	78	57	0.2	0.04	<0.01	<0.01	4.1	0.019	0.091	14	2
			Farallon	6/2/2011	36	160	--	0.0039	<0.0011	<0.001	--	<0.90	--	21	1.3
MW-7A	580-26540-1	MW-7A-060211	Farallon	12/3/2002	210	130	<0.050	0.12	<0.01	<0.01	0.035	0.011	0.068	16	4.5
			Farallon	6/2/2011	160	150	--	0.0017	<0.0011	<0.001	--	4.7	--	11	7.8
MW-7B	580-26540-1	MW-7B-060211	Farallon	12/3/2002	--	--	--	--	--	--	--	--	--	--	
MW-10	580-26540-1	MW-10-060211	Farallon	6/2/2011	--	--	--	--	--	--	--	--	--	--	
MW-11	580-26540-1	MW-11-060211	Farallon	6/2/2011	--	--	--	--	--	--	--	--	--	--	

NOTES:

Results in **bold** denote analyte not detected above the laboratory practical quantitation limit.
 < denotes concentration not detected at or above the laboratory practical quantitation limit initiated.
 -- = denotes sample not analyzed
 EPA = U.S. Environmental Protection Agency

¹Analyzed by EPA Method 310.1.
²Analyzed by EPA Method 375.4.
³Analyzed by EPA Method 376.1.

⁴Analyzed by Method -GC in house.
⁵Analyzed by Method SM18 3500FED.
⁶Analyzed by EPA Method 353.2, 354.1.

⁷Analyzed by EPA Method 365.1.
⁸Analyzed by EPA Method 325.3.
⁹Analyzed by EPA Method 415.2.

¹⁰ Monitoring well MW-5 decommissioned in 2007 during Bay Chemical Cleanup.

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Rush
 Short Hold

Chain of Custody Record

26377

Client Forallon		Client Contact Brett Corp		Date 5-24-11	Chain of Custody Number 11240
Address 975 5th Ave NW		Telephone Number (Area Code)/Fax Number (425) 295-0800		Lab Number	Page 1 of 3
City Issaquah	State WA	Zip Code 98027	Sampler R. Hibbs	Analysis (Attach list if more space is needed)	
Project Name and Location (State) VSF Yakima, WA			Billing Contact	Special Instructions/ Conditions of Receipt	
Contract/Purchase Order/Quote No. 765-001					

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives						Analysis (Attach list if more space is needed)		
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH			
1 K-TPI-052311-0.0-0.5	5-23-11	1350				X	X								
2 K-TPI-052311-2.0-2.5		1355													
3 K-TP2-052311-1.0-1.5		1440													
4 K-TP2-052311-3.5-4.0		1445													
5 K-TP3-052311-0.0-0.5		1530													
6 K-TP3-052311-2.0-2.5		1535													
7 L-TPI-052311-0.0-0.5		1614													
8 L-TPI-052311-3.0-3.5		1620													
9 L-TP2-052311-0.0-0.5		1650													
10 L-TP2-052311-0.0-0.5		1655													
11 L-TP2-052311-2.0-2.5		1700													

Duplicate (Field) #2
Cooler TB (Dig/IR copy) unc. 0.3
Cooler Dsc by green blue @ Lab -
Wet Packs Packing bubble bag
w/o FedEx P.O.

Cooler Yes No Cooler Temp: _____ Possible Hazard Identification Non-Hazard Flammable Skin Irritant Poison B Unknown Return To Client Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days) 24 Hours 48 Hours 5 Days 10 Days 16 Days Other Hold

1. Relinquished By Sign/Print Ryan Hibbs	Date 5-24-11	Time 1550	QC Requirements (Specify) 1. Received By Sign/Print Cathy Chumble	Date 5/25/11	Time 10:00
2. Relinquished By Sign/Print	Date	Time	2. Received By Sign/Print	Date	Time
3. Relinquished By Sign/Print	Date	Time	3. Received By Sign/Print	Date	Time

Comments **Hold samples until directed which samples to analyze Metals to include: Antimony, arsenic, Cadmium, copper, lead, manganese, mercury, and zinc**

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Rush
 Short Hold

Chain of Custody Record

210377

Client Forallon		Client Contact Brett Corp		Date 5-24-11	Chain of Custody Number 11248
Address 975 5th Ave NW		Telephone Number (Area Code)/Fax Number (425) 295-0800		Lab Number	Page 2 of 3
City Issaquah	State WA	Zip Code 98027	Sampler R. Hibbs	Lab Contact	

Project Name and Location (State) YSF Yakima WA		Billing Contact		Analysis (Attach list if more space is needed)	
---	--	-----------------	--	--	--

Contract/Purchase Order/Quote No. 745-001		Matrix		Containers & Preservatives		Special Instructions/Conditions of Receipt
---	--	--------	--	----------------------------	--	--

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives							Special Instructions/Conditions of Receipt			
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	meq/L				
12 L-TP3-052411-0.0-0.5	5-24-11	0735				X											
13 L-TP3-052411-2.0-2.5		0740															
14 J-TP1-052411-0.0-0.5		0835															
15 J-TP1-052411-3.0-3.5		0840															
16 I-TP1-052411-0.0-0.5		0920															
17 I-TP1-052411-6.0		0925															
18 I-TP1-052411-7.0		0930															
19 I-TP2-052411-0.0-0.5		1005															
20 I-TP2-052411-2.0-2.5		1010															
21 I-TP3-052411-7.5		1115															
22 I-TP3-052411-3.0		1130															
23 I-TP3-052411-1.5		1235															

Cooler <input type="checkbox"/> Yes <input type="checkbox"/> No Cooler Temp: _____	Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown	Sample Disposal <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	(A fee may be assessed if samples are retained longer than 1 month)
---	--	---	---

Turn Around Time Required (business days) <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 5 Days <input type="checkbox"/> 10 Days <input type="checkbox"/> 15 Days <input checked="" type="checkbox"/> Other Hold	QC Requirements (Specify)
--	---------------------------

1. Relinquished By Sign/Print Raym Hibbs	Date: _____ Time: _____	1. Received By Sign/Print Cathy Gamble	Date: 5/25/11	Time: 10:00
2. Relinquished By Sign/Print	Date: _____ Time: _____	2. Received By Sign/Print	Date: _____	Time: _____
3. Relinquished By Sign/Print	Date: _____ Time: _____	3. Received By Sign/Print	Date: _____	Time: _____

Comments: **See page 1 comments Metals determined: Antimony, Arsenic, Cadmium, Copper, Lead, Manganese, Mercury, and Zinc.**

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Rush
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Chain of Custody Record

Client <i>Furniture</i> 975 5th Ave NW		Client Contact Frett Corp		Date 5-26-11	Chain of Custody Number 11263
Address		Telephone Number (Area Code)/Fax Number (425) 295-0800		Lab Number 26451	Page 1 of 5

City Issaquah	State WA	Zip Code 98027	Sampler R. Hibbs	Lab Contact	Analysis (Attach list if more space is needed)
Project Name and Location (State) 765-001 Yakima mt			Billing Contact		

Contract/Purchase Order/Quote No. 765-001		Matrix	Containers & Preservatives	Special Instructions/Conditions of Receipt
Sample I.D. and Location/Description (Containers for each sample may be combined on one line)		Date	Time	

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives							Special Instructions/Conditions of Receipt			
			Air	Aqueous	Solid	Soil	Unpres.	H2SO4	HNO3	HCl	MeOH	ZnAc/MeOH					
G-T1-052511-0.0-0.5	5-25-11	0740			X												1
G-T1-052511-2.0-2.5		0745															2
G-T2-052511-0.0-0.5		0830															3
G-T2-052511-2.0-2.5		0835															4
G-T3-052511-0.0-0.5		0850															5
G-T3-052511-2.0-2.5		0855															6
G-T3-052511-3.5-4.0		0900															7
E-T1-052511-4.5		1005															8
E-T2-052511-3.0		1025															9
M-T1-052511-0.0-0.5		1250															10
M-T1-052511-3.0-3.5		1355															"
M-T1.2-052511-0.0-0.5		1300															Duplicate (Field Sample)

Cooler <input type="checkbox"/> Yes <input type="checkbox"/> No. Cooler Temp: _____	Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown	Sample Disposal <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	(A fee may be assessed if samples are retained longer than 1 month)
--	--	---	---

Turn Around Time Required (business days) <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 5 Days <input type="checkbox"/> 10 Days <input type="checkbox"/> 15 Days <input type="checkbox"/> Other _____	QC Requirements (Specify)
---	---------------------------

1. Relinquished By Sign/Print <i>Ryan Hibbs</i>	Date 5-26-11	Time 1900	1. Received By Sign/Print	Date	Time
2. Relinquished By Sign/Print	Date	Time	2. Received By Sign/Print	Date	Time
3. Relinquished By Sign/Print	Date	Time	3. Received By Sign/Print	Date	Time

Comments: Hold samples until instructed which samples to analyze. Metals to include: Antimony, Arsenic, Cadmium, Copper, Lead, Manganese, Mercury, and Zinc.

Rush
 Short Hold

Client: Forillon Client Contact: Brett Corp Date: 5-26-11 Chain of Custody Number: 11284
 Address: Telephone Number (Area Code)/Fax Number: (425) 295-0800 Lab Number: 26451 Page: 2 of 5

City: Issaquah State: WA Zip Code: 98027 Sampler: R Hibbs Lab Contact: _____
 Project Name and Location (State): 765700001 Yakima WA Billing Contact: _____ Analysis (Attach list if more space is needed): _____

Contract/Purchase Order/Quote No. <u>765-001</u>	Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives								Special Instructions/Conditions of Receipt			
				Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc2/NaOH	Misc.	of containers to be analyzed		Matrix (See notes)	VOCs	
	M-TP1-052511-3.0-3.5	5-25-11	1305				X	1											13
	M-TP2-052511-0.0-0.5		1415					1										X	14
	M-TP2-052511-3.5-4.0		1420					1										X	15
	D-TP1-052511-4.5		1520					1										X	16
	D-TP2-052611-5.5		1545					1										X	17
	J-TP3-052511-0.5-1.0		1640					1										X	18
	J-TP3-052511-1.5-2.0		1645					1										X	19
	J-TP3-052511-3.5-4.0		1650					1										X	20
	H-TP1-052611-0.0-0.5	5-26-11	0705					3										X	21
	H-TP1-052611-3.5-4.0		0710					3										X	22
	H-TP2-052611-1.0-1.5		0820					3										X	23
	H-TP2-052611-2.0-2.5		0825					1										X	24

Cooler: Yes No Cooler Temp: _____ Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown Sample Disposal: Disposal By Lab Return To Client Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): 24 Hours 48 Hours 5 Days 10 Days 15 Days Other _____

QC Requirements (Specify):

1. Relinquished By Sign/Print: <u>Ryan Hibbs</u> Date: <u>5-26-11</u> Time: <u>1900</u>	1. Received By Sign/Print: _____ Date: _____ Time: _____
2. Relinquished By Sign/Print: _____ Date: _____ Time: _____	2. Received By Sign/Print: _____ Date: _____ Time: _____
3. Relinquished By Sign/Print: _____ Date: _____ Time: _____	3. Received By Sign/Print: _____ Date: _____ Time: _____

Comments: See page 1

Ferris Lam

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Rush

Short Hold

Chain of Custody Record

Client <i>Ferris Lam</i>		Client Contact <i>Brett Corp</i>		Date <i>5-26-11</i>	Chain of Custody Number <i>11266</i>
Address		Telephone Number (Area Code)/Fax Number <i>(425) 295-0800</i>		Lab Number <i>76451</i>	Page <i>4</i> of <i>5</i>

City <i>Issaquah</i>	State <i>WA</i>	Zip Code <i>98027</i>	Sampler <i>R. Hibbs</i>	Lab Contact	Analysis (Attach list if more space is needed)
Project Name and Location (State) <i>45F Yakima WA</i>			Billing Contact		

Contract/Purchase Order/Quote No.
765-001

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives										Special Instructions/ Conditions of Receipt						
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	PHOS.	HCl	MeOH	ZnAc	NaOH	MezK	Organometallics	Metals (See notes)		Vols	Stor	HClD			
<i>B-TPI-052611-8.5</i>	<i>5-26-11</i>	<i>1305</i>				<i>X</i>				<i>2</i>													<i>36</i>
<i>B-TPI-052611-6.5</i>		<i>1310</i>								<i>2</i>													<i>37</i>
<i>B-TPI-052611-5.0</i>		<i>1315</i>								<i>2</i>													<i>38</i>
<i>B-TPI-052611-6.0</i>		<i>1320</i>								<i>1</i>													<i>39</i>
<i>B-TP2-052611-4.5</i>		<i>1415</i>								<i>2</i>													<i>40</i>
<i>B-TP2-052611-5.5</i>		<i>1420</i>								<i>3</i>													<i>41</i>
<i>B-TP2-052611-4.5</i>		<i>1445</i>								<i>2</i>													<i>42</i>
<i>B-TP3-052611-5.5</i>		<i>1450</i>								<i>3</i>													<i>43</i>
<i>G-wetsoil-052611-0.0-0.5</i>		<i>1530</i>								<i>2</i>													<i>44</i>
<i>G-wetsoil-052611-1.0-2.0</i>		<i>1535</i>								<i>4</i>													<i>45</i>
<i>E-wetsoil-052611-0.0-0.5</i>		<i>1600</i>								<i>4</i>													<i>46</i>
<i>E-wetsoil-052611-0.5-1.0</i>		<i>1605</i>								<i>2</i>													<i>47</i>

Cooler <input type="checkbox"/> Yes <input type="checkbox"/> No Cooler Temp: _____	Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown	Sample Disposal <input type="checkbox"/> Return to Client <input type="checkbox"/> Archive For _____ Months	Disposal By Lab <input type="checkbox"/> Disposal By Lab	(A fee may be assessed if samples are retained longer than 1 month)
---	--	--	---	---

Turn Around Time Required (business days)
 24 Hours 48 Hours 5 Days 10 Days 15 Days Other _____

1. Relinquished By Sign/Print		Date	Time	1. Received By Sign/Print		Date	Time
<i>Roger Hibbs</i>		<i>5-26-11</i>	<i>1800</i>				
2. Relinquished By Sign/Print		Date	Time	2. Received By Sign/Print		Date	Time
3. Relinquished By Sign/Print		Date	Time	3. Received By Sign/Print		Date	Time

Comments
See page 1

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- Rush
 Short Hold

Chain of Custody Record

Client: Foxconn Client Contact: Brett Corp Date: 5-26-11 Chain of Custody Number: 11287
Address: _____ Telephone Number (Area Code)/Fax Number: (425) 295-0800 Lab Number: 26451 Page 5 of 5

City: Issaquah, WA State: WA Zip Code: 98027 Sampler: R. Hibbs Lab Contact: _____
Project Name and Location (State): YSP Yukon WA Billing Contact: _____ Analysis (Attach list if more space is needed)

Contract/Purchase Order/Quote No.: 765-001 Containers & Preservatives: _____
Special Instructions/Conditions of Receipt: _____

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives										Special Instructions/Conditions of Receipt								
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Misc.	Other	Other	Other		Other	Other	Other					
<u>E-waste-2-02011-0.5-1.0</u>	<u>5-26-11</u>	<u>1647</u>				<u>X</u>	<u>4</u>									<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>		<u>46</u>
<u>E-waste-2-02011-1.0-2.0</u>	<u>5-26-11</u>	<u>1655</u>				<u>L</u>	<u>2</u>									<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>		<u>46</u>

Cooler: Yes No Cooler Temp: _____ Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown Sample Disposal: Disposal By Lab Return To Client Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): 24 Hours 48 Hours 5 Days 10 Days 15 Days Other _____ QC Requirements (Specify): _____

1. Relinquished By: <u>Ryan Hibbs</u> <u>Ryan Hibbs</u> Date: <u>5-26-11</u> Time: <u>1800</u>	1. Received By: _____ Date: _____ Time: _____
2. Relinquished By: _____ Date: _____ Time: _____	2. Received By: _____ Date: _____ Time: _____
3. Relinquished By: _____ Date: _____ Time: _____	3. Received By: _____ Date: _____ Time: _____

Comments: See page 1

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Yurillon

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Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

Rush

Short Hold

Chain of Custody Record

Client <i>Yurillon</i>		Client Contact <i>Brett Corp</i>		Date <i>5-28-11</i>	Chain of Custody Number 11273
Address		Telephone Number (Area Code)/Fax Number <i>(725) 295-0200</i>		Lab Number <i>26530</i>	Page <i>1</i> of <i>1</i>

City <i>Issaquah</i>	State <i>WA</i>	Zip Code <i>98027</i>	Sampler <i>R. Hibbs</i>	Lab Contact	Analysis (Attach list if more space is needed)
Project Name and Location (State) <i>YSF Yakima WA</i>			Billing Contact		

Contract/Purchase Order/Quote No. <i>765-001</i>	Matrix	Containers & Preservatives	Special Instructions/Conditions of Receipt
---	--------	----------------------------	--

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives												
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH							
<i>I-TP4-052711-2.5</i>	<i>5-27-11</i>	<i>0745</i>				<i>X</i>	<i>X</i>												
<i>I-TP4-052711-5.0</i>		<i>0750</i>																	
<i>I-TP4-052711-8.0</i>		<i>0755</i>																	
<i>I-TP5-052711-2.5</i>		<i>0820</i>																	
<i>I-TP5-052711-4.5</i>		<i>0825</i>																	
<i>I-TP5-052711-6.5</i>		<i>0830</i>																	
<i>A-TP1-052711-5.0</i>		<i>0850</i>																	
<i>A-TP2-052711-5.0</i>		<i>0910</i>																	
<i>I-TP6-052711-2.5</i>		<i>0930</i>																	
<i>I-TP6-052711-4.5</i>		<i>0935</i>																	
<i>I-TP6-052711-5.5</i>		<i>0940</i>																	

Cooler/FB *Dig/TK cor 5.6^c unc 5.8^c*
Cooler Dsc *Ly Blue/White @ Lab 1420*
Wet/Packs *Packing Bubble Wrap*

Cooler <input type="checkbox"/> Yes <input type="checkbox"/> No Cooler Temp: _____	Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown	Sample Disposal <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	(A fee may be assessed if samples are retained longer than 1 month)
---	--	---	---

Turn Around Time Required (business days) <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 5 Days <input type="checkbox"/> 10 Days <input type="checkbox"/> 15 Days <input checked="" type="checkbox"/> Other _____	QC Requirements (Specify)
--	---------------------------

1. Relinquished By Sign/Print <i>Ryan Hibbs</i>	Date <i>5-28-11</i>	Time <i>0930</i>	1. Received By Sign/Print <i>Francisco Luna Jr.</i>	Date <i>6/1/11</i>	Time <i>1145</i>
2. Relinquished By Sign/Print	Date	Time	2. Received By Sign/Print	Date	Time
3. Relinquished By Sign/Print	Date	Time	3. Received By Sign/Print	Date	Time

Comments
Hold until instructed which samples to analyze

TestAmerica

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TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

Rush

Short Hold

Chain of
Custody Record

26530

Client			Client Contact			Date			Chain of Custody Number		
Address			Telephone Number (Area Code)/Fax Number			Lab Number			Page 1 of 1		
City	State	Zip Code	Sampler		Lab Contact		Analysis (Attach list if more space is needed)				

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives							Special Instructions/ Conditions of Receipt				
			Air	Aqueous	Sed	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Metals (See Notes)		VOCs	ACID		

8081
 C-Fluorene Residues
 Method 8260

Cooler	Possible Hazard Identification	Sample Disposal	Disposal By Lab	(A fee may be assessed if samples are retained longer than 1 month)
<input type="checkbox"/> Yes <input type="checkbox"/> No Cooler Temp	<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown	<input type="checkbox"/> Return To Client	<input type="checkbox"/> Archive For	Months

Turn Around Time Required (business days)	QC Requirements (Specify)
<input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 5 Days <input type="checkbox"/> 10 Days <input type="checkbox"/> 15 Days <input type="checkbox"/> Other	

1. Relinquished By Sign/Print	Date	Time	1. Received By Sign/Print	Date	Time
2. Relinquished By Sign/Print	Date	Time	2. Received By Sign/Print	Date	Time
3. Relinquished By Sign/Print	Date	Time	3. Received By Sign/Print	Date	Time

Comments: Metals to include: Antimony, Arsenic, Cadmium, Copper, Lead, Manganese, Mercury, and Zinc

Client: Fossil Client Contact: Brett Comp Date: 6-2-11 Chain of Custody Number: 11303
Address: Telephone Number (Area Code)/Fax Number: (425) 295-0800 Lab Number: 26540 Page 1 of 1

City: Issaquah State: WA Zip Code: 98027 Sampler: R. Hibbs Lab Contact: _____
Project Name and Location (State): YSF Yakima WA Billing Contact: _____ Analysis (Attach list if more space is needed): _____

Contract/Purchase Order/Quote No.: 765-001 Matrix: _____ Containers & Preservatives: _____

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives												Special Instructions/ Conditions of Receipt									
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	VOCS	Organic Solvents Pest. Insects	Metals TSS	Alkalinity	Sulfate	Nitrate		TOC	Chloride	Methane, Ethane						
MW-11-060211	6-2-11	0718	X				X	X	X	X						X	X	X										
MW-7B-060211		0818					3	1	3	1						X	X	X										
MW-7A-060211		0922					3	1	6	1						X	X	X	X	X	X	X	X					
MW-10-060211		1028					3	1	3	1						X	X	X										
MW-1-060211		1192					3	1	6	1						X	X	X	X	X	X	X	X					
MW-6-060211		1246					3	1	6	1						X	X	X	X	X	X	X	X					
Blind		1316					3	1	6	1						X	X	X	X	X	X	X	X					
Trip Blank										3																		

Cooler/TB Dig/IR cor 1.3 unc 1.3 Cooler/TB Dig/IR cor 0.7 unc 0.7 Cooler/TB Dig/IR cor 1.9 unc 1.9
Cooler Dsc Lg Gr/blu @ Lab Cooler Dsc Lg Gr/bl @ Lab Cooler Dsc Lg Bl/wh @ Lab
Wet/Packs Packing bubble Wet/Packs Packing bubble Wet/Packs Packing bubble
#2 w/o

Cooler: Yes No Cooler Temp: _____ Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown Sample Disposal: Return To Client Disposal By Lab Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): 24 Hours 48 Hours 5 Days 10 Days 15 Days Other _____ QC Requirements (Specify): _____

1. Relinquished By Sign/Print: <u>Ryan Hibbs</u> Date: <u>6-3-11</u> Time: <u>1013</u>	1. Received By Sign/Print: <u>Tom Blankinship</u> Date: <u>6/3/11</u> Time: <u>1013</u>
2. Relinquished By Sign/Print: _____ Date: _____ Time: _____	2. Received By Sign/Print: _____ Date: _____ Time: _____
3. Relinquished By Sign/Print: _____ Date: _____ Time: _____	3. Received By Sign/Print: _____ Date: _____ Time: _____

Comments: Dissolved metals not filtered

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-26360-1
Client Project/Site: Yakima Steel

For:
Farallon Consulting LLC
975 5th Avenue NW
Suite 100
Issaquah, Washington 98027

Attn: Jeff Kaspar

Pamela R. Johnson

Authorized for release by:
07/28/2011 04:19:01 PM
Pam Johnson
Project Manager I
pamr.johnson@testamericainc.com
Designee for
Kristine Allen
Project Manager I
kristine.allen@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.

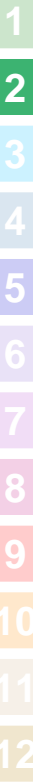


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Case Narrative

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26360-1

Job ID: 580-26360-1

Laboratory: TestAmerica Seattle

Narrative

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC Semi VOA - Method 8081A

The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for batch 90711 exceeded control limits for the following analytes: Heptachlor epoxide. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have "*" flagged and been reported.

Surrogate recovery for the following samples were outside control limits: E-WetSed-1-052311 (580-26360-1), E-WetSed-2-052311 (580-26360-2), E-WetSed-3-052311 (580-26360-3). Evidence of matrix interference is present, sample contain high percent moisture; therefore, re-extraction and/or re-analysis was not performed. The data have been "X" flagged and reported.

The continuing calibration verification (CCV) for Heptachlor epoxide recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been "^" flagged and reported.

The following sample E-WetSed-1-052311 (580-26360-1), E-WetSed-2-052311 (580-26360-2), E-WetSed-3-052311 (580-26360-3) were prepared and/or analyzed outside the method defined holding time because the request for the test was made after the holding time for the sample expired. The data have been "H" flagged and reported.

No other analytical or quality issues were noted.

Metals

No analytical or quality issues were noted.

General Chemistry - Method 160.3

Constant weight was not achieved after 3 drying cycles for the following samples: (580-26360-1DU), E-WetSed-1-052311 (580-26360-1), E-WetSed-2-052311 (580-26360-2), E-WetSed-3-052311 (580-26360-3). The last weight recorded was used for calculation.

General Chemistry - Method 9060 PSEP

These samples were frozen as they had very little hold time remaining due to instrument issues. The hold time is now 6 months on these samples and were analyzed within hold. The "H" flags have been removed and the data reported.

No other analytical or quality issues were noted.

Geotechnical

No analytical or quality issues were noted.

Subcontract Work

Methods Amphipod mortality 10 days (*Hyalella azteca*), Microtox®100% porewater extract 15 Min. (*Virio fischeri*), Midge larvae mortality and growth 21 days (*Chironomus tentans*): These methods were subcontracted to Nautilus Environmental. The subcontract certifications are different from those listed on the TestAmerica cover page of this final report.

Organic Prep - Method 3550B

The following samples were prepared outside of preparation holding time: Samples (580-26360-1DU), E-WetSed-1-052311 (580-26360-1), E-WetSed-2-052311 (580-26360-2), E-WetSed-3-052311 (580-26360-3) were all prepared 43 days past the holding time. They were added to the backlog already outside of holding time by the project manager. Extraction continued as normal. Method 3550B, 8081A. Batch 90711.

No other analytical or quality issues were noted.

Definitions/Glossary

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26360-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
H	Sample was prepped or analyzed beyond the specified holding time
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.
EPA	United States Environmental Protection Agency
ND	Not Detected above the reporting level.
MDL	Method Detection Limit
RL	Reporting Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
%R	Percent Recovery
RPD	Relative Percent Difference, a measure of the relative difference between two points.

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26360-1

Client Sample ID: E-WetSed-1-052311

Lab Sample ID: 580-26360-1

Date Collected: 05/23/11 10:10

Matrix: Solid

Date Received: 05/24/11 16:00

Percent Solids: 44.8

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND	H	2.1		ug/Kg	☼	07/19/11 09:57	07/26/11 18:26	1
alpha-BHC	ND	H	2.1		ug/Kg	☼	07/19/11 09:57	07/22/11 01:36	1
beta-BHC	ND	H	2.1		ug/Kg	☼	07/19/11 09:57	07/22/11 01:36	1
delta-BHC	ND	H	2.1		ug/Kg	☼	07/19/11 09:57	07/22/11 01:36	1
gamma-BHC (Lindane)	ND	H	2.1		ug/Kg	☼	07/19/11 09:57	07/22/11 01:36	1
4,4'-DDD	ND	H	4.2		ug/Kg	☼	07/19/11 09:57	07/22/11 01:36	1
4,4'-DDE	ND	H	4.2		ug/Kg	☼	07/19/11 09:57	07/26/11 18:26	1
4,4'-DDT	ND	H	4.2		ug/Kg	☼	07/19/11 09:57	07/26/11 18:26	1
Dieldrin	ND	H	4.2		ug/Kg	☼	07/19/11 09:57	07/22/11 01:36	1
Endosulfan I	ND	H	2.1		ug/Kg	☼	07/19/11 09:57	07/27/11 18:10	1
Endosulfan II	ND	H	4.2		ug/Kg	☼	07/19/11 09:57	07/26/11 18:26	1
Endosulfan sulfate	ND	H	4.2		ug/Kg	☼	07/19/11 09:57	07/22/11 01:36	1
Endrin	ND	H	4.2		ug/Kg	☼	07/19/11 09:57	07/22/11 01:36	1
Endrin aldehyde	ND	H	4.2		ug/Kg	☼	07/19/11 09:57	07/22/11 01:36	1
Heptachlor	ND	H	2.1		ug/Kg	☼	07/19/11 09:57	07/22/11 01:36	1
Heptachlor epoxide	ND	H *	2.1		ug/Kg	☼	07/19/11 09:57	07/26/11 18:26	1
Methoxychlor	ND	H	21		ug/Kg	☼	07/19/11 09:57	07/26/11 18:26	1
Endrin ketone	ND	H	4.2		ug/Kg	☼	07/19/11 09:57	07/22/11 01:36	1
Toxaphene	ND	H	210		ug/Kg	☼	07/19/11 09:57	07/22/11 01:36	1
alpha-Chlordane	ND	H	2.1		ug/Kg	☼	07/19/11 09:57	07/27/11 18:10	1
gamma-Chlordane	ND	H	2.1		ug/Kg	☼	07/19/11 09:57	07/26/11 18:26	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	14	X	49 - 123				07/19/11 09:57	07/22/11 01:36	1
DCB Decachlorobiphenyl	9	X	40 - 158				07/19/11 09:57	07/22/11 01:36	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.8		mg/Kg	☼	07/15/11 13:12	07/15/11 21:59	1
Lead	190		2.9		mg/Kg	☼	07/15/11 13:12	07/15/11 21:59	1
Antimony	ND		5.8		mg/Kg	☼	07/15/11 13:12	07/15/11 21:59	1
Cadmium	9.2		0.96		mg/Kg	☼	07/15/11 13:12	07/15/11 21:59	1
Copper	36		1.9		mg/Kg	☼	07/15/11 13:12	07/15/11 21:59	1
Manganese	210		1.9		mg/Kg	☼	07/15/11 13:12	07/15/11 21:59	1
Zinc	2700		3.8		mg/Kg	☼	07/15/11 13:12	07/15/11 21:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	53000		2000		mg/Kg			06/13/11 18:05	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	26		0.010		%			05/25/11 19:26	1
Total Volatile Solids	82		0.010		%			05/25/11 19:37	1
Percent Solids	45		0.10		%			05/28/11 11:53	1
Percent Moisture	55		0.10		%			05/28/11 11:53	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	1.5				%			06/07/11 12:20	1
Coarse Sand	1.0				%			06/07/11 12:20	1
Medium Sand	17.6				%			06/07/11 12:20	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26360-1

Client Sample ID: E-WetSed-1-052311

Lab Sample ID: 580-26360-1

Date Collected: 05/23/11 10:10

Matrix: Solid

Date Received: 05/24/11 16:00

Method: D422 - Grain Size (Continued)

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Fine Sand	19.2				%			06/07/11 12:20	1
Very Fine Sand	1.1				%			06/07/11 12:20	1
Silt	48.1				%			06/07/11 12:20	1
Clay	11.5				%			06/07/11 12:20	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26360-1

Client Sample ID: E-WetSed-2-052311

Lab Sample ID: 580-26360-2

Date Collected: 05/23/11 10:35

Matrix: Solid

Date Received: 05/24/11 16:00

Percent Solids: 43.0

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND	H	2.2		ug/Kg	☼	07/19/11 09:57	07/26/11 18:46	1
alpha-BHC	ND	H	2.2		ug/Kg	☼	07/19/11 09:57	07/22/11 01:55	1
beta-BHC	ND	H	2.2		ug/Kg	☼	07/19/11 09:57	07/22/11 01:55	1
delta-BHC	ND	H	2.2		ug/Kg	☼	07/19/11 09:57	07/22/11 01:55	1
gamma-BHC (Lindane)	ND	H	2.2		ug/Kg	☼	07/19/11 09:57	07/22/11 01:55	1
4,4'-DDD	ND	H	4.4		ug/Kg	☼	07/19/11 09:57	07/22/11 01:55	1
4,4'-DDE	ND	H	4.4		ug/Kg	☼	07/19/11 09:57	07/26/11 18:46	1
4,4'-DDT	ND	H	4.4		ug/Kg	☼	07/19/11 09:57	07/26/11 18:46	1
Dieldrin	ND	H	4.4		ug/Kg	☼	07/19/11 09:57	07/22/11 01:55	1
Endosulfan I	ND	H	2.2		ug/Kg	☼	07/19/11 09:57	07/27/11 18:30	1
Endosulfan II	ND	H	4.4		ug/Kg	☼	07/19/11 09:57	07/26/11 18:46	1
Endosulfan sulfate	ND	H	4.4		ug/Kg	☼	07/19/11 09:57	07/22/11 01:55	1
Endrin	ND	H	4.4		ug/Kg	☼	07/19/11 09:57	07/22/11 01:55	1
Endrin aldehyde	ND	H	4.4		ug/Kg	☼	07/19/11 09:57	07/22/11 01:55	1
Heptachlor	ND	H	2.2		ug/Kg	☼	07/19/11 09:57	07/22/11 01:55	1
Heptachlor epoxide	ND	H *	2.2		ug/Kg	☼	07/19/11 09:57	07/26/11 18:46	1
Methoxychlor	ND	H	22		ug/Kg	☼	07/19/11 09:57	07/26/11 18:46	1
Endrin ketone	ND	H	4.4		ug/Kg	☼	07/19/11 09:57	07/22/11 01:55	1
Toxaphene	ND	H	220		ug/Kg	☼	07/19/11 09:57	07/22/11 01:55	1
alpha-Chlordane	ND	H	2.2		ug/Kg	☼	07/19/11 09:57	07/27/11 18:30	1
gamma-Chlordane	ND	H	2.2		ug/Kg	☼	07/19/11 09:57	07/26/11 18:46	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	13	X	49 - 123	07/19/11 09:57	07/22/11 01:55	1
DCB Decachlorobiphenyl	10	X	40 - 158	07/19/11 09:57	07/22/11 01:55	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.6		6.9		mg/Kg	☼	07/15/11 13:12	07/15/11 22:06	1
Lead	150		3.4		mg/Kg	☼	07/15/11 13:12	07/15/11 22:06	1
Antimony	ND		6.9		mg/Kg	☼	07/15/11 13:12	07/15/11 22:06	1
Cadmium	6.8		1.1		mg/Kg	☼	07/15/11 13:12	07/15/11 22:06	1
Copper	41		2.3		mg/Kg	☼	07/15/11 13:12	07/15/11 22:06	1
Manganese	220		2.3		mg/Kg	☼	07/15/11 13:12	07/15/11 22:06	1
Zinc	2800		4.6		mg/Kg	☼	07/15/11 13:12	07/15/11 22:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	47000		2000		mg/Kg			06/13/11 18:05	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	41		0.0084		%			05/25/11 19:26	1
Total Volatile Solids	63		0.0084		%			05/25/11 19:37	1
Percent Solids	43		0.10		%			05/28/11 11:53	1
Percent Moisture	57		0.10		%			05/28/11 11:53	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			06/07/11 12:20	1
Coarse Sand	0.2				%			06/07/11 12:20	1
Medium Sand	0.3				%			06/07/11 12:20	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26360-1

Client Sample ID: E-WetSed-2-052311

Lab Sample ID: 580-26360-2

Date Collected: 05/23/11 10:35

Matrix: Solid

Date Received: 05/24/11 16:00

Method: D422 - Grain Size (Continued)

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Fine Sand	10.2				%			06/07/11 12:20	1
Very Fine Sand	3.4				%			06/07/11 12:20	1
Silt	76.8				%			06/07/11 12:20	1
Clay	9.1				%			06/07/11 12:20	1

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Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26360-1

Client Sample ID: E-WetSed-3-052311

Lab Sample ID: 580-26360-3

Date Collected: 05/23/11 11:10

Matrix: Solid

Date Received: 05/24/11 16:00

Percent Solids: 40.2

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND	H	2.3		ug/Kg	*	07/19/11 09:57	07/26/11 19:05	1
alpha-BHC	ND	H	2.3		ug/Kg	*	07/19/11 09:57	07/22/11 02:15	1
beta-BHC	ND	H	2.3		ug/Kg	*	07/19/11 09:57	07/22/11 02:15	1
delta-BHC	ND	H	2.3		ug/Kg	*	07/19/11 09:57	07/22/11 02:15	1
gamma-BHC (Lindane)	ND	H	2.3		ug/Kg	*	07/19/11 09:57	07/22/11 02:15	1
4,4'-DDD	ND	H	4.7		ug/Kg	*	07/19/11 09:57	07/22/11 02:15	1
4,4'-DDE	ND	H	4.7		ug/Kg	*	07/19/11 09:57	07/26/11 19:05	1
4,4'-DDT	ND	H	4.7		ug/Kg	*	07/19/11 09:57	07/26/11 19:05	1
Dieldrin	ND	H	4.7		ug/Kg	*	07/19/11 09:57	07/22/11 02:15	1
Endosulfan I	ND	H	2.3		ug/Kg	*	07/19/11 09:57	07/27/11 18:49	1
Endosulfan II	ND	H	4.7		ug/Kg	*	07/19/11 09:57	07/26/11 19:05	1
Endosulfan sulfate	ND	H	4.7		ug/Kg	*	07/19/11 09:57	07/22/11 02:15	1
Endrin	ND	H	4.7		ug/Kg	*	07/19/11 09:57	07/22/11 02:15	1
Endrin aldehyde	ND	H	4.7		ug/Kg	*	07/19/11 09:57	07/22/11 02:15	1
Heptachlor	ND	H	2.3		ug/Kg	*	07/19/11 09:57	07/22/11 02:15	1
Heptachlor epoxide	ND	H *	2.3		ug/Kg	*	07/19/11 09:57	07/26/11 19:05	1
Methoxychlor	ND	H	23		ug/Kg	*	07/19/11 09:57	07/26/11 19:05	1
Endrin ketone	ND	H	4.7		ug/Kg	*	07/19/11 09:57	07/22/11 02:15	1
Toxaphene	ND	H	230		ug/Kg	*	07/19/11 09:57	07/22/11 02:15	1
alpha-Chlordane	ND	H	2.3		ug/Kg	*	07/19/11 09:57	07/27/11 18:49	1
gamma-Chlordane	ND	H	2.3		ug/Kg	*	07/19/11 09:57	07/26/11 19:05	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	9	X	49 - 123	07/19/11 09:57	07/22/11 02:15	1
DCB Decachlorobiphenyl	8	X	40 - 158	07/19/11 09:57	07/22/11 02:15	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.5		6.1		mg/Kg	*	07/15/11 13:12	07/15/11 22:12	1
Lead	180		3.0		mg/Kg	*	07/15/11 13:12	07/15/11 22:12	1
Antimony	ND		6.1		mg/Kg	*	07/15/11 13:12	07/15/11 22:12	1
Cadmium	7.8		1.0		mg/Kg	*	07/15/11 13:12	07/15/11 22:12	1
Copper	52		2.0		mg/Kg	*	07/15/11 13:12	07/15/11 22:12	1
Manganese	270		2.0		mg/Kg	*	07/15/11 13:12	07/15/11 22:12	1
Zinc	2700		4.1		mg/Kg	*	07/15/11 13:12	07/15/11 22:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	36000		2000		mg/Kg			06/13/11 18:05	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	44		0.0079		%			05/25/11 19:26	1
Total Volatile Solids	60		0.0079		%			05/25/11 19:37	1
Percent Solids	40		0.10		%			05/28/11 11:53	1
Percent Moisture	60		0.10		%			05/28/11 11:53	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			06/07/11 12:20	1
Coarse Sand	0.0				%			06/07/11 12:20	1
Medium Sand	0.7				%			06/07/11 12:20	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26360-1

Client Sample ID: E-WetSed-3-052311

Lab Sample ID: 580-26360-3

Date Collected: 05/23/11 11:10

Matrix: Solid

Date Received: 05/24/11 16:00

Method: D422 - Grain Size (Continued)

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Fine Sand	2.4				%			06/07/11 12:20	1
Very Fine Sand	1.0				%			06/07/11 12:20	1
Silt	61.9				%			06/07/11 12:20	1
Clay	34.0				%			06/07/11 12:20	1

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QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26360-1

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-90711/1-A
Matrix: Solid
Analysis Batch: 90894

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 90711

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aldrin	ND		1.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
alpha-BHC	ND		1.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
beta-BHC	ND		1.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
delta-BHC	ND		1.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
4,4'-DDD	ND		2.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
4,4'-DDE	ND		2.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
4,4'-DDT	ND		2.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
Dieldrin	ND		2.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
Endosulfan I	ND		1.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
Endosulfan II	ND		2.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
Endosulfan sulfate	ND		2.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
Endrin	ND		2.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
Endrin aldehyde	ND		2.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
Heptachlor	ND		1.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
Heptachlor epoxide	ND	^	1.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
Methoxychlor	ND	^	10		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
Endrin ketone	ND		2.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
Toxaphene	ND	^	100		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
alpha-Chlordane	ND		1.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1
gamma-Chlordane	ND		1.0		ug/Kg		07/19/11 09:57	07/21/11 20:24	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
Tetrachloro-m-xylene	88		49 - 123	07/19/11 09:57	07/21/11 20:24	1
DCB Decachlorobiphenyl	89		40 - 158	07/19/11 09:57	07/21/11 20:24	1

Lab Sample ID: LCS 580-90711/2-A
Matrix: Solid
Analysis Batch: 90894

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 90711

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
alpha-BHC	20.0	18.1		ug/Kg		91	41 - 128
beta-BHC	20.0	18.5		ug/Kg		93	48 - 121
delta-BHC	20.0	18.1		ug/Kg		91	22 - 153
gamma-BHC (Lindane)	20.0	20.3		ug/Kg		102	50 - 127
4,4'-DDD	20.0	19.8		ug/Kg		99	44 - 141
4,4'-DDE	20.0	19.8		ug/Kg		99	47 - 140
4,4'-DDT	20.0	21.3		ug/Kg		107	34 - 159
Dieldrin	20.0	20.4		ug/Kg		102	53 - 134
Endosulfan I	20.0	17.9		ug/Kg		90	52 - 122
Endosulfan II	20.0	19.9		ug/Kg		100	53 - 132
Endosulfan sulfate	20.0	19.4		ug/Kg		97	42 - 128
Endrin	20.0	21.0		ug/Kg		105	46 - 138
Endrin aldehyde	20.0	19.7		ug/Kg		99	12 - 179
Heptachlor	20.0	19.1		ug/Kg		96	50 - 130
Heptachlor epoxide	20.0	24.7	^ *	ug/Kg		124	49 - 123
Methoxychlor	20.0	18.1	^	ug/Kg		91	46 - 154
Endrin ketone	20.0	19.5		ug/Kg		98	45 - 127

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26360-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-90711/2-A
Matrix: Solid
Analysis Batch: 90894

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 90711

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
alpha-Chlordane	20.0	17.0		ug/Kg		85	46 - 118	
gamma-Chlordane	20.0	20.1		ug/Kg		101	49 - 122	

Surrogate	LCS		Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	94		49 - 123
DCB Decachlorobiphenyl	94		40 - 158

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-90516/21-A
Matrix: Solid
Analysis Batch: 90595

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 90516

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0		mg/Kg		07/15/11 13:13	07/15/11 19:25	1
Lead	ND		1.5		mg/Kg		07/15/11 13:13	07/15/11 19:25	1
Antimony	ND		3.0		mg/Kg		07/15/11 13:13	07/15/11 19:25	1
Cadmium	ND		0.50		mg/Kg		07/15/11 13:13	07/15/11 19:25	1
Copper	ND		1.0		mg/Kg		07/15/11 13:13	07/15/11 19:25	1
Manganese	ND		1.0		mg/Kg		07/15/11 13:13	07/15/11 19:25	1
Zinc	ND		2.0		mg/Kg		07/15/11 13:13	07/15/11 19:25	1

Lab Sample ID: LCS 580-90516/22-A
Matrix: Solid
Analysis Batch: 90595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 90516

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Arsenic	200	197		mg/Kg		99	80 - 120	
Lead	50.0	48.2		mg/Kg		96	80 - 120	
Antimony	150	145		mg/Kg		97	80 - 120	
Cadmium	5.00	4.83		mg/Kg		97	80 - 120	
Copper	25.0	25.1		mg/Kg		100	80 - 120	
Manganese	50.0	49.3		mg/Kg		99	80 - 120	
Zinc	50.0	50.8		mg/Kg		102	80 - 120	

Lab Sample ID: LCSD 580-90516/23-A
Matrix: Solid
Analysis Batch: 90595

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 90516

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	
							Limits	RPD	Limit	
Arsenic	200	193		mg/Kg		97	80 - 120	2	20	
Lead	50.0	47.6		mg/Kg		95	80 - 120	1	20	
Antimony	150	143		mg/Kg		95	80 - 120	2	20	
Cadmium	5.00	4.75		mg/Kg		95	80 - 120	2	20	
Copper	25.0	24.5		mg/Kg		98	80 - 120	2	20	
Manganese	50.0	48.4		mg/Kg		97	80 - 120	2	20	
Zinc	50.0	49.2		mg/Kg		98	80 - 120	3	20	

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26360-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCSSRM 580-90516/24-A
Matrix: Solid
Analysis Batch: 90595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 90516

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Arsenic	109	104		mg/Kg		95	71.1 - 128.9	
Lead	152	161		mg/Kg		106	75.3 - 125.1	
Antimony	121	76.8		mg/Kg		63	21.0 - 251.6	
Cadmium	110	114		mg/Kg		104	73.2 - 126.8	
Copper	84.7	72.9		mg/Kg		86	73.2 - 126.8	
Manganese	443	454		mg/Kg		103	75.8 - 124.5	
Zinc	299	299		mg/Kg		100	72.2 - 127.8	

Method: 160.3 - Solids, Total (TS)

Lab Sample ID: 580-26360-1 DU
Matrix: Solid
Analysis Batch: 86746

Client Sample ID: E-WetSed-1-052311
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD
								Limit
Percent Solids	26		22.2		%		14	20

Method: 160.4 - Solids, Total Volatile (TVS)

Lab Sample ID: 580-26360-1 DU
Matrix: Solid
Analysis Batch: 86747

Client Sample ID: E-WetSed-1-052311
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD
								Limit
Total Volatile Solids	82		84.7		%		3	20

Method: 9060_PSEP - TOC (Puget Sound)

Lab Sample ID: MB 580-87833/3
Matrix: Solid
Analysis Batch: 87833

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analized	Dil Fac
Total Organic Carbon	ND		2000		mg/Kg			06/13/11 18:05	1

Lab Sample ID: LCS 580-87833/4
Matrix: Solid
Analysis Batch: 87833

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Total Organic Carbon	2720	4100		mg/Kg		151	34 - 166	

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26360-1

Client Sample ID: E-WetSed-1-052311

Lab Sample ID: 580-26360-1

Date Collected: 05/23/11 10:10

Matrix: Solid

Date Received: 05/24/11 16:00

Percent Solids: 44.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			90711	07/19/11 09:57	GH	TAL SEA
Total/NA	Analysis	8081A		1	90894	07/22/11 01:36	MAM	TAL SEA
Total/NA	Analysis	8081A		1	91217	07/26/11 18:26	MAM	TAL SEA
Total/NA	Analysis	8081A		1	91333	07/27/11 18:10	MAM	TAL SEA
Total/NA	Prep	3050B			90516	07/15/11 13:12	ZF	TAL SEA
Total/NA	Analysis	6010B		1	90595	07/15/11 21:59	SP	TAL SEA
Total/NA	Analysis	160.3		1	86746	05/25/11 19:26	AM	TAL SEA
Total/NA	Analysis	160.4		1	86747	05/25/11 19:37	AM	TAL SEA
Total/NA	Analysis	Moisture		1	86888	05/28/11 11:53	MT	TAL SEA
Total/NA	Analysis	9060_PSEP		1	87833	06/13/11 18:05	SH	TAL SEA
Total/NA	Analysis	D422		1	87687	06/07/11 12:20	AO	TAL SEA

Client Sample ID: E-WetSed-2-052311

Lab Sample ID: 580-26360-2

Date Collected: 05/23/11 10:35

Matrix: Solid

Date Received: 05/24/11 16:00

Percent Solids: 43.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			90711	07/19/11 09:57	GH	TAL SEA
Total/NA	Analysis	8081A		1	90894	07/22/11 01:55	MAM	TAL SEA
Total/NA	Analysis	8081A		1	91217	07/26/11 18:46	MAM	TAL SEA
Total/NA	Analysis	8081A		1	91333	07/27/11 18:30	MAM	TAL SEA
Total/NA	Prep	3050B			90516	07/15/11 13:12	ZF	TAL SEA
Total/NA	Analysis	6010B		1	90595	07/15/11 22:06	SP	TAL SEA
Total/NA	Analysis	160.3		1	86746	05/25/11 19:26	AM	TAL SEA
Total/NA	Analysis	160.4		1	86747	05/25/11 19:37	AM	TAL SEA
Total/NA	Analysis	Moisture		1	86888	05/28/11 11:53	MT	TAL SEA
Total/NA	Analysis	9060_PSEP		1	87833	06/13/11 18:05	SH	TAL SEA
Total/NA	Analysis	D422		1	87687	06/07/11 12:20	AO	TAL SEA

Client Sample ID: E-WetSed-3-052311

Lab Sample ID: 580-26360-3

Date Collected: 05/23/11 11:10

Matrix: Solid

Date Received: 05/24/11 16:00

Percent Solids: 40.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			90711	07/19/11 09:57	GH	TAL SEA
Total/NA	Analysis	8081A		1	90894	07/22/11 02:15	MAM	TAL SEA
Total/NA	Analysis	8081A		1	91217	07/26/11 19:05	MAM	TAL SEA
Total/NA	Analysis	8081A		1	91333	07/27/11 18:49	MAM	TAL SEA
Total/NA	Prep	3050B			90516	07/15/11 13:12	ZF	TAL SEA
Total/NA	Analysis	6010B		1	90595	07/15/11 22:12	SP	TAL SEA
Total/NA	Analysis	160.3		1	86746	05/25/11 19:26	AM	TAL SEA
Total/NA	Analysis	160.4		1	86747	05/25/11 19:37	AM	TAL SEA
Total/NA	Analysis	Moisture		1	86888	05/28/11 11:53	MT	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26360-1

Client Sample ID: E-WetSed-3-052311

Lab Sample ID: 580-26360-3

Date Collected: 05/23/11 11:10

Matrix: Solid

Date Received: 05/24/11 16:00

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared Or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Analysis	9060_PSEP		1	87833	06/13/11 18:05	SH	TAL SEA
Total/NA	Analysis	D422		1	87687	06/07/11 12:20	AO	TAL SEA

Laboratory References:

SC0178 = Nautilus Environmental, 5009 Pacific Hwy. East, Suite 2, Tacoma, WA 98424

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

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Certification Summary

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26360-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022
TestAmerica Seattle	Alaska	TA-Port Heiden Mobile Lab	10	UST-093
TestAmerica Seattle	California	NELAC	9	1115CA
TestAmerica Seattle	Florida	NELAC	4	E871074
TestAmerica Seattle	L-A-B	DoD ELAP		L2236
TestAmerica Seattle	L-A-B	ISO/IEC 17025		L2236
TestAmerica Seattle	Louisiana	NELAC	6	05016
TestAmerica Seattle	Montana	MT DEQ UST	8	N/A
TestAmerica Seattle	Oregon	NELAC	10	WA100007
TestAmerica Seattle	USDA	USDA		P330-11-00222
TestAmerica Seattle	Washington	State Program	10	C553

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.



Sample Summary

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26360-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-26360-1	E-WetSed-1-052311	Solid	05/23/11 10:10	05/24/11 16:00
580-26360-2	E-WetSed-2-052311	Solid	05/23/11 10:35	05/24/11 16:00
580-26360-3	E-WetSed-3-052311	Solid	05/23/11 11:10	05/24/11 16:00

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**Test America
Sediment Characterization - Toxicological Results**

Final Report

Report date: July 27, 2011

Submitted to:

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

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424

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SIGNATURE PAGE



Cat Curran, M.S.

Washington Laboratory Manager

This report has been prepared based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party.

1.0 INTRODUCTION

On May 23rd, 2011 Test America collected freshwater sediments for biological testing. Test America contracted with Nautilus Environmental to provide toxicity-testing services for the project. The three sediment samples selected for testing included samples E-WetSed-1-052311 (WETSED-1), E-WetSed-2-052311 (WETSED-2), and E-WetSed-3-052311 (WETSED-3). No reference sample was collected in conjunction with this project. The freshwater sediment samples were tested for toxicity using the *Chironomus dilutus* (aka *tentans*) 20-day survival and growth bioassay (USEPA 2000 and ASTM 2000), the *Hyalella azteca* 10-day survival bioassay (USEPA 2000 and ASTM 2000), and the 15-minute 100 percent porewater Microtox® bacteria bioluminescence test. All tests met negative and positive control criteria.

Results were evaluated by comparing test data to the criteria in the Sediment Evaluation Framework for the Pacific Northwest (RSET 2009) guidance document. *C. dilutus*, *H. azteca*, and Microtox results were compared to control results, and examined for statistically significant effects ($\alpha = 0.05$). Acceptability criteria from the literature are summarized in Table 1.

Table 1 Acceptability criteria for bioassays

Test Type	<i>C. dilutus</i> 20-Day	<i>H. azteca</i> 10-Day	Microtox
Endpoint	Survival and Growth	Survival	Luminescence
Source	RSET 2009	RSET 2009	RSET 2009
Test Criteria	One-hit failure is mortality > control mortality + 25% <u>and/or</u> biomass <60% of control biomass <u>and</u> significant difference Two-hit failure is mortality > control mortality + 15% <u>and/or</u> biomass <75% of control biomass <u>and</u> significant difference	One-hit failure is mortality > control mortality + 25% <u>and</u> significant difference Two-hit failure is mortality > control mortality + 10% <u>and</u> significant difference	One-hit failure is Luminescence <75% of control luminescence <u>and</u> significant difference Two-hit failure is Luminescence <85% of control luminescence <u>and</u> significant difference
Control Criteria	Negative control \leq 32% mortality and growth \geq 0.48 mg/ind. ash-free dry weight	Negative control \leq 20% mortality	Negative control final light output > 72% of initial output

2.0 SAMPLES

Upon receipt of samples from Test America, samples were matched with the chain-of-custody form and inspected. Samples were stored at $4 \pm 2^{\circ}\text{C}$ in the dark prior to test initiation. Toxicity tests were initiated within 2 weeks of collection (Table 2). Total ammonia levels in the porewater ranged from <1.0 to 2.7 milligrams per liter (mg/L). Both overlying ammonia and sulfides were also measured during testing, and the results are reported in the QA/QC sections for each test.

Table 2 Summary of sample collection and test initiation dates

Sample ID	Collection Date	Microtox Test Initiation Date	<i>H. azteca</i> Test Initiation Date	<i>C. dilutus</i> Test Initiation Date
E-WetSed-1-052311	May 23, 2011	June 6, 2011	June 7, 2011	June 9, 2011
E-WetSed-2-052311				
E-WetSed-3-052311				

3.0 *CHIRONOMUS DILUTUS* TEST

3.1 Methods

C. dilutus were exposed to test sediments for 20 days to determine the effects of site sediment on survival and growth. These tests were conducted according to methods presented in USEPA (2000) and ASTM (2000), and are summarized in Table 3.

C. dilutus egg cases were obtained from Aquatic BioSystems (Fort Collins, Colorado) and arrived at the laboratory on June 8, 2011. The egg cases were transported in insulated containers in oxygen-saturated water contained in 500-mL plastic bottles. Upon arrival at the laboratory, water quality parameters were measured and observations of organism condition were made. The egg cases were 20°C at receipt, and were cultured at 23°C . The organisms emerged from the egg cases on June 9th and tests were initiated the same day.

One day prior to test initiation (Day -1), the sediment samples were homogenized, 100-ml of sediment was distributed to each of eight labeled test chambers for each of the samples, and

175-ml diluted mineral water (prepared by diluting two parts Perrier® into eight parts deionized water) was added to each container. Control sediment consisted of clean, rinsed silica sand (50/50 mix of #30 and #70) mixed with peat moss (1/2 Tbsp) that was rinsed overnight in diluted mineral water. Eight test chambers were also prepared for the control sediment. An additional replicate was included for each sediment sample and the control sediment as a sacrificial test chamber for routine water quality measurements.

The test chambers were randomized and the sediments were left to settle overnight. On Day 0, overlying ammonia, sulfide, hardness, alkalinity, dissolved oxygen (DO), pH, conductivity, and temperature were measured. Twelve organisms were directly added to each test chamber, in random order.

Each test chamber was provided 1.5 mL of food daily (after the second renewal) starting on Day -1. The food consisted of a mixture of 4 g ground Tetrafin® flakes mixed with 1 L diluted mineral water. The feeding regime was reduced if the presence of excess food was observed on the sediment surface in several test chambers, which occurred on Day 8 only. Abnormal conditions or unusual animal behavior, if observed, were noted daily.

Temperature, DO, pH, and conductivity were monitored daily in the water quality replicate for each sample, while alkalinity, hardness, ammonia and sulfides were measured on Days 5, 10, and 15. Water was renewed twice daily.

At test termination, subsamples of overlying water were collected from each water quality replicate for ammonia, hardness, alkalinity, and sulfide analyses. The contents of each test chamber were gently mixed to suspend the sediment and poured through a 0.5-mm Nitex screen. The sediment was rinsed through the screen using dechlorinated tap water. Animals were removed from the screen and the number of survivors counted and recorded. Presence of pupae, flies, or exuviae (molts) were noted. The larvae were rinsed with deionized water and placed into pre-ashed, pre-weighed weigh boats. The weigh boats were placed in an oven at 60°C for at least 24-hours, then placed in a dessicator until dry weight could be measured. The weigh boats were then placed in a muffle furnace at 550°C for two hours, placed in a dessicator to cool, then weighed again to determine the ash weight. The ash weight was subtracted from the dry weight to determine the ash-free dry weight (AFDW). The number and AFDW of surviving chironomids were evaluated statistically by one-tailed t-test, or one-tailed Mann-Whitney U-test, as appropriate, to determine whether the samples exhibited a significant

decrease in survival or growth relative to the control ($p < 0.05$). Survival data were arcsine transformed, while growth data was either square root or log transformed as needed to stabilize the variances and improve normality of the data prior to performing the t-test. Data that failed to meet parametric assumptions even after transformations were analyzed with the non-parametric Mann-Whitney U-test. Site performance was evaluated against the sediment acceptability criteria outlined in RSET 2009 (Table 1). The criteria for acceptable test performance were an average of ≤ 32 percent mortality of control organisms, and an average of at least 0.48 mg/individual AFDW per surviving control organism.

A 96-hour reference toxicant test using copper chloride (CuCl_2) was conducted concurrently with the tests on the sediments to determine whether the sensitivity of the test organisms was appropriate. This test was run with four replicates, ten animals per replicate, in diluted mineral water at 23°C , with a small amount of clean control sand as a substrate. Tetrafin® slurry (1.25 mL of 4 g/L Tetrafin) was added to each chamber on days 0 and 2.

Table 3 Summary of methods for the 20-day test with *Chironomus dilutus*

Test initiation date	June 9, 2011
Test termination date	June 29, 2011
Test organism source	Aquatic BioSystems; Fort Collins, Colorado
Organism age at test initiation	< 4 hours post-emergence from egg case
Feeding	1.5 mL of 4.0 g/L Tetrafin mixture every day; frequency reduced if excess food observed
Test chamber	475-mL glass beaker
Test sediment volume	100 mL
Dilution water type & volume	175 mL diluted mineral water
Water renewal	Twice daily
Control sediment	Sand mixed with peat (1/2 Tbsp)
Number of organisms/replicate	12
Number of replicates/sample	8 plus water quality surrogates
Test temperature	$23 \pm 1^\circ\text{C}$
Illumination	16 hours light : 8 hours dark
Aeration	Started on Day 13
Reference toxicant	Copper chloride
Acceptability Criteria	$\leq 32\%$ mortality, 0.48 mg/individual AFDW

3.2 Results

The results of toxicity tests conducted using *C. dilutus* are provided in Table 4. Statistics were conducted using Biostat software, which follows the flowchart recommended by RSET. Comparisons are shown to the control. A detailed summary of results is provided in Appendix A. Summary and detailed statistical analyses for endpoint measurements are provided in Appendix B. Summaries of water quality data are provided in Appendix C. Benchsheets are provided in Appendix D.

Table 4 Results of *Chironomus dilutus* tests. Samples with statistically reduced survival or growth are underlined, and values failing two-hit RSET criteria are shaded gray, while samples failing one-hit RSET criteria are bold.^{1,2}

Sample	Percent Mortality (Mean ± SD)	Mortality Percent Difference From	Ash-Free Dry Weight per Org (mg)	Ash-Free Dry Weight Percent of Control
Control	6.3 ± 7.4	--	0.91 ± 0.11	--
WETSED-1	20.8 ± 21.4	14.6	1.11 ± 0.46	123
WETSED-2	<u>24.0 ± 12.9</u>	17.7	0.87 ± 0.22	96
WETSED-3	<u>63.5 ± 31.2</u>	57.3	0.60 ± 0.57	66

¹Criteria for one-hit failure is significant decrease in mortality (p<0.05), **and** mortality greater than 25% of control (RSET 2009), ²Criteria for two-hit failure is significant decrease in mortality (p<0.05), **and** mortality greater than 15% of control (RSET 2009)

3.3 QA/QC

The *C. dilutus* were received in good condition for the June 9, 2011 test. All water quality parameters remained within acceptable ranges throughout the tests. A summary of the water quality parameters is presented in Table 5. Dissolved oxygen levels were decreased to a level on concern on day 13, and all replicates were aerated from that point forward. There were no deviations from the protocols. The toxicity test for mortality with this species met the control acceptability criterion (<32 percent mortality; >0.48 mg/ind AFDW).

Table 5 Summary of water quality parameters for *C. dilutus* tests (means and ranges). Required values are shown in brackets.

Analyte	Control	WETSED-1	WETSED-2	WETSED-3
	Mean (Min-Max)			
Temp. (°C) [23 ± 1°C]	22.0 (21.7-22.2)	22.0 (21.8-22.2)	21.9 (21.7-22.1)	21.9 (21.7-22.1)
DO (mg/L) [>2.5 mg/L]	6.7 (3.3-9.0)	6.7 (3.5-9.0)	7.1 (5.2-9.1)	7.0 (5.2-9.0)
pH [6-9]	7.34 (6.58-7.99)	7.18 (6.43-7.89)	7.13 (6.46-7.80)	7.35 (6.80-7.99)
Cond. (µS/cm) [NA]	208 (127-296)	180 (149-227)	249 (158-413)	251 (192-382)
Alkalinity (mg/L CaCO ₃) [<50% variable]	58 (48-72)	65 (60-68)	69 (64-72)	85 (80-88)
Hardness (mg/L CaCO ₃) [<50% variable]	83 (80-88)	98 (80-108)	195 (84-228)	122 (100-140)
Total Overlying NH ₃ (mg/L) [<50% variable]	1.6 (1.1-1.7)	1.2 ^a (<1.0-1.3)	1.3 ^a (<1.0-1.3)	<1.0 (<1.0-<1.0)
Total Overlying Sulfides (mg/L) [NA]	0.035 ^a (<0.010-0.058)	0.028 ^a (<0.010-0.054)	0.044 ^a (<0.010-0.044)	0.020 ^a (<0.010-0.021)

^a estimated value

The result of the reference toxicant test conducted in conjunction with this testing program is provided in Table 6. Bench sheets and control charts are provided in Appendix E. This test was run with the same batch of organisms used in the testing program. The result of this test fell within the range of mean ± two standard deviations of historical results, indicating that the sensitivity of the test organisms was appropriate.

Table 6 *C. dilutus* reference toxicant test results.

Species	Test date	Toxicant	LC50	Acceptable Range	CV (%)
<i>Chironomus dilutus</i>	June 23, 2011	Cu	571 µg/L	401 - 1070 µg/L	22.7

3.4 Discussion

Mortality in the samples ranged from 20.8 to 63.5 percent, compared with 6.3 percent in the control. Sediment samples WETSED-2 and WETSED-3 were significantly different from control and were more than 15 percent higher than the control, failing the two-hit criterion for survival. WETSED-3 was also more than 25 percent higher than the control, failing the one-hit criterion for survival. Survival in WETSED-1 was not significantly different from the control, due to high

variability in the sample. Growth in the samples ranged from 0.60 to 1.11 mg/individual AFDW, compared with 0.91 mg/individual AFDW in the control. Growth in sample WETSED-1 was greater than the control. Growth in WETSED-2 and WETSED-3 was not significantly different from the control. Therefore none of the sites fail either the one- or two-hit failure requirements.

The total ammonia level reached 1.3 mg/L in the test sediments, which was well below the reported 4-day lethal concentration for 50% of test organisms (LC₅₀) range for *C. dilutus* of 82 to 370 mg/L (USEPA 2000). While sulfide toxicity thresholds are not available for this species, they were measured as part of the Ecology reference site study (Nautilus 2008), and samples with porewater sulfide values similar (0.226 to >0.600 mg/L) to the values found in the current study (0.010 to 0.054 mg/L) did not result in measurable effects. Therefore, it is unlikely that ammonia or sulfide levels caused the observed increases in mortality in the test sediments.

4.0 *HYALELLA AZTECA* TEST

4.1 Methods

H. azteca were exposed to test sediments for 10 days to determine the effects of site sediments on survival. These tests were conducted according to methods presented in USEPA (2000) and ASTM (2000), and are summarized in Table 7.

H. azteca were obtained from Aquatic Indicators (St. Augustine, Florida) and arrived at the laboratory on June 2, 2011. The organisms were transported in insulated boxes in oxygen-saturated water contained in plastic bags with fine screens as a substrate. Upon arrival at the laboratory, water quality parameters were measured and observations of animal condition were made. The organisms were acclimated to test conditions prior to test initiation over a 96-hour time period. During the acclimation period, the animals were observed for any indication of stress or significant mortality and any observations were recorded.

One day prior to test initiation (Day -1), the sediment samples were homogenized, 100-ml sediment was distributed to each of eight labeled test chambers for each of the samples, and 175-ml diluted mineral water (prepared by diluting two parts Perrier® into eight parts deionized water) was added to each container. Control sediment consisted of clean, rinsed silica sand (50/50 mix of #30 and #70) mixed with peat moss (1/2 Tbsp) that was rinsed

overnight in diluted mineral water. Eight test chambers were also prepared for the control sediment. An additional replicate was included for each sediment sample and the control sediment as a sacrificial test chamber for routine water quality measurements.

The test chambers were randomized and the sediments were left to settle overnight. On Day 0, overlying ammonia, sulfide, hardness, alkalinity, dissolved oxygen (DO), pH, conductivity, and temperature were measured. Organisms were carefully separated into groups of 10 amphipods in 30 mL cups containing diluted mineral water. The number of organisms was then recounted and any animals exhibiting signs of stress were replaced. The organisms were then gently added to the test chambers, two cups for each test chamber for a total of 20 organisms per chamber.

Temperature, DO, pH, and conductivity were monitored daily in the water quality replicate for each sample, while overlying ammonia, sulfide, hardness, and alkalinity were monitored on Day 5. Water was renewed twice daily in all chambers. Abnormal conditions or unusual animal behavior, if observed, were also noted daily. Each test chamber was fed 1 ml of Yeast Trout Chow (YTC) daily after the second renewal.

At test termination, subsamples of overlying water were collected for ammonia, hardness, alkalinity, and sulfides analyses, from each water quality replicate. The contents of each test chamber were gently mixed to suspend the sediment and poured through a 0.5-mm Nitex screen. The sediment was rinsed through the screen using dechlorinated tap water. The screen was then placed in diluted mineral water and the number of survivors counted and recorded. The number of surviving amphipods was evaluated statistically by one-tailed t-test, or one-tailed Mann-Whitey U-test, as appropriate, to determine whether the samples exhibited a significant decrease in survival relative to the control ($p < 0.05$). Survival data was arcsin transformed as needed to stabilize the variances and improve normality of the data. Site performance was evaluated against sediment acceptability criteria outlined by the Northwest Regional Sediment Evaluation Framework (RSET 2009), as presented in Table 1.

A 96-hour reference toxicant test using copper chloride (CuCl_2) was conducted concurrently with the sediment tests to determine whether the sensitivity of the test organisms was within the range typically observed. The test was run with four replicates, ten animals per replicate, in diluted mineral water with a square of nitex screen as a substrate.

Table 7 Summary of methods for the 10-day test with *Hyalella azteca*.

Test initiation date	June 7, 2011
Test termination date	June 17, 2011
Test organism source	Aquatic Indicators, St. Augustine, Florida
Organism age at test initiation	8 days
Feeding	1 ml of YTC daily
Test chamber	475-ml glass beaker
Test sediment volume	100 ml
Dilution water type & volume	175 ml diluted mineral water
Water renewal	Twice daily
Control sediment	Sand mixed with peat (1/2 Tbsp)
Number of organisms/replicate	10
Number of replicates/sample	8 plus water quality surrogate
Test temperature	23 ± 1°C
Illumination	16 hours light: 8 hours dark
Aeration	None
Reference toxicant	Copper chloride
Acceptability criterion for control	≥80% survival

4.2 Results

The results of toxicity tests conducted using *H. azteca* are provided in Table 8. Statistics were conducted using Biostat software, which follows the flowchart recommended by RSET. Comparisons are shown to the control. A detailed summary of results is provided in Appendix A. Summary and detailed statistical analyses for endpoint measurements are provided in Appendix B. Summaries of water quality data are provided in Appendix C. Benchsheets are provided in Appendix D.

Table 8 Results of *Hyaella azteca* tests. Samples with statistically reduced survival or are underlined, and values failing two-hit RSET criteria are shaded gray, while samples failing one-hit RSET criteria are bold.^{1,2}

Sample	Percent Mortality (Mean ± SD)	Mortality Percent Difference from Control
Control	1.3 ± 2.3	--
WETSED-1	<u>100 ± 0.0</u>	98.7
WETSED-2	<u>13.8 ± 11.6</u>	12.5
WETSED-3	3.8 ± 4.4	2.5

¹Criteria for one-hit failure is significant decrease in mortality (p<0.05), and mortality greater than 25% of control (RSET 2009), ²Criteria for two-hit failure is significant decrease in mortality (p<0.05), and mortality greater than 10% of control (RSET 2009)

4.3 QA/QC

The *H. azteca* were received in good condition and the toxicity tests with this species met the control acceptability criterion (<20 percent mortality). A summary of the water quality parameters is provided in Table 10. All water quality parameters remained within acceptable ranges throughout the tests. Instead of the 10 animals per replicate required by the protocol, 20 animals were added to each replicate. As the controls still met acceptability criteria and water quality stayed within ranges for the test, this deviation is not expected to have affected the results. There were no other deviations from the protocol.

Table 9 Summary of water quality parameters for *H. azteca* analyses (means and ranges). Required values are shown in brackets.

Analyte	Control	WETSED-1	WETSED-2	WETSED-3
	Mean (Min-Max)			
Temp. (°C)	22.3	22.2	22.2	22.2
[23 ± 1°C]	(21.9-23.4)	(21.9-23.3)	(21.9-23.3)	(21.8-23.2)
DO (mg/L)	7.0	6.3	6.4	6.5
[>2.5 mg/L]	(5.8-8.4)	(5.4-7.3)	(5.4-7.2)	(5.6-7.3)
pH	7.26	6.83	6.83	7.01
[6-9]	(6.50-7.79)	(6.22-7.20)	(6.35-7.18)	(6.63-7.37)
Cond. (µS/cm)	172	188	283	223
[NA]	(145-189)	(164-262)	(190-418)	(159-343)
Alkalinity (mg/L CaCO ₃)	52	67	75	72
[<50% variable]	(44-60)	(60-72)	(64-80)	(68-76)
Hardness (mg/L CaCO ₃)	69	129	199	180
[<50% variable]	(60-76)	(124-132)	(192-204)	(172-188)
Total Overlying NH ₃	1.0 ^a	1.0 ^a	1.0 ^a	1.0 ^a
(mg/L) [<50% variable]	(<1.0-<1.0)	(<1.0-1.0)	(<1.0-<1.0)	(<1.0-<1.0)
Total Overlying Sulfides	0.091 ^a	0.114	0.058	0.091 ^a
(mg/L) [<50% variable]	(<0.010-0.125)	(0.014-0.293)	(0.012-0.126)	(<0.010-0.107)

^aestimated value

Nautilus Environmental
Washington Laboratory

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The result of the reference toxicant test conducted in conjunction with this testing program is provided in Table 10. Bench sheets and control charts are provided in Appendix E. This test was run with the same batch of organisms used in the testing program. The result of this test fell within the range of mean \pm two standard deviations of historical results, indicating that the sensitivity of the test organisms was appropriate.

Table 10 H. Azteca reference toxicant test results.

Species	Test date	Toxicant	LC50	Acceptable Range	CV (%)
<i>Hyalella azteca</i>	June 2, 2011	Cu	188 $\mu\text{g/L}$	0 - 1360 $\mu\text{g/L}$	74.6

4.4 Discussion

Mortality in the samples ranged from 3.8 to 100 percent, compared with 1.3 percent in the control. Sediment samples WETSED-1 and WETSED-2 were significantly different from control and were more than 10 percent higher than the control, failing the two-hit criterion for survival. WETSED-1 was more than 25 percent higher than the control, failing the one-hit criterion for survival.

5.0 MICROTOX® TEST

5.1 Methods

The luminescent marine bacterium *Vibrio fischeri* was used as the test organism for the Microtox test. The bacteria were exposed to porewater extracted from sediment samples and light readings were measured after 5 and 15 minutes of exposure. Test equipment included the Microtox Model 500 Analyzer, which measures light output and is equipped with a 15°C chamber to maintain test temperature in the samples and a 4°C chamber to keep the rehydrated bacteria chilled.

Vials of freeze-dried bacteria (Microtox® Acute Reagent Lot #s 10K1032, expiration date 10/2012) were obtained from Strategic Diagnostics, Inc. and stored at -20°C until use. On the day of the test, a vial was rehydrated with 1.0 ml of Microtox Reconstitution Solution, mixed thoroughly, and allowed to equilibrate for 30 minutes at 4°C. The bacteria were used within 2 hours of rehydration.

The tests were conducted in accordance with Ecology (2008) test protocol; these methods are summarized in Table 11. Approximately 50 ml of porewater was extracted from each sample by centrifuging for 30 minutes at 4500 G. Each porewater extract was adjusted to a salinity of 20 parts per thousand (ppt) with Crystal Sea Marine Mix artificial seasalt. The DO ranged from 7.2 to 8.2 mg/L in the adjusted samples. Since the DO in each sample was between 50 and 100 percent saturation (5.0 to 10.2 mg/L), the samples did not require aeration. The pH was adjusted to 7.8 to 8.2 using NaOH or HCl. None of the porewater samples were diluted below 90 percent. The control was deionized water adjusted to 20 ppt with artificial seasalt. Each porewater was tested within 3 hours of extraction.

Tests were conducted using five replicates. Disposable glass cuvettes were placed in the Microtox test wells and 1 ml of salinity-adjusted porewater was added. The rehydrated bacteria (reagent) were thoroughly mixed and 10 μ l was added to each test cuvette, with mixing after each addition. After an initial incubation period of 5 minutes, the control cuvette was placed in the read chamber of the Microtox Analyzer to set the instrument. Initial light readings (I_0) were then taken by placing each cuvette in the read chamber of the Microtox Analyzer and measurements were recorded on a data sheet. Light output was measured at 5 minutes (I_5) and 15 minutes (I_{15}) of exposure after the initial light reading (I_0).

Test acceptability criteria were final mean control light output greater than or equal to 72 percent of initial control mean output, and test mean output not greater than 110 percent of control mean output. The data were evaluated statistically by conducting one-tailed t-tests or Mann-Whitney U-tests on the change in output over time for test sediment porewaters compared to the control porewater (where light output was lower than the control). Sediment performance was evaluated against sediment acceptability criteria outlined by the Northwest Regional Sediment Evaluation Framework (RSET 2009), as presented in Table 1.

A reference toxicant test using phenol was conducted in conjunction with the sediment tests to ensure that the sensitivity of the test was within the acceptable range of historical values determined in this laboratory.

Table 11 Summary of methods for the Microtox test.

Test dates	June 6, 2011
Test organism source	Strategic Diagnostics
Batch number and expiration date	Lot#10K1032, Expiration 10/2012
Control	Saltwater (20 ppt) prepared with Crystal Sea artificial seasalt
Sample preparation	Centrifugation at 4500 G for 30 minutes; salinity adjustment to 20 ppt using Crystal Sea salt; pH adjustment to 7.8-8.2 ppt; DO 5.0 to 10.2 mg/L
Test chamber	Glass cuvette
Test volume	1 mL
Volume of inoculum/replicate	10 µL
Number of replicates/sample	5
Test temperature	15 ± 1°C
Aeration	None
Reference toxicant	Phenol
Acceptability criteria	Final control light output ≥72% initial; test output ≤110% control

5.2 Results

The results of toxicity tests conducted using Microtox are provided in Table 12. Statistics were conducted using Biostat software, which follows the flowchart recommended by RSET. Comparisons are shown to the control. A detailed summary of results is provided in Appendix A. Summary and detailed statistical analyses for endpoint measurements are provided in Appendix B. Summaries of water quality data are provided in Appendix C. Benchsheets are provided in Appendix D.

Table 12 Results of Microtox tests. Samples with statistically reduced luminescence are underlined, and values failing two-hit RSET criteria are shaded gray, while samples failing one-hit RSET criteria are bold.^{1,2}

Sample	5 minute reading		15 minute reading	
	Mean % of initial light output	Significantly different relative to the control	Mean % of initial light output	Significantly different relative to the control
Control	96 ± 3	--	84 ± 3	--
WETSED-1	<u>68 ± 4</u>	Yes	<u>17 ± 1</u>	Yes
WETSED-2	<u>72 ± 1</u>	Yes	<u>25 ± 1</u>	Yes
WETSED-3	<u>81 ± 1</u>	Yes	<u>35 ± 2</u>	Yes

¹Criteria for one-hit failure is luminescence less than 75% of control luminescence **and** significant difference (RSET 2009); ²Criteria for two-hit failure is luminescence less than 85% of control luminescence **and** significant difference (RSET 2009)

5.3 QA/QC

A summary of the water quality parameters for the Microtox tests is provided in Table 13. The Microtox tests met control acceptance criteria and there were no deviations from protocol.

Table 13 Summary of sites water quality parameters for Microtox analyses

Analyte	Mean (st.dev)	Minimum	Maximum	Number of Readings	Met Requirements
Initial Salinity (ppt)	1.1 (0.3)	0.8	1.3	3	N/A
Final Salinity (ppt)	19.9 (0.4)	19.5	20.2	3	Y
Initial DO (mg/L)	7.3 (0.2)	7.2	7.5	3	N/A
Final DO (mg/L)	7.3 (0.2)	7.2	7.5	3	Y
Initial pH	7.5 (0.4)	7.2	7.9	3	N/A
Final pH	7.9 (0.02)	7.9	7.9	3	Y
Final Concentration (%)	99.9 (0.0)	99.0	100	3	Y
Total NH3 (mg/L)	2.0 (1.0) ¹	<1.0	2.7	3	N/A

¹estimated value

Results of the reference toxicant test conducted in conjunction with this testing program are provided in Table 14. Bench sheets and control charts are provided in Appendix E. The test was run with the same batch of organisms used in the testing program. The results of this test fell within the range of mean ± two standard deviations of historical results, indicating that the sensitivity of the test organisms was appropriate.

Table 14 Microtox reference toxicant test results.

Species	Test date	Toxicant	EC50	Acceptable Range (mean ± 2 S.D.)	CV (%)
Microtox	June 6, 2011	Phenol	5 min: 19.6 mg/L	5 min: 24.2 - 55.1	19.5
			15 min: 40.9 mg/L	15 min: 31.0 - 92.2	24.8

5.4 Discussion

Change in light output in the samples at 15 minutes ranged from 17 to 35 percent, compared with 84 percent in the controls. Samples WETSED1, WETSED2, and WETSED3 were all significantly different from the controls and had luminescence less than 75% of controls, failing the one-hit criteria for luminescence.

6.0 CONCLUSIONS

WETSED-1 failed the one-hit criterion for *H. azteca* survival and the one-hit criterion for Microtox luminescence, but did not have a hit in the *C. dilutus* survival or growth criterion (RSET 2009). WETSED-2 failed the two-hit criterion for *C. dilutus* and *H. azteca* survival, and failed the one-hit criterion for Microtox luminescence (RSET 2009). WETSED-3 failed the one-hit criterion for *C. dilutus* survival and Microtox luminescence (RSET 2009).

Table 15 One-hit/Two-hit criteria summary results table

Site	<i>C. dilutus</i> Survival	<i>C. dilutus</i> Growth	<i>H. azteca</i> Survival	Microtox Luminescence
WETSED-1	None	None	One-hit	One-hit
WETSED-2	Two-hit	None	Two-hit	One-hit
WETSED-3	One-hit	None	None	One-hit

7.0 REFERENCES

- American Society of Testing and Materials (ASTM). 2000. Test Method for Measuring the Toxicity of Sediment-Associated Contaminants with Freshwater Invertebrates. ASTM Designation E 1706-00.
- Nautilus Environmental. 2008. Evaluation of Candidate Freshwater Sediment Reference Sites-Toxicological Results. Final Report.
- Regional Sediment Evaluation Team (RSET). 2009. Sediment Evaluation Framework for the Pacific Northwest. May 2009.
- U.S. Environmental Protection Agency (USEPA). 2000. Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates. EPA/600/R-99/064.
- Washington Department of Ecology. 2008. Sediment Sampling and Analysis Plan Appendix: Guidance on the Development of Sediment Sampling and Analysis Plans Meeting the Requirements of the Sediment Management Standards Publication No. 03-09-043. Revised February 2008.
- Washington Department of Ecology. 2009. Baseline Characterization of Nine Proposed Freshwater Sediment Reference Sites, 2008. Publication Number 09-03-032.

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APPENDIX A - Results Summaries

Appendix A-1. 20-Day Solid Phase *Chironomous dilutus* Survival & Growth
Test America Sediment Characterization

Test Initiation: June 9, 2011

^aNumber of pupae and flies
^bAFDW = Ash-Free Dry Weight. Weights are for larvae only, not pupated animals
^cOne-tailed t-test. Survival data arcsine square-root transformed prior to analysis. Growth data either square root or log transformed prior to analysis Alpha = 0.05
 Shaded values fail RSET one-hit criteria (Test sediment mortality >25% and significantly different; Test sediment Growth/Control sediment Growth <0.7 and significantly different)

Site	Replicate	Rnd. No.	# Alive	# Pupated ^a	% Mortality	% Mortality	Mean % Mortality	St Dev	AFDW per Org (mg)	Mean AFDW per Org (mg)	St Dev	Significant Decrease Compared to Control ^c	
												Survival	Growth
Control	1	9	10	0	16.7				0.83				
	2	6	12	0	0.0				0.87				
	3	15	11	0	8.3				0.86				
	4	11	12	0	0.0				0.93				
	5	5	10	0	16.7	6.3	7.4		1.02	0.91	0.11	--	--
	6	16	12	0	0.0				1.00				
	7	14	12	0	0.0				1.04				
	8	3	11	0	8.3				0.72				
WETSED-1	1	1	12	0	0.0				1.00				
	2	2	12	0	0.0				0.76				
	3	10	10	0	16.7				0.43				
	4	8	7	0	41.7	20.8	21.4		1.06	1.11	0.46	No	No
	5	12	12	0	0.0				1.58				
	6	4	9	0	25.0				1.77				
	7	7	5	0	58.3				0.83				
	8	13	9	0	25.0				1.48				
WETSED-2	1	1	9	0	25.0				0.95				
	2	2	10	0	16.7				0.66				
	3	10	9	0	25.0				1.10				
	4	8	10	0	16.7	24.0	12.9		0.66	0.87	0.22	Yes	No
	5	12	8	0	33.3				1.26				
	6	4	12	0	0.0				0.78				
	7	7	7	0	41.7				0.74				
	8	13	8	0	33.3				0.81				
WETSED-3	1	1	4	0	66.7				1.63				
	2	2	9	0	25.0				0.61				
	3	10	1	0	91.7				0.14				
	4	8	0	0	100.0	63.5	31.2		0.00	0.60	0.57	Yes	No
	5	12	0	0	100.0				0.00				
	6	4	5	0	58.3				0.49				
	7	7	8	0	33.3				0.94				
	8	13	8	0	33.3				1.01				



**Appendix Table A-2. *Hyalella azteca* 10-day Survival
Test America Sediment Characterization**

Test Initiation: June 7, 2011

Site	Rep	# Alive	% Mortality	Mean % Mortality	St. Dev.	Significant Decrease Compared to Control ^a
Control	1	20	0	1.3	2.3	--
	2	20	0			
	3	20	0			
	4	19	5			
	5	20	0			
	6	20	0			
	7	19	5			
	8	20	0			
WETSED-1	1	0	100	100.0	0.0	Yes
	2	0	100			
	3	0	100			
	4	0	100			
	5	0	100			
	6	0	100			
	7	0	100			
	8	0	100			
WETSED-2	1	18	10	13.8	11.6	Yes
	2	19	5			
	3	19	5			
	4	16	20			
	5	14	30			
	6	14	30			
	7	20	0			
	8	18	10			
WETSED-3	1	20	0	3.8	4.4	No
	2	19	5			
	3	18	10			
	4	18	10			
	5	19	5			
	6	20	0			
	7	20	0			
	8	20	0			

^a One-tailed t-test. Survival data arcsine square-root transformed prior to analysis. Alpha = 0.05

Shaded values fail RSET one-hit criteria (Test sediment mortality - Control sediment mortality >25% and significantly different)

Bold values fail RSET two-hit criteria (Test sediment mortality - Control sediment mortality >10% and significantly different)

**Appendix Table A-3. Microtox 100 Percent Sediment Porewater Test
 Test America Sediment Characterization
 Client: Test America
 Test Date: 6/6/2011**

Site	Light Reading								$T_{(mean)}/C_{(mean)}$	Quality Control Steps	
	Reading	Replicate					Mean	St.Dev.		Change in control light readings compared to initial control $F_{c(mean)/I_{c(mean)}}$	Evaluation of initial light output in site sediments $(0)T_{(mean)}/I_{(0)C_{(mean)}}$
		1	2	3	4	5					
CON	$I_{(0)}$	96	100	104	102	98	100	3.16			
	$I_{(5)}$	90	100	98	96	94	96	3.85		0.96	
	$I_{(15)}$	82	80	85	85	87	84	2.77		0.84	
	$C_{(5)}$	0.94	1.00	0.94	0.94	0.96	0.96	0.03			
	$C_{(15)}$	0.85	0.80	0.82	0.83	0.89	0.84	0.03			
WETSED-1	$I_{(0)}$	80	75	75	80	77	77	2.51			0.77
	$I_{(5)}$	58	49	54	51	53	53	3.39			
	$I_{(15)}$	13	13	12	13	14	13	0.71			
	$T_{(5)}$	0.73	0.65	0.72	0.64	0.69	0.68	0.04	0.72		
	$T_{(15)}$	0.16	0.17	0.16	0.16	0.18	0.17	0.01	0.20		
WETSED-2	$I_{(0)}$	81	84	74	78	79	79	3.70			0.79
	$I_{(5)}$	57	59	54	56	57	57	1.82			
	$I_{(15)}$	19	21	19	19	21	20	1.10			
	$T_{(5)}$	0.70	0.70	0.73	0.72	0.72	0.72	0.01	0.75		
	$T_{(15)}$	0.23	0.25	0.26	0.24	0.27	0.25	0.01	0.30		
WETSED-3	$I_{(0)}$	74	78	77	77	75	76	1.64			0.76
	$I_{(5)}$	59	64	63	63	60	62	2.17			
	$I_{(15)}$	25	26	29	29	26	27	1.87			
	$T_{(5)}$	0.80	0.82	0.82	0.82	0.80	0.81	0.01	0.85		
	$T_{(15)}$	0.34	0.33	0.38	0.38	0.35	0.35	0.02	0.42		

$I_{(0)}$ is the light reading after the initial five minute incubation period

$I_{(5)}$ is the light reading five minutes after $I_{(0)}$

$I_{(15)}$ is the light reading fifteen minutes after $I_{(0)}$

$C_{(t)}$, $R_{(t)}$, and $T_{(t)}$ are the changes in light readings from the initial reading in each sample container for the control, reference sediment

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APPENDIX B - Statistical Analyses

Project Name: Test America

Sample: x1
 Samp ID: WETSED-1
 Alias: Chironomid Growth
 Replicates: 8
 Mean: 1.114
 SD: 0.458
 Tr Mean: 0.316
 Trans SD: 0.096

Ref Samp: x2
 Ref ID: Control
 Alias: Chironomid Growth
 Replicates: 8
 Mean: 0.909
 SD: 0.11
 Tr Mean: 0.28
 Trans SD: 0.025

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: 0 Residual SD: 0.061 SS: 0.07 K: 8 b: 0.258 Alpha Level: 0.05 Calculated Value: 0.9586 Critical Value: <= 0.887 Normally Distributed: Yes Override Option: N/A	Test Residual Mean: 0.075 Test Residual SD: 0.053 Ref. Residual Mean: 0.02 Ref. Residual SD: 0.013 Deg. of Freedom: 14 Alpha Level: 0.1 Calculated Value: 2.8368 Critical Value: >= 1.761 Variances Homogeneous: No	Statistic: Approximate t Balanced Design: Yes Transformation: Log10 (x + 1.0) Experimental Hypothesis Null: x1 >= x2 Alternate: x1 < x2 Degrees of Freedom: 8 Experimental Alpha Level: 0.05 Calculated Value: -1.0133 Critical Value: >= 1.860 Accept Null Hypothesis: Yes Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shapiro-Wilk Residuals
1	1	0.301	0.83	0.262	0.015	0.018			-0.161
2	0.76	0.246	0.87	0.272	0.07	0.008			-0.07
3	0.43	0.155	0.86	0.27	0.161	0.011			-0.053
4	1.06	0.314	0.93	0.286	0.002	0.005			-0.045
5	1.58	0.412	1.02	0.305	0.096	0.025			-0.018
6	1.77	0.442	1	0.301	0.127	0.021			-0.015
7	0.83	0.262	1.04	0.31	0.053	0.03			-0.011
8	1.48	0.394	0.72	0.236	0.079	0.045			-0.008
9									-0.002
10									0.005
11									0.021
12									0.025
13									0.03
14									0.079
15									0.096
16									0.127

Project Name: Test America

Sample: x1
 Samp ID: WETSED-1
 Alias: Chironomid Mortality
 Replicates: 8
 Mean: 20.838
 SD: 21.358
 Tr Mean: 21.765
 Trans SD: 19.595

Ref Samp: x2
 Ref ID: Control
 Alias: Chironomid Mortality
 Replicates: 8
 Mean: 6.25
 SD: 7.397
 Tr Mean: 10.216
 Trans SD: 11.272

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: 0 Residual SD: 13.721 SS: 3577.056 K: 8 b: 57.669 Alpha Level: 0.05 Calculated Value: 0.9297 Critical Value: <= 0.887 Normally Distributed: Yes Override Option: N/A	Test Residual Mean: 16.324 Test Residual SD: 8.912 Ref. Residual Mean: 10.216 Ref. Residual SD: 2.788 Deg. of Freedom: 14 Alpha Level: 0.1 Calculated Value: 1.85 Critical Value: >= 1.761 Variances Homogeneous: No	Statistic: Approximate t Balanced Design: Yes Transformation: ArcSin Experimental Hypothesis Null: $x_1 \leq x_2$ Alternate: $x_1 > x_2$ Degrees of Freedom: 11 Experimental Alpha Level: 0.05 Calculated Value: 1.445 Critical Value: >= 1.796 Accept Null Hypothesis: Yes Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shapiro-Wilk Residuals
1	0	0	16.7	24.12	21.765	13.904			-21.765
2	0	0	0	0	21.765	10.216			-21.765
3	16.7	24.12	8.3	16.744	2.355	6.528			-21.765
4	41.7	40.222	0	0	18.457	10.216			-10.216
5	0	0	16.7	24.12	21.765	13.904			-10.216
6	25	30	0	0	8.235	10.216			-10.216
7	58.3	49.778	0	0	28.013	10.216			-10.216
8	25	30	8.3	16.744	8.235	6.528			2.355
9									6.528
10									6.528
11									8.235
12									8.235
13									13.904
14									13.904
15									18.457
16									28.013

Project Name: Test America

Sample: x1
 Samp ID: WETSED1
 Alias: Hyalella Mortality
 Replicates: 8
 Mean: 100
 SD: 0
 Tr Mean: 0.76
 Trans SD: 0

Ref Samp: x2
 Ref ID: Control
 Alias: Hyalella Mortality
 Replicates: 8
 Mean: 1.25
 SD: 2.315
 Tr Mean: -0.76
 Trans SD: 0.373

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: Residual SD: SS: K: b: Alpha Level: N/A Calculated Value: N/A Critical Value: N/A Normally Distributed: N/A Override Option: Not Invoked	Test Residual Mean: 0 Test Residual SD: 0 Ref. Residual Mean: 0.302 Ref. Residual SD: 0.187 Deg. of Freedom: 14 Alpha Level: 0.1 Calculated Value: 4.5826 Critical Value: >= 1.761 Variances Homogeneous: No	Statistic: Approximate t Balanced Design: Yes Transformation: Rankits Experimental Hypothesis Null: $x_1 \leq x_2$ Alternate: $x_1 > x_2$ Degrees of Freedom: 7 Experimental Alpha Level: 0.05 Calculated Value: 11.5223 Critical Value: >= 1.895 Accept Null Hypothesis: No Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Shapiro-Wilk Residuals
1	100	0.76	0	-0.962	0	0.202	-0.962	
2	100	0.76	0	-0.962	0	0.202	-0.962	
3	100	0.76	0	-0.962	0	0.202	-0.962	
4	100	0.76	5	-0.156	0	0.605	-0.962	
5	100	0.76	0	-0.962	0	0.202	-0.962	
6	100	0.76	0	-0.962	0	0.202	-0.962	
7	100	0.76	5	-0.156	0	0.605	-0.156	
8	100	0.76	0	-0.962	0	0.202	-0.156	
9							0.76	
10							0.76	
11							0.76	
12							0.76	
13							0.76	
14							0.76	
15							0.76	
16							0.76	

Project Name: Test America

Sample: x1
 Samp ID: WETSED-1
 Alias: Luminescence
 Replicates: 5
 Mean: 0.686
 SD: 0.04
 Tr Mean: 4.749
 Trans SD: 0.14

Ref Samp: x2
 Ref ID: Control
 Alias: Luminescence
 Replicates: 5
 Mean: 0.956
 SD: 0.026
 Tr Mean: 5.611
 Trans SD: 0.076

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: 0 Residual SD: 0.073 SS: 0.102 K: 5 b: 0.308 Alpha Level: 0.05 Calculated Value: 0.9312 Critical Value: <= 0.842 Normally Distributed: Yes Override Option: N/A	Test Residual Mean: 0.114 Test Residual SD: 0.058 Ref. Residual Mean: 0.056 Ref. Residual SD: 0.043 Deg. of Freedom: 8 Alpha Level: 0.1 Calculated Value: 1.7951 Critical Value: >= 1.860 Variances Homogeneous: Yes	Statistic: Student's t Balanced Design: Yes Transformation: ArcSin Experimental Hypothesis Null: $x_1 \geq x_2$ Alternate: $x_1 < x_2$ Degrees of Freedom: 8 Experimental Alpha Level: 0.05 Calculated Value: 12.0584 Critical Value: >= 1.860 Accept Null Hypothesis: No Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shapiro-Wilk Residuals
1	0.73	4.901	0.94	5.564	0.152	0.047			-0.161
2	0.65	4.624	1	5.739	0.125	0.129			-0.125
3	0.72	4.868	0.94	5.564	0.118	0.047			-0.047
4	0.64	4.589	0.94	5.564	0.161	0.047			-0.047
5	0.69	4.765	0.96	5.623	0.016	0.012			-0.047
6									0.012
7									0.016
8									0.118
9									0.129
10									0.152

Project Name: Test America

Sample: x1
 Samp ID: WETSED-1
 Alias: Luminescence 15
 Replicates: 5
 Mean: 0.166
 SD: 0.009
 Tr Mean: 2.334
 Trans SD: 0.062

Ref Samp: x2
 Ref ID: Control
 Alias: Luminescence 15
 Replicates: 5
 Mean: 0.838
 SD: 0.034
 Tr Mean: 5.251
 Trans SD: 0.107

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: 0 Residual SD: 0.057 SS: 0.061 K: 5 b: 0.239 Alpha Level: 0.05 Calculated Value: 0.9289 Critical Value: <= 0.842 Normally Distributed: Yes Override Option: N/A	Test Residual Mean: 0.05 Test Residual SD: 0.027 Ref. Residual Mean: 0.08 Ref. Residual SD: 0.059 Deg. of Freedom: 8 Alpha Level: 0.1 Calculated Value: 1.0345 Critical Value: >= 1.860 Variances Homogeneous: Yes	Statistic: Student's t Balanced Design: Yes Transformation: ArcSin Experimental Hypothesis Null: $x_1 \geq x_2$ Alternate: $x_1 < x_2$ Degrees of Freedom: 8 Experimental Alpha Level: 0.05 Calculated Value: 52.6779 Critical Value: >= 1.860 Accept Null Hypothesis: No Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shapiro-Wilk Residuals
1	0.16	2.292	0.85	5.29	0.042	0.038			-0.12
2	0.17	2.363	0.8	5.132	0.029	0.12			-0.056
3	0.16	2.292	0.82	5.195	0.042	0.056			-0.042
4	0.16	2.292	0.83	5.227	0.042	0.024			-0.042
5	0.18	2.432	0.89	5.413	0.097	0.162			-0.042
6									-0.024
7									0.029
8									0.038
9									0.097
10									0.162

Project Name: Test America

Sample: x1
 Samp ID: WETSED-2
 Alias: Chironomid Growth
 Replicates: 8
 Mean: 0.87
 SD: 0.217
 Tr Mean: 0.269
 Trans SD: 0.049

Ref Samp: x2
 Ref ID: Control
 Alias: Chironomid Growth
 Replicates: 8
 Mean: 0.909
 SD: 0.11
 Tr Mean: 0.28
 Trans SD: 0.025

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: 0 Residual SD: 0.033 SS: 0.021 K: 8 b: 0.141 Alpha Level: 0.05 Calculated Value: 0.9478 Critical Value: <= 0.887 Normally Distributed: Yes Override Option: N/A	Test Residual Mean: 0.04 Test Residual SD: 0.024 Ref. Residual Mean: 0.02 Ref. Residual SD: 0.013 Deg. of Freedom: 14 Alpha Level: 0.1 Calculated Value: 1.9909 Critical Value: >= 1.761 Variances Homogeneous: No	Statistic: Approximate t Balanced Design: Yes Transformation: Log10 (x + 1.0) Experimental Hypothesis Null: x1 >= x2 Alternate: x1 < x2 Degrees of Freedom: 11 Experimental Alpha Level: 0.05 Calculated Value: 0.5526 Critical Value: >= 1.796 Accept Null Hypothesis: Yes Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shapiro-Wilk Residuals
1	0.95	0.29	0.83	0.262	0.021	0.018			-0.049
2	0.66	0.22	0.87	0.272	0.049	0.008			-0.049
3	1.1	0.322	0.86	0.27	0.053	0.011			-0.045
4	0.66	0.22	0.93	0.286	0.049	0.005			-0.029
5	1.26	0.354	1.02	0.305	0.085	0.025			-0.019
6	0.78	0.25	1	0.301	0.019	0.021			-0.018
7	0.74	0.241	1.04	0.31	0.029	0.03			-0.012
8	0.81	0.258	0.72	0.236	0.012	0.045			-0.011
9									-0.008
10									0.005
11									0.021
12									0.021
13									0.025
14									0.03
15									0.053
16									0.085

Project Name: Test America

Sample: x1
 Samp ID: WETSED-2
 Alias: Chironomid Mortality
 Replicates: 8
 Mean: 23.963
 SD: 12.933
 Tr Mean: 27.369
 Trans SD: 12.382

Ref Samp: x2
 Ref ID: Control
 Alias: Chironomid Mortality
 Replicates: 8
 Mean: 6.25
 SD: 7.397
 Tr Mean: 10.216
 Trans SD: 11.272

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: 0 Residual SD: 10.163 SS: 1962.613 K: 8 b: 42.307 Alpha Level: 0.05 Calculated Value: 0.912 Critical Value: <= 0.887 Normally Distributed: Yes Override Option: N/A	Test Residual Mean: 8.466 Test Residual SD: 8.45 Ref. Residual Mean: 10.216 Ref. Residual SD: 2.788 Deg. of Freedom: 14 Alpha Level: 0.1 Calculated Value: 0.5562 Critical Value: >= 1.761 Variances Homogeneous: Yes	Statistic: Student's t Balanced Design: Yes Transformation: ArcSin Experimental Hypothesis Null: $x_1 \leq x_2$ Alternate: $x_1 > x_2$ Degrees of Freedom: 14 Experimental Alpha Level: 0.05 Calculated Value: 2.8974 Critical Value: >= 1.761 Accept Null Hypothesis: No Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shapiro-Wilk Residuals
1	25	30	16.7	24.12	2.631	13.904			-27.369
2	16.7	24.12	0	0	3.248	10.216			-10.216
3	25	30	8.3	16.744	2.631	6.528			-10.216
4	16.7	24.12	0	0	3.248	10.216			-10.216
5	33.3	35.244	16.7	24.12	7.875	13.904			-10.216
6	0	0	0	0	27.369	10.216			-3.248
7	41.7	40.222	0	0	12.853	10.216			-3.248
8	33.3	35.244	8.3	16.744	7.875	6.528			2.631
9									2.631
10									6.528
11									6.528
12									7.875
13									7.875
14									12.853
15									13.904
16									13.904

Project Name: Test America

Sample: x1
 Samp ID: WETSED2
 Alias: Hyalella Mortality
 Replicates: 8
 Mean: 13.75
 SD: 11.573
 Tr Mean: 19.462
 Trans SD: 11.307

Ref Samp: x2
 Ref ID: Control
 Alias: Hyalella Mortality
 Replicates: 8
 Mean: 1.25
 SD: 2.315
 Tr Mean: 3.23
 Trans SD: 5.981

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: 0 Residual SD: 7.764 SS: 1145.389 K: 8 b: 31.911 Alpha Level: 0.05 Calculated Value: 0.8891 Critical Value: <= 0.887 Normally Distributed: Yes Override Option: N/A	Test Residual Mean: 8.65 Test Residual SD: 6.507 Ref. Residual Mean: 4.845 Ref. Residual SD: 2.991 Deg. of Freedom: 14 Alpha Level: 0.1 Calculated Value: 1.5026 Critical Value: >= 1.761 Variances Homogeneous: Yes	Statistic: Student's t Balanced Design: Yes Transformation: ArcSin Experimental Hypothesis Null: $x_1 \leq x_2$ Alternate: $x_1 > x_2$ Degrees of Freedom: 14 Experimental Alpha Level: 0.05 Calculated Value: 3.5891 Critical Value: >= 1.761 Accept Null Hypothesis: No Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shapiro-Wilk Residuals
1	10	18.435	0	0	1.027	3.23			-19.462
2	5	12.921	0	0	6.541	3.23			-6.541
3	5	12.921	0	0	6.541	3.23			-6.541
4	20	26.565	5	12.921	7.103	9.691			-3.23
5	30	33.211	0	0	13.749	3.23			-3.23
6	30	33.211	0	0	13.749	3.23			-3.23
7	0	0	5	12.921	19.462	9.691			-3.23
8	10	18.435	0	0	1.027	3.23			-3.23
9									-3.23
10									-1.027
11									-1.027
12									7.103
13									9.691
14									9.691
15									13.749
16									13.749

Project Name: Test America

Sample: x1
 Samp ID: WETSED-2
 Alias: Luminescence 5
 Replicates: 5
 Mean: 0.714
 SD: 0.013
 Tr Mean: N/A
 Trans SD: N/A

Ref Samp: x2
 Ref ID: Control
 Alias: Luminescence 5
 Replicates: 5
 Mean: 0.956
 SD: 0.026
 Tr Mean: N/A
 Trans SD: N/A

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: 0 Residual SD: 0.041 SS: 0.032 K: 5 b: 0.16 Alpha Level: 0.05 Calculated Value: 0.8075 Critical Value: <= 0.842 Normally Distributed: No Override Option: Not Invoked	Test Residual Mean: 0.038 Test Residual SD: 0.016 Ref. Residual Mean: 0.056 Ref. Residual SD: 0.043 Deg. of Freedom: 8 Alpha Level: 0.1 Calculated Value: 0.8791 Critical Value: >= 1.860 Variances Homogeneous: Yes	Statistic: Mann-Whitney Balanced Design: Yes Transformation: rank-order Experimental Hypothesis Null: $x1 \geq x2$ Alternate: $x1 < x2$ Mann-Whitney N1: 5 Mann-Whitney N2: 5 Degrees of Freedom: Experimental Alpha Level: 0.05 Calculated Value: 25 Critical Value: >= 21.000 Accept Null Hypothesis: No Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shapiro-Wilk Residuals
1	0.7	1.5	0.94	7	0.048	0.047	1.5		-0.048
2	0.7	1.5	1	10	0.048	0.129	1.5		-0.048
3	0.73	5	0.94	7	0.054	0.047	3.5		-0.047
4	0.72	3.5	0.94	7	0.021	0.047	3.5		-0.047
5	0.72	3.5	0.96	9	0.021	0.012	5		-0.047
6							7		0.012
7							7		0.021
8							7		0.021
9							9		0.054
10							10		0.129

Project Name: Test America

Sample: x1
 Samp ID: WETSED-2
 Alias: Luminescence 15
 Replicates: 5
 Mean: 0.25
 SD: 0.016
 Tr Mean: 2.865
 Trans SD: 0.091

Ref Samp: x2
 Ref ID: Control
 Alias: Luminescence 15
 Replicates: 5
 Mean: 0.838
 SD: 0.034
 Tr Mean: 5.251
 Trans SD: 0.107

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: 0 Residual SD: 0.064 SS: 0.079 K: 5 b: 0.274 Alpha Level: 0.05 Calculated Value: 0.9565 Critical Value: <= 0.842 Normally Distributed: Yes Override Option: N/A	Test Residual Mean: 0.069 Test Residual SD: 0.048 Ref. Residual Mean: 0.08 Ref. Residual SD: 0.059 Deg. of Freedom: 8 Alpha Level: 0.1 Calculated Value: 0.326 Critical Value: >= 1.860 Variances Homogeneous: Yes	Statistic: Student's t Balanced Design: Yes Transformation: ArcSin Experimental Hypothesis Null: $x_1 \geq x_2$ Alternate: $x_1 < x_2$ Degrees of Freedom: 8 Experimental Alpha Level: 0.05 Calculated Value: 38.0359 Critical Value: >= 1.860 Accept Null Hypothesis: No Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Shapiro-Wilk Residuals
1	0.23	2.749	0.85	5.29	0.116	0.038		-0.12
2	0.25	2.866	0.8	5.132	0.001	0.12		-0.116
3	0.26	2.923	0.82	5.195	0.058	0.056		-0.057
4	0.24	2.808	0.83	5.227	0.057	0.024		-0.056
5	0.27	2.979	0.89	5.413	0.114	0.162		-0.024
6								0.001
7								0.038
8								0.058
9								0.114
10								0.162

Project Name: Test America

Sample: x1
 Samp ID: WETSED-3
 Alias: Chironomid Growth
 Replicates: 8
 Mean: 0.603
 SD: 0.572
 Tr Mean: 0.181
 Trans SD: 0.154

Ref Samp: x2
 Ref ID: Control
 Alias: Chironomid Growth
 Replicates: 8
 Mean: 0.909
 SD: 0.11
 Tr Mean: 0.28
 Trans SD: 0.025

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: 0 Residual SD: 0.094 SS: 0.17 K: 8 b: 0.397 Alpha Level: 0.05 Calculated Value: 0.9275 Critical Value: <= 0.887 Normally Distributed: Yes Override Option: N/A	Test Residual Mean: 0.123 Test Residual SD: 0.079 Ref. Residual Mean: 0.02 Ref. Residual SD: 0.013 Deg. of Freedom: 14 Alpha Level: 0.1 Calculated Value: 3.668 Critical Value: >= 1.761 Variances Homogeneous: No	Statistic: Approximate t Balanced Design: Yes Transformation: Log10 (x + 1.0) Experimental Hypothesis Null: x1 >= x2 Alternate: x1 < x2 Degrees of Freedom: 7 Experimental Alpha Level: 0.05 Calculated Value: 1.8016 Critical Value: >= 1.895 Accept Null Hypothesis: Yes Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shapiro-Wilk Residuals
1	1.63	0.42	0.83	0.262	0.239	0.018			-0.181
2	0.61	0.207	0.87	0.272	0.026	0.008			-0.181
3	0.14	0.057	0.86	0.27	0.124	0.011			-0.124
4	0	0	0.93	0.286	0.181	0.005			-0.045
5	0	0	1.02	0.305	0.181	0.025			-0.018
6	0.49	0.173	1	0.301	0.008	0.021			-0.011
7	0.94	0.288	1.04	0.31	0.107	0.03			-0.008
8	1.01	0.303	0.72	0.236	0.122	0.045			-0.008
9									0.005
10									0.021
11									0.025
12									0.026
13									0.03
14									0.107
15									0.122
16									0.239

Project Name: Test America

Sample: x1
 Samp ID: WETSED-3
 Alias: Chironomid Mortality
 Replicates: 8
 Mean: 63.538
 SD: 31.175
 Tr Mean: 63.432
 Trans SD: 34.433

Ref Samp: x2
 Ref ID: Control
 Alias: Chironomid Mortality
 Replicates: 8
 Mean: 6.25
 SD: 7.397
 Tr Mean: 10.216
 Trans SD: 11.272

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: 0 Residual SD: 21.992 SS: 9188.96 K: 8 b: 90.436 Alpha Level: 0.05 Calculated Value: 0.89 Critical Value: ≤ 0.887 Normally Distributed: Yes Override Option: N/A	Test Residual Mean: 28.035 Test Residual SD: 16.953 Ref. Residual Mean: 10.216 Ref. Residual SD: 2.788 Deg. of Freedom: 14 Alpha Level: 0.1 Calculated Value: 2.9335 Critical Value: ≥ 1.761 Variances Homogeneous: No	Statistic: Approximate t Balanced Design: Yes Transformation: ArcSin Experimental Hypothesis Null: $x1 \leq x2$ Alternate: $x1 > x2$ Degrees of Freedom: 8 Experimental Alpha Level: 0.05 Calculated Value: 4.1544 Critical Value: ≥ 1.860 Accept Null Hypothesis: No Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shapiro-Wilk Residuals
1	66.7	54.756	16.7	24.12	8.677	13.904			-33.433
2	25	30	0	0	33.433	10.216			-28.188
3	91.7	73.256	8.3	16.744	9.823	6.528			-28.188
4	100	114.591	0	0	51.159	10.216			-13.655
5	100	114.591	16.7	24.12	51.159	13.904			-10.216
6	58.3	49.778	0	0	13.655	10.216			-10.216
7	33.3	35.244	0	0	28.188	10.216			-10.216
8	33.3	35.244	8.3	16.744	28.188	6.528			-10.216
9									-8.677
10									6.528
11									6.528
12									9.823
13									13.904
14									13.904
15									51.159
16									51.159

Project Name: Test America

Sample: x1
 Samp ID: WETSED3
 Alias: Hyalella Mortality
 Replicates: 8
 Mean: 3.75
 SD: 4.432
 Tr Mean: 0.263
 Trans SD: 0.953

Ref Samp: x2
 Ref ID: Control
 Alias: Hyalella Mortality
 Replicates: 8
 Mean: 1.25
 SD: 2.315
 Tr Mean: -0.263
 Trans SD: 0.582

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: Residual SD: SS: K: b: Alpha Level: N/A Calculated Value: N/A Critical Value: N/A Normally Distributed: N/A Override Option: Not Invoked	Test Residual Mean: 0.84 Test Residual SD: 0.32 Ref. Residual Mean: 0.471 Ref. Residual SD: 0.291 Deg. of Freedom: 14 Alpha Level: 0.1 Calculated Value: 2.4118 Critical Value: ≥ 1.761 Variances Homogeneous: No	Statistic: Approximate t Balanced Design: Yes Transformation: Rankits Experimental Hypothesis Null: $x_1 \leq x_2$ Alternate: $x_1 > x_2$ Degrees of Freedom: 12 Experimental Alpha Level: 0.05 Calculated Value: 1.3315 Critical Value: ≥ 1.782 Accept Null Hypothesis: Yes Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Shapiro-Wilk Residuals
1	0	-0.577	0	-0.577	0.84	0.314	-0.577	
2	5	0.68	0	-0.577	0.417	0.314	-0.577	
3	10	1.526	0	-0.577	1.263	0.314	-0.577	
4	10	1.526	5	0.68	1.263	0.943	-0.577	
5	5	0.68	0	-0.577	0.417	0.314	-0.577	
6	0	-0.577	0	-0.577	0.84	0.314	-0.577	
7	0	-0.577	5	0.68	0.84	0.943	-0.577	
8	0	-0.577	0	-0.577	0.84	0.314	-0.577	
9							-0.577	
10							-0.577	
11							0.68	
12							0.68	
13							0.68	
14							0.68	
15							1.526	
16							1.526	

Project Name: Test America

Sample: x1
 Samp ID: WETSED-3
 Alias: Luminescence 5
 Replicates: 5
 Mean: 0.812
 SD: 0.011
 Tr Mean: N/A
 Trans SD: N/A

Ref Samp: x2
 Ref ID: Control
 Alias: Luminescence 5
 Replicates: 5
 Mean: 0.956
 SD: 0.026
 Tr Mean: N/A
 Trans SD: N/A

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: 0 Residual SD: 0.038 SS: 0.028 K: 5 b: 0.15 Alpha Level: 0.05 Calculated Value: 0.7975 Critical Value: <= 0.842 Normally Distributed: No Override Option: Not Invoked	Test Residual Mean: 0.031 Test Residual SD: 0.007 Ref. Residual Mean: 0.056 Ref. Residual SD: 0.043 Deg. of Freedom: 8 Alpha Level: 0.1 Calculated Value: 1.3107 Critical Value: >= 1.860 Variances Homogeneous: Yes	Statistic: Mann-Whitney Balanced Design: Yes Transformation: rank-order Experimental Hypothesis Null: $x1 \geq x2$ Alternate: $x1 < x2$ Mann-Whitney N1: 5 Mann-Whitney N2: 5 Degrees of Freedom: Experimental Alpha Level: 0.05 Calculated Value: 25 Critical Value: >= 21.000 Accept Null Hypothesis: No Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shapiro-Wilk Residuals
1	0.8	1.5	0.94	7	0.038	0.047	1.5		-0.047
2	0.82	4	1	10	0.026	0.129	1.5		-0.047
3	0.82	4	0.94	7	0.026	0.047	4		-0.047
4	0.82	4	0.94	7	0.026	0.047	4		-0.038
5	0.8	1.5	0.96	9	0.038	0.012	4		-0.038
6							7		0.012
7							7		0.026
8							7		0.026
9							9		0.026
10							10		0.129

Project Name: Test America

Sample: x1
 Samp ID: WETSED-3
 Alias: Luminescence 15
 Replicates: 5
 Mean: 0.356
 SD: 0.023
 Tr Mean: 3.419
 Trans SD: 0.111

Ref Samp: x2
 Ref ID: Control
 Alias: Luminescence 15
 Replicates: 5
 Mean: 0.838
 SD: 0.034
 Tr Mean: 5.251
 Trans SD: 0.107

Shapiro-Wilk Results:	Levene's Results:	Test Results:
Residual Mean: 0 Residual SD: 0.071 SS: 0.095 K: 5 b: 0.295 Alpha Level: 0.05 Calculated Value: 0.92 Critical Value: <= 0.842 Normally Distributed: Yes Override Option: N/A	Test Residual Mean: 0.092 Test Residual SD: 0.041 Ref. Residual Mean: 0.08 Ref. Residual SD: 0.059 Deg. of Freedom: 8 Alpha Level: 0.1 Calculated Value: 0.3728 Critical Value: >= 1.860 Variances Homogeneous: Yes	Statistic: Student's t Balanced Design: Yes Transformation: ArcSin Experimental Hypothesis Null: $x_1 \geq x_2$ Alternate: $x_1 < x_2$ Degrees of Freedom: 8 Experimental Alpha Level: 0.05 Calculated Value: 26.6272 Critical Value: >= 1.860 Accept Null Hypothesis: No Power: Min. Difference for Power:

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shapiro-Wilk Residuals
1	0.34	3.343	0.85	5.29	0.076	0.038			-0.126
2	0.33	3.293	0.8	5.132	0.126	0.12			-0.12
3	0.38	3.534	0.82	5.195	0.115	0.056			-0.076
4	0.38	3.534	0.83	5.227	0.115	0.024			-0.056
5	0.35	3.392	0.89	5.413	0.028	0.162			-0.028
6									-0.024
7									0.038
8									0.115
9									0.115
10									0.162

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APPENDIX C - Water Quality Summaries

**Appendix Table B-1. Twenty-Day Solid-Phase Results (*Chironomus tentans*)
Test America Sediment Characterization
Water Quality Data**

Initiated June 9, 2011

Control									
Day	Temp (°C)	D.O. (mg/l)	pH (units)	Conductivity (umhos/cm)	Alkalinity (mg/L CaCO3)	Hardness (mg/L CaCO3)	Total Overlying NH ₃ (mg/l)	Total Sulfides (mg/l)	
0	21.7	8.4	6.58	150	48	80	1.1	0.058	
1	22.2	6.3	6.62	127	---	---	---	---	
2	22.0	6.4	7.12	165	---	---	---	---	
3	21.9	6.0	7.31	173	---	---	---	---	
4	22.1	5.8	6.94	216	---	---	---	---	
5	22.2	5.8	7.19	188	52	80	1.7	<0.010	
6	21.9	5.6	7.27	178	---	---	---	---	
7	22.0	5.0	7.11	217	---	---	---	---	
8	22.0	5.2	7.17	212	---	---	---	---	
9	22.2	6.0	7.14	195	---	---	---	---	
10	22.0	6.0	7.20	199	56	88	1.6	<0.010	
11	22.2	6.0	7.28	264	---	---	---	---	
12	22.1	5.6	7.20	195	---	---	---	---	
13	22.2	3.3	7.11	202	---	---	---	---	
14	22.1	8.3	7.86	296	---	---	---	---	
15	22.1	7.9	7.67	220	60	88	1.7	<0.010	
16	22.0	7.8	7.72	232	---	---	---	---	
17	21.9	9.0	7.92	276	---	---	---	---	
18	22.2	9.0	7.97	219	---	---	---	---	
19	21.9	8.9	7.83	248	---	---	---	---	
20	21.9	8.3	7.99	190	72	80	1.7	0.011	
Mean		6.7	7.34	208	58	83	1.6	nc	
Min	21.7	3.3	6.58	127	48	80	1.1	<0.010	
Max	22.2	9.0	7.99	296	72	88	1.7	0.058	



**Appendix Table B-1. Twenty-Day Solid-Phase Results (*Chironomus tentans*)
Test America Sediment Characterization
Water Quality Data**

Initiated June 9, 2011

WETSED-1									
Day	Temp (°C)	D.O. (mg/l)	pH (units)	Conductivity (umhos/cm)	Alkalinity (mg/L CaCO3)	Hardness (mg/L CaCO3)	Total Overlying NH ₃ (mg/l)	Total Sulfides (mg/l)	
0	21.8	7.0	6.43	227	64	100	<1.0	0.016	
1	22.2	6.1	6.68	215	---	---	---	---	
2	21.9	6.0	6.98	200	---	---	---	---	
3	21.9	5.8	7.06	186	---	---	---	---	
4	22.1	6.6	6.65	185	---	---	---	---	
5	22.1	6.5	6.97	180	64	100	1.0	0.014	
6	22.0	5.6	7.09	175	---	---	---	---	
7	22.1	5.0	6.89	179	---	---	---	---	
8	22.0	5.3	7.02	180	---	---	---	---	
9	22.2	6.2	6.97	181	---	---	---	---	
10	22.2	6.0	7.00	180	68	104	1.2	<0.010	
11	22.2	5.5	7.08	190	---	---	---	---	
12	22.1	5.8	7.09	184	---	---	---	---	
13	22.2	3.5	7.04	186	---	---	---	---	
14	21.9	8.1	7.68	162	---	---	---	---	
15	22.0	7.7	7.67	171	68	108	1.3	<0.010	
16	22.0	7.8	7.69	178	---	---	---	---	
17	22.0	8.9	7.35	155	---	---	---	---	
18	22.1	8.9	7.89	159	---	---	---	---	
19	22.0	9.0	7.76	149	---	---	---	---	
20	21.8	8.4	7.70	153	60	80	<1.0	0.054	
Mean	22.0	6.7	7.18	180	65	98	nc	nc	
Min	21.8	3.5	6.43	149	60	80	<1.0	<0.010	
Max	22.2	9.0	7.89	227	68	108	1.3	0.054	



**Appendix Table B-1. Twenty-Day Solid-Phase Results (*Chironomus tentans*)
Test America Sediment Characterization
Water Quality Data**

Initiated June 9, 2011

WETSED-2									
Day	Temp (°C)	D.O. (mg/l)	pH (units)	Conductivity (umhos/cm)	Alkalinity (mg/L CaCO3)	Hardness (mg/L CaCO3)	Total Overlying NH ₃ (mg/l)	Total Sulfides (mg/l)	
0	21.9	7.2	6.46	389	68	220	<1.0	<0.010	
1	22.1	6.9	6.75	413	---	---	---	---	
2	21.9	6.7	6.95	343	---	---	---	---	
3	21.8	5.9	6.98	308	---	---	---	---	
4	21.9	7.1	6.56	329	---	---	---	---	
5	22.0	6.6	6.81	283	72	220	<1.0	<0.010	
6	21.8	6.1	6.94	266	---	---	---	---	
7	21.9	5.2	6.87	254	---	---	---	---	
8	21.9	5.3	6.92	257	---	---	---	---	
9	22.0	6.7	6.86	238	---	---	---	---	
10	22.0	6.0	6.90	240	68	228	1.3	<0.010	
11	22.0	6.6	7.11	225	---	---	---	---	
12	22.0	6.5	7.05	214	---	---	---	---	
13	22.0	6.0	7.00	206	---	---	---	---	
14	22.0	8.4	7.74	191	---	---	---	---	
15	22.0	7.8	7.59	194	72	224	1.2	<0.010	
16	22.0	7.7	7.63	195	---	---	---	---	
17	22.0	8.9	7.28	176	---	---	---	---	
18	21.9	8.9	7.80	179	---	---	---	---	
19	21.7	9.1	7.76	158	---	---	---	---	
20	21.7	8.5	7.71	161	64	84	<1.0	0.044	
Mean	21.9	7.1	7.13	249	69	195	nc	nc	
Min	21.7	5.2	6.46	158	64	84	<1.0	<0.010	
Max	22.1	9.1	7.80	413	72	228	1.3	0.044	



**Appendix Table B-1. Twenty-Day Solid-Phase Results (*Chironomus tentans*)
Test America Sediment Characterization
Water Quality Data**

Initiated June 9, 2011

WETSED-3									
Day	Temp (°C)	D.O. (mg/l)	pH (units)	Conductivity (umhos/cm)	Alkalinity (mg/L CaCO3)	Hardness (mg/L CaCO3)	Total Overlying NH ₃ (mg/l)	Total Sulfides (mg/l)	
0	21.9	6.3	6.80	382	84	116	<1.0	0.021	
1	22.1	6.5	7.19	373	---	---	---	---	
2	21.7	6.2	7.32	340	---	---	---	---	
3	21.9	6.0	7.30	301	---	---	---	---	
4	21.9	7.0	6.95	311	---	---	---	---	
5	22.0	6.3	7.10	274	84	120	<1.0	0.019	
6	21.8	5.9	7.19	252	---	---	---	---	
7	21.8	5.2	7.13	244	---	---	---	---	
8	21.9	5.3	7.15	247	---	---	---	---	
9	22.0	6.8	7.13	220	---	---	---	---	
10	22.0	6.2	7.15	244	88	136	<1.0	<0.010	
11	22.0	6.8	7.32	222	---	---	---	---	
12	22.0	6.7	7.24	212	---	---	---	---	
13	22.1	5.3	7.16	210	---	---	---	---	
14	21.9	8.7	7.92	193	---	---	---	---	
15	21.9	7.9	7.70	221	88	140	<1.0	<0.010	
16	22.0	7.8	7.67	219	---	---	---	---	
17	22.0	9.0	7.52	205	---	---	---	---	
18	21.9	8.9	7.99	217	---	---	---	---	
19	21.8	8.8	7.78	192	---	---	---	---	
20	21.7	8.4	7.73	196	80	100	<1.0	<0.010	
Mean	21.9	7.0	7.35	251	85	122	nc	nc	
Min	21.7	5.2	6.80	192	80	100	<1.0	<0.010	
Max	22.1	9.0	7.99	382	88	140	<1.0	0.021	



**Appendix Table B-2. Ten-Day Solid-Phase Results (*Hyalella Azteca*)
Test America Sediment Characterization
Water Quality Data
Initiated June 7, 2011**

Control										
Day	Temp (°C)	D.O. (mg/l)	pH (units)	Conductivity (umhos/cm)	Alkalinity (mg/L CaCO3)	Hardness (mg/L CaCO3)	Overlying NH ₃ (mg/l)	Overlying Sulfides (mg/l)	Overlying Sulfides (mg/l)	Overlying Sulfides (mg/l)
0	23.4	8.0	6.50	145	44	60	<1.0	<1.0	<1.0	<0.010
1	22.8	7.1	6.79	149	---	---	---	---	---	---
2	22.4	6.8	6.81	162	---	---	---	---	---	---
3	22.3	7.0	7.77	189	---	---	---	---	---	---
4	21.9	6.2	7.43	180	---	---	---	---	---	---
5	21.9	6.8	7.51	172	52	72	<1.0	<1.0	0.056	0.056
6	21.9	8.4	7.14	170	---	---	---	---	---	---
7	22.1	7.0	7.54	176	---	---	---	---	---	---
8	22.0	6.3	7.79	182	---	---	---	---	---	---
9	22.1	5.8	7.21	180	---	---	---	---	---	---
10	22.0	7.4	7.37	182	60	76	<1.0	<1.0	nc	0.125
Mean	22.3	7.0	7.26	172	52	69	nc	nc	nc	nc
Min	21.9	5.8	6.50	145	44	60	<1.0	<1.0	<0.010	<0.010
Max	23.4	8.4	7.79	189	60	76	<1.0	<1.0	<1.0	0.125

NC = Not Calculable

WETSED-1										
Day	Temp (°C)	D.O. (mg/l)	pH (units)	Conductivity (umhos/cm)	Alkalinity (mg/L CaCO3)	Hardness (mg/L CaCO3)	Total Overlying NH ₃ (mg/l)	Total Overlying Sulfides (mg/l)	Total Overlying Sulfides (mg/l)	Total Overlying Sulfides (mg/l)
0	23.3	6.6	6.27	262	60	124	<1.0	<1.0	<1.0	0.014
1	22.8	6.0	6.22	232	---	---	---	---	---	---
2	22.1	6.4	6.39	202	---	---	---	---	---	---
3	22.3	6.1	7.20	189	---	---	---	---	---	---
4	22.0	6.1	7.02	184	---	---	---	---	---	---
5	21.9	6.2	7.00	174	68	132	<1.0	<1.0	0.036	0.036
6	21.9	7.0	7.00	166	---	---	---	---	---	---
7	22.1	6.3	7.05	165	---	---	---	---	---	---
8	21.9	6.0	7.19	164	---	---	---	---	---	---
9	21.9	5.4	6.87	165	---	---	---	---	---	---
10	21.9	7.3	6.93	164	72	132	1.0	1.0	0.293	0.293
Mean	22.2	6.3	6.83	188	67	129	nc	nc	nc	0.114
Min	21.9	5.4	6.22	164	60	124	<1.0	<1.0	<1.0	0.014
Max	23.3	7.3	7.20	262	72	132	1.0	1.0	1.0	0.293

NC = Not Calculable



Appendix Table B-2. Ten-Day Solid-Phase Results (*Hyalella Azteca*)
 Test America Sediment Characterization
 Water Quality Data

Initiated June 7, 2011

WETSED-2										
Day	Temp (°C)	D.O. (mg/l)	pH (units)	Conductivity (umhos/cm)	Alkalinity (mg/L CaCO3)	Hardness (mg/L CaCO3)	Total Overlying NH ₃ Sulfides (mg/l)	Overlying NH ₃ Sulfides (mg/l)	Overlying Sulfides (mg/l)	
0	23.3	6.9	6.45	418	64	192	<1.0	0.012		
1	22.8	6.2	6.35	402	---	---	---	---		
2	22.2	6.4	6.41	334	---	---	---	---		
3	22.3	6.4	7.18	314	---	---	---	---		
4	21.9	6.1	6.99	273	---	---	---	---		
5	21.9	6.3	6.97	277	80	200	<1.0	0.037		
6	22.0	7.2	6.65	253	---	---	---	---		
7	22.1	6.8	7.02	241	---	---	---	---		
8	21.9	6.1	7.17	210	---	---	---	---		
9	22.0	5.4	6.89	201	---	---	---	---		
10	21.9	7.1	7.05	190	80	204	<1.0	0.126		
Mean	22.2	6.4	6.83	283	75	199	nc	0.058		
Min	21.9	5.4	6.35	190	64	192	<1.0	0.012		
Max	23.3	7.2	7.18	418	80	204	<1.0	0.126		

NC = Not Calculable

WETSED-3										
Day	Temp (°C)	D.O. (mg/l)	pH (units)	Conductivity (umhos/cm)	Alkalinity (mg/L CaCO3)	Hardness (mg/L CaCO3)	Total Overlying NH ₃ Sulfides (mg/l)	Overlying NH ₃ Sulfides (mg/l)	Overlying Sulfides (mg/l)	
0	23.2	6.6	6.64	343	68	172	<1.0	<0.010		
1	22.8	6.1	6.96	288	---	---	---	---		
2	22.2	6.3	6.63	235	---	---	---	---		
3	22.3	6.4	7.37	222	---	---	---	---		
4	22.0	6.5	7.12	216	---	---	---	---		
5	21.9	6.4	7.11	214	76	180	<1.0	0.074		
6	21.8	7.3	6.80	203	---	---	---	---		
7	22.1	6.9	7.14	204	---	---	---	---		
8	21.9	6.1	7.23	159	---	---	---	---		
9	22.0	5.6	6.97	187	---	---	---	---		
10	21.9	7.2	7.11	184	72	188	<1.0	0.107		
Mean	22.2	6.5	7.01	223	72	180	nc	nc		
Min	21.8	5.6	6.63	159	68	172	<1.0	<0.010		
Max	23.2	7.3	7.37	343	76	188	<1.0	0.107		

NC = Not Calculable



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APPENDIX D - Laboratory Bench Sheets

20 Day Toxicity Test Data Sheet -- Nautilus Environmental

Freshwater Sediment 20 Day Water Chemistries

Client: Test America Test #:

Start Date & Time: 6/9/11 1100

Site: LDN Test Organism: Chironomus tentans

End Date & Time: 6/29/11 1300

Day	NH ₃ (mg/L)	Sulfide (mg/L)	Alk	Hard	pH (units)	Conductivity (umhos/cm)	Dissolved O ₂ (mg/L)	Temp. (°C)	Renewed		Fed	Tech. Initials
			(mg/L as CaCO ₃)						am	pm		
0	1.1	0.058 ^①	48	80	6.58	150	8.4	21.7	✓	✓	✓	J
1					7.6 6.62	127	6.3	22.2	✓	✓	✓	MF
2					7.12	165	6.4	22.0	✓	✓	✓	MF
3					7.31	172 173	6.0	21.9	✓	✓	✓	MF
4					6.94	216	5.8	22.1	✓	✓	✓	BP
5	1.7	<0.01	52	80	7.19	188	5.8	22.2	✓	✓	✓	BP
6					7.27	178	5.6	21.9	✓	✓	✓	BP
7					7.11	217	5.0	22.0	✓	✓	✓	BP
8					7.17	212	5.2	22.0	✓	✓	②	ET
9					7.14	195	6.0	22.2	✓	✓	✓	CC
10	1.6	<0.01	56	88	7.20	199	6.0	22.0	✓	✓	✓	(M)
11					7.28	264	6.0	22.2	✓	✓	✓	BP
12					7.20	195	5.6	22.1	✓	✓	✓	ET
13					7.11	202	3.3	22.2	✓	✓	✓	J
14					7.86	296	8.3	22.1	✓	✓	✓	BP
15	1.7	<0.01	60	88	7.67	220	7.9	22.1	✓	✓	✓	MF
16					7.72	232	7.8	22.0	✓	✓	✓	ET
17					7.92	276	9.0	21.9	✓	✓	✓	(M)
18					7.97	219	9.0	22.2	✓	✓	✓	MF
19					7.83	248	8.9	21.9	✓	✓	✓	(M)
20	1.7	0.011	72	80	7.99	190	8.3	21.9				BP

① water subsample was dark - MF QA Check: CC

② skipped due to extra food

(*) Test duration initiated Aug 13
Test Chamber: Rm A



20 Day Toxicity Test Data Sheet -- Nautilus Environmental

Freshwater Sediment 20 Day Water Chemistries

Client: Test America Test #: 11076-T026

Start Date & Time: 6/9/11 1100

Site: WETSED 1 Test Organism: Chironomus tentans

End Date & Time: 6/29/11 1300

Day	NH ₃ (mg/L)	Sulfide (mg/L)	Alk (mg/L as CaCO ₃)	Hard	pH (units)	Conductivity (umhos/cm)	Dissolved O ₂ (mg/L)	Temp. (°C)	Renewed		Fed	Tech. Initials
									am	pm		
0	<1.0	0.016	64	100	6.43	227	7.0	21.8	✓	✓	✓	JS
1					6.68	219	6.1	22.2	✓	✓	✓	MF
2					6.98	200	6.0	21.9	✓	✓	✓	MF
3					7.06	186	5.8	21.9	✓	✓	✓	MF
4					6.65	185	6.6	22.1	✓	✓	✓	BP
5	1.0	0.014	64	100	6.97	180	6.5	22.1	✓	✓	✓	BP
6					7.09	175	5.6	22.0	✓	✓	✓	BP
7					6.89	179	5.0	22.1	✓	✓	✓	BP
8					7.02	180	5.3	22.0	✓	✓	⊙	ET
9					6.97	181	6.2	22.2	✓	✓	✓	CC
10	1.2	<0.01	68	104	7.00	180	6.0	22.2	✓	✓	✓	Ⓜ
11					7.08	190	5.5	22.2	✓	✓	✓	BP
12					7.09	184	5.8	22.1	✓	✓	✓	ET
13					7.04	186	3.5	22.2	✓	✓	✓	JS
14					7.68	162	8.1	21.9	✓	✓	✓	BP
15	1.3	<0.01	68	108	7.67	171	7.7	22.0	✓	✓	✓	MF
16					7.69	178	7.8	22.0	✓	✓	✓	ET
17					7.35	155	8.9	22.0	✓	✓	✓	Ⓜ
18					7.89	159	8.9	22.1	✓	✓	✓	MF
19					7.70	149	9.0	22.0	✓	✓	✓	Ⓜ
20	<1.0	0.054	60	80	7.70	153	8.4	21.8				BP

QA Check: CC

⊙ Skipped due to excess food

Test Chamber: Rm A

*Testation initiated



20 Day Toxicity Test Data Sheet -- Nautilus Environmental

Freshwater Sediment 20 Day Water Chemistries

Client: Test America Test #: 1106-T027

Start Date & Time: 6/17/11 1100

Site: WETSEDZ Test Organism: Chironomus tentans

End Date & Time: 6/29/11 1300

Day	NH ₃ (mg/L)	Sulfide (mg/L)	Alk (mg/L as CaCO ₃)	Hard	pH (units)	Conductivity (umhos/cm)	Dissolved O ₂ (mg/L)	Temp. (°C)	Renewed		Fed	Tech. Initials
									am	pm		
0	<1.0	0 <0.010	68	220	6.46	389	7.2	21.9	✓	✓	✓	MF
1					6.75	413	6.9	22.1	✓	✓	✓	MF
2					6.95	343	6.7	21.9	✓	✓	✓	MF
3					6.98	308	5.9	21.8	✓	✓	✓	MF
4					6.56	329	7.1	21.9	✓	✓	✓	BP
5	<1.0	0 <0.01	72	220	6.81	283	6.6	22.0	✓	✓	✓	BP
6					6.94	266	6.1	21.8	✓	✓	✓	BP
7					6.87	254	5.2	21.9	✓	✓	✓	BP
8					6.92	257	5.3	21.9	✓	✓	⓪	BP
9					6.86	238	6.7	22.0	✓	✓	✓	CC
10	1.3	<0.01	68	228	6.90	240	6.0	22.0	✓	✓	✓	(M)
11					7.11	225	6.6	22.0	✓	✓	✓	BP
12					7.05	214	6.5	22.0	✓	✓	✓	BP
13					7.00	206	6.0	22.0	✓	✓	✓	BP
14					7.74	191	8.4	22.0	✓	✓	✓	BP
15	1.2	<0.01	72	224	7.99	194	7.8	22.0	✓	✓	✓	MF
16					7.63	195	7.7	22.0	✓	✓	✓	BP
17					7.28	176	8.9	22.0	✓	✓	✓	(M)
18					7.80	179	8.9	21.9	✓	✓	✓	MF
19					7.76	158	9.1	21.7	✓	✓	✓	(M)
20	<1.0	0.044	64	84	7.71	161	8.5	21.7				BP

QA Check: CC

⓪ Skipped due to cross food

Test Chamber: Rm A

* Test aeration initiated



20 Day Toxicity Test Data Sheet -- Nautilus Environmental

Freshwater Sediment 20 Day Water Chemistries

Client: Test America

Test #: 1100-1028

Start Date & Time: 6/9/11 1100

Site: WETSED3

Test Organism: Chironomus tentans

End Date & Time: 6/29/11 1300

Day	NH ₃ (mg/L)	Sulfide (mg/L)	Alk (mg/L as CaCO ₃)	Hard	pH (units)	Conductivity (umhos/cm)	Dissolved O ₂ (mg/L)	Temp. (°C)	Renewed		Fed	Tech. Initials
									am	pm		
0	<1.0	0.021	84	116	6.80	382	6.3	21.9	✓	✓	✓	JS
1					7.19	373	6.5	22.1	✓	✓	✓	MF
2					7.32	340	6.2	21.7	✓	✓	✓	MF
3					7.30	301	6.0	21.9	✓	✓	✓	MF
4					6.95	311	7.0	21.9	✓	✓	✓	BP
5	<1.0	0.019	84	120	7.10	274	6.3	22.0	✓	✓	✓	BP
6					7.19	252	5.9	21.8	✓	✓	✓	BP
7					7.13	244	5.2	21.8	✓	✓	✓	BP
8					7.15	247	5.3	21.9	✓	✓	Ⓟ	Et
9					7.13	220	6.8	22.0	✓	✓	✓	CC
10	<1.0	<0.01	88	136	7.15	244	6.2	22.0	✓	✓	✓	Ⓜ
11					7.32	222	6.8	22.0	✓	✓	✓	BP
12					7.24	212	6.7	22.0	✓	✓	✓	Et
13					7.16	210	5.3	22.1	✓	✓	✓	JS *
14					7.92	193	8.7	21.9	✓	✓	✓	BP
15	<1.0	<0.01	88	140	7.70	221	7.9	21.9	✓	✓	✓	MF
16					7.67	219	7.8	22.0	✓	✓	✓	Et
17					7.52	205	9.0	22.0	✓	✓	✓	Ⓜ
18					7.99	217	8.9	21.9	✓	✓	✓	MF
19					7.78	192	8.8	21.8	✓	✓	✓	Ⓜ
20	<1.0	<0.01	80	100	7.73	196	8.4	21.7				BP

QA Check: CC

Ⓟ Skipped due to excess food

Test Chamber: RM A

*Test aeration initiated



20 Day Toxicity Test Data Sheet - Nautilus Environmental

Freshwater Sediment 20 day Survival

Client: Test America
 Test #: 11010-1026, -1027, -1028

Start Date & Time: 6/9/11 1100
 End Date & Time: 6/29/11 1300
 Test Organism: Chironomus dilutus

Site	Rep #	Cont #	Day 0	Survival Day 20				Initials/Comments
				total	#larvae	#pupae	#flies	
CON	1	29	12	10	10	0	0	JJ
	2	8	12	12	12	1	1	BP
	3	18	12	4	11	1	1	JJ
	4	21	12	12	12	1	1	BP
	5	24	12	10	10	1	1	JJ
	6	10	12	12	12	1	1	BP
	7	4	12	12	12	1	1	JJ
	8	31	12	12	11	1	1	BP
WE1SED1	1	13	12	12	12	1	1	JJ
	2	11	12	12	12	1	1	BP
	3	22	12	10	10	1	1	JJ *
	4	1	12	7	7	1	1	BP
	5	26	12	12	12	1	1	BP
	6	3	12	9	9	1	1	BP
	7	16	12	5	5	1	1	JJ
	8	6	12	9	9	1	1	BP
WE1SED2	1	14	12	9	9	1	1	JJ
	2	12	12	10	10	1	1	BP
	3	9	12	9	9	1	1	JJ
	4	15	12	10	10	1	1	BP
	5	19	12	8	8	1	1	JJ *
	6	30	12	12	12	1	1	JJ
	7	27	12	7	7	1	1	BP
	8	17	12	8	8	1	1	JJ
WE1SED3	1	20	12	4	4	1	1	BP
	2	2	12	9	9	1	1	JJ
	3	25	12	1	1	1	1	BP
	4	7	12	0	0	1	1	JJ *
	5	5	12	0	0	1	1	BP
	6	28	12	5	5	1	1	JJ
	7	32	12	8	8	1	1	BP
	8	23	12	8	8	1	1	JJ
1		12						
2		12						
3		12						
4		12						
5		12						
6		12						
7		12						
8		12						

QA Check: CR

*nematodes present

Nautilus Environmental
 Washington Laboratory
 5009 Pacific Hwy., E. Suite 2
 Tacoma, WA 98424

Client: Test America
 Organism: Chironomus tentans
 Test no.: 1106-T026-T028

Site	Rep #	Cont #	Pan wt. (gm)	Dry wt. (gm)	Ash wt. (gm)	Ash free dry wt. (gm)	No. organisms	Avg. per site (mg)
CON	1	27	0.07546	0.09222	0.08391		10	
	2	8	0.06494	0.07685	0.06647		12	
	3	18	0.069700	0.08554	0.07609		11	
	4	21	0.07103	0.08411	0.07296		12	
	5	24	0.07895	0.09140	0.08119		10	
	6	10	0.07216	0.08637	0.07433		12	
	7	4	0.06317	0.08488	0.07236		12	
	8	31	0.07244	0.08211	0.07417		11	
WEISED1	1	13	0.05852	0.07271	0.06070		12	
	2	11	0.06237	0.07411	0.06493		12	
	3	22	0.07449	0.07955	0.07526		10	
	4	1	0.06514	0.07418	0.06674		7	
	5	26	0.06976	0.09202	0.07306		12	
	6	3	0.06418	0.08309	0.06717		9	
	7	16	0.07372	0.07854	0.07440		5	
	8	6	0.06733	0.08448	0.07116		9	
WEISED2	1	14	0.06840	0.08015	0.07159		9	
	2	12	0.06564	0.07537	0.06878		10	
	3	9	0.07099	0.08530	0.07540		9	
	4	15	0.06877	0.07905	0.07249		10	
	5	19	0.07891	0.09458	0.08453		8	
	6	30	0.06799	0.08315	0.07383		12	
	7	27	0.06780	0.07498	0.06983		7	
	8	17	0.06625	0.07560	0.06909		8	
WEISED3	1	20	0.06439	0.07396	0.06746		4	
	2	2	0.06548	0.07344	0.06792		9	
	3	25	0.07850	0.07868	0.07854		1	
	4	7	0.06719	0.085			0	
	5	5	0.06683				0	
	6	28	0.07732	0.08079	0.07833		5	
	7	32	0.07895	0.09078	0.08325		8	
	8	23	0.06552	0.07706	0.06901		8	
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
Tech Initials			JS	JS	MF		MF	

1) Dry wt. Date/time in: 6/29/11 1430 T° 62.0
 Dry wt. Date/time out: 7/5/11 1400 T° 61.0
 Dry wt. Tech: JS

2) Furnace date/time in: 7/7/11 5 T° 550 ±200 & 1100
 Furnace date/time out: 7/7/11 1300 T° 550
 Furnace tech: JS
 QA Check: JS

10 Day Toxicity Test Data Sheet - Nautilus Environmental

Freshwater Sediment 10 day Water Chemistries

Client: Test America
 Conc. or Site: CON
 Test #: —

Start Date & Time: 6/7/11 1445
 End Date & Time: 6/17/11 1545
 Test Organism: H. azteca

Day	Alk	Hard	Ammonia (mg/L)	Sulfide (mg/L)	pH (units)	Conductivity (umhos/cm)	Dissolved O ₂ (mg/L)	Temp (°C)	Fed	Comments	Technician
	mg/L as CaCO ₃	mg/L as CaCO ₃									Initials
0	44	60	<1.0	<0.010	6.50	145	8.0	23.4	✓		JS
1					6.79	149	7.1	22.8	✓		JS
2					6.81	162	6.8	22.4	✓		JS
3					7.77	189	7.0	22.3	✓		MF
4					7.43	180	6.2	21.9	✓		MF
5	52	72	<1.0	0.054	7.91	172	6.8	21.9	✓		MF
6					7.14	170	8.4	21.9	—		BP
7					7.54	176	7.0	22.1	✓		BP
8					7.79	182	6.3	22.0	✓		BP
9					7.21	180	5.8	22.1	✓		BP
10	60	7.6	<1.0	0.125	7.37	182	7.4	22.0	✓		BT

Test Chamber: RM. A

QA Check: CC



10 Day Toxicity Test Data Sheet - Nautilus Environmental

Freshwater Sediment 10 day Water Chemistries

Client: Test America
 Conc. or Site: WETSED1
 Test #: 1100-T013

Start Date & Time: 6/7/11 1445
 End Date & Time: 6-17-11 1545
 Test Organism: H. azteca

Day	Alk	Hard	Ammonia (mg/L)	Sulfide (mg/L)	pH (units)	Conductivity (umhos/cm)	Dissolved O ₂ (mg/L)	Temp (°C)	Fed	Comments	Technician
	mg/L as CaCO ₃	CaCO ₃									Initials
0	60	124	<1.0	0.014	6.27	262	6.6	23.3	✓		JS
1					6.22	232	6.0	22.5	✓		JS
2					6.39	202	6.4	22.1	✓		JS
3					7.20	189	6.1	22.3	✓		MF
4					7.02	184	6.1	22.0	✓		MF
5	68	132	<1.0	0.036	7.00	174	6.2	21.9	✓		MF
6					7.00	166	7.0	21.9	✓		BP
7					7.05	165	6.3	22.1	✓		BP
8					7.19	164	6.0	21.9	✓		BP
9					6.87	165	5.4	21.9	✓		BP
10	72	132	1.0	0.293	6.93	164	7.3	21.9	✓		BT

Test Chamber: Rm. A

QA Check: [Signature]



10 Day Toxicity Test Data Sheet - Nautilus Environmental

Freshwater Sediment 10 day Water Chemistries

Client: Test America
 Conc. or Site: WET SED 2
 Test #: 1106-1014

Start Date & Time: 6/7/11 1445
 End Date & Time: 6-17-11 1545
 Test Organism: H. azteca

Day	Alk	Hard	Ammonia (mg/L)	Sulfide (mg/L)	pH (units)	Conductivity (umhos/cm)	Dissolved O ₂ (mg/L)	Temp (°C)	Fed	Comments	Technician
	mg/L as CaCO ₃										Initials
0	64	192	<1.0	0.012	6.45	418	6.9	23.3	✓		JS
1					6.35	402	6.2	22.8	✓		JS
2					6.41	334	6.4	22.2	✓		JS
3					7.18	314	6.4	22.3	✓		MF
4					6.99	273	6.1	21.9	✓		MF
5	80	200	<1.0	0.037	6.97	277	6.3	21.9	✓		MF
6					6.65	253	7.2	22.0	✓		BP
7					7.02	241	6.8	22.1	✓		BP
8					7.17	210	6.1	21.9	✓		BP
9					6.89	201	5.4	22.0	✓		BP
10	80	204	<1.0	0.126	7.05	190	7.1	21.9	✓		ET

Test Chamber: Rm. A

QA Check: CC



10 Day Toxicity Test Data Sheet - Nautilus Environmental

Freshwater Sediment 10 day Water Chemistries

Client: Test America
 Conc. or Site: WETSED3
 Test #: 1106-T015

Start Date & Time: 6/7/11 1445
 End Date & Time: 6-17-11 1545
 Test Organism: H. azteca

Day	Alk	Hard	Ammonia (mg/L)	Sulfide (mg/L)	pH (units)	Conductivity (umhos/cm)	Dissolved O ₂ (mg/L)	Temp (°C)	Fed	Comments	Technician
	mg/L as CaCO ₃										Initials
0	006	172	<1.0	<0.010	6.64	343	6.0	23.2	✓		JS
1					6.61	288	6.1	22.8	✓		JS
2					6.63	235	6.3	22.2	✓		JS
3					7.37	222	6.4	22.3	✓		MF
4					7.12	216	6.5	22.0	✓		MF
5	76	180	<1.0	0.074	7.11	214	6.4	21.9	✓		MF
6					6.80	203	^{BP} 6.7.3	21.8	✓		BP
7					7.14	204	6.9	22.1	✓		BP
8					7.23	159	6.1	21.9	✓		BP
9					6.97	187	5.6	22.0	✓		BP
10	72	188	<1.0	0.107	7.11	184	7.2	21.9	✓		BT

Test Chamber: RM-A

QA Check: CC



10 Day Toxicity Test Data Sheet - Nautilus Environmental Freshwater Sediment 10 day Observations

Client: Test America
 Test #: 1100-TD13, TD14, TD15

Start Date & Time: 6/7/11 1445
 End Date & Time: 6/17/11 1545
 Test Organism: H. azteca

N = normal L = anoxic surface
 B = no burrows F = fungal patches
 M = dead on surface no air flow (DO?)
 A = avoidance D = excess food

Initials		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
WETSED3	1	N	N	N	N	N	N	N	N	N
WETSED2	2									
WETSED1	3									
CON	4									
CON	5									
WETSED1	6									
WETSED2	7									
CON	8									
WETSED3	9									
WETSED2	10									
WETSED3	11									
WETSED3	12									
WETSED1	13									
WETSED1	14									
WETSED2	15									
WETSED1	16									
WETSED1	17									
WETSED2	18									
WETSED3	19									
WETSED3	20									
WETSED3	21									
WETSED2	22									
CON	23									
WETSED2	24									
WETSED3	25									
CON	26									
CON	27									
WETSED1	28									
CON	29									
CON	30									
WETSED2	31									
WETSED1	32									

Nautilus Environmental
 Washington Laboratory
 5009 Pacific Hwy. E., Suite 2
 Tacoma, WA 98424

Physical and Chemical
 Measurements of Porewaters
 Sediment Bioassays

Analyst: et

Client: Test AMERICA

Test Date: 6/6/11

Test Type: Microtox 100% Porewater Toxicity Test

Test No: 1106-T040 → T042

Test Species: Vibrio fischeri

Site	Initial Salinity (ppt)	Final Salinity (ppt)	Initial D.O. (mg/L)	Final D.O. (mg/L)	Initial pH	Adjusted pH	NaOH or HCl Vol. Used	Final Porewater Conc.	Ammonia
S11-048 WETSED-1	0.8	20.2	7.3	7.3	7.18	7.92	120µL 0.1N NaOH	99%	1.3
S11-049 WETSED-2	1.2	19.5	7.2	7.2	7.33	et 7.92 7.2	200µL 0.1N NaOH	99%	2.7
S11-050 WETSED-3	1.3	20.1	7.5	7.5	7.95	—	—	100%	<1.0
CON	20.1	20.1	8.2	8.2	8.64	8.18	80µL 0.1HCl	99%	—

Sample Description: _____

Comments: _____

QA Check: cc

Client Name: Test America Test Date: 6/6/11
 Sample ID: WETSED-1,2,3 Test No.: 1106-T040-71106-T042

Site	Light Reading	Time	Replicate				
			1	2	3	4	5
CON	I ₍₀₎	5 min	96	100	104	102	98
	I ₍₅₎	10min	90	100	98	96	94
	I ₍₁₅₎	20 min	82	80	85	85	87
WETSED-1	I ₍₀₎	5 min	80	75	75	80	77
	I ₍₅₎	10min	58	49	54	51	53
	I ₍₁₅₎	20 min	13	13	12	13	14
WETSED-2	I ₍₀₎	5 min	81	84	74	78	79
	I ₍₅₎	10min	57	59	54	56	57
	I ₍₁₅₎	20 min	19	21	19	19	21
WETSED-3	I ₍₀₎	5 min	74	78	77	77	75
	I ₍₅₎	10min	59	64	63	63	60
	I ₍₁₅₎	20 min	25	26	29	29	26
	I ₍₀₎	5 min					
	I ₍₅₎	10min					
	I ₍₁₅₎	20 min					
	I ₍₀₎	5 min					
	I ₍₅₎	10min					
	I ₍₁₅₎	20 min					

Comments: CC QA

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APPENDIX E - Reference Toxicant Tests

Chironomus 96-h Acute Survival Test

Nautilus Environmental WA

Test Type: Survival (96h)

Organism: Chironomus tentans (Midge)

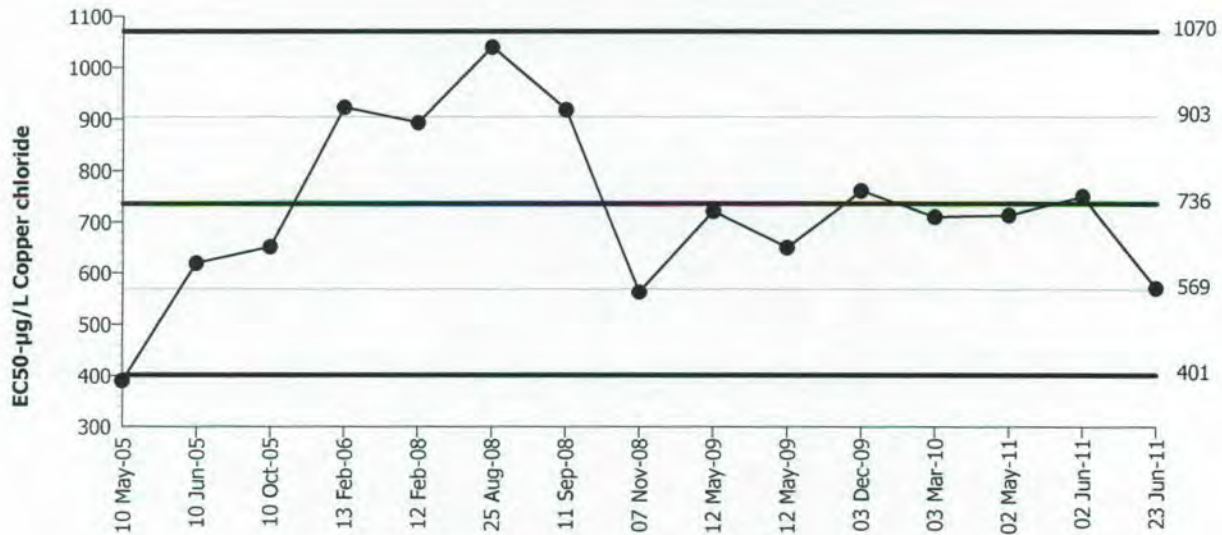
Material: Copper chloride

Protocol: EPA/600/R-99/064 (2000)

Endpoint: 96h Survival Rate

Source: Reference Toxicant-REF

Chironomus 96-h Acute Survival Test



Mean: 735.9 Count: 14 -1s Warning Limit: 568.5 -2s Action Limit: 401.1
 Sigma: 167.4 CV: 22.70% +1s Warning Limit: 903.3 +2s Action Limit: 1071

Quality Control Data

Point	Year	Month	Day	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2005	May	10	389.8	-346.1	-2.068	(-)	(-)	03-9785-3768	06-1599-1620
2		Jun	10	619.3	-116.6	-0.6962			08-3314-6775	08-1540-4607
3		Oct	10	651.6	-84.26	-0.5034			08-1025-4680	04-9254-8883
4	2006	Feb	13	921.9	186	1.111	(+)		08-9851-1226	07-3219-0331
5	2008		12	892.6	156.7	0.9359			15-6976-5200	18-3934-0764
6		Aug	25	1040	304	1.816	(+)		06-6119-9769	09-7546-4295
7		Sep	11	917.7	181.8	1.086	(+)		12-5480-0473	10-6515-6515
8		Nov	7	563	-172.9	-1.033	(-)		11-4948-7713	17-3277-7072
9	2009	May	12	721.9	-14.01	-0.08366			07-7016-2012	11-9025-1031
10			12	650.3	-85.61	-0.5114			10-1811-8659	15-1190-7362
11		Dec	3	760.9	24.96	0.1491			06-1499-1772	06-0264-7224
12	2010	Mar	3	710.4	-25.51	-0.1524			17-7743-6517	09-5758-4695
13	2011	May	2	713.8	-22.13	-0.1322			05-0735-0656	07-1751-6097
14		Jun	2	750	14.1	0.08423			17-9270-0205	04-9353-7895
15			23	570.5	-165.4	-0.9882			15-0478-1400	20-5891-4291

CETIS Summary Report

Report Date: 27 Jun-11 13:02 (p 1 of 1)
 Test Code: RA062311CT | 15-0478-1400

Chironomus 96-h Acute Survival Test **Nautilus Environmental WA**

Batch ID: 06-1890-9822	Test Type: Survival (96h)	Analyst: Meghan Feuk
Start Date: 23 Jun-11 11:00	Protocol: EPA/600/R-99/064 (2000)	Diluent: Diluted Mineral Water (8:2)
Ending Date: 27 Jun-11 12:00	Species: Chironomus tentans	Brine:
Duration: 4d 1h	Source: Aquatic Biosystems, CO	Age:

Sample ID: 00-0348-0792	Code: RA062311CT	Client: Reference Toxicant Test
Sample Date: 23 Jun-11 11:00	Material: Copper chloride	Project:
Receive Date: 23 Jun-11 11:00	Source: Reference Toxicant	
Sample Age: N/A	Station:	

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
13-8997-0043	96h Survival Rate	375	750	530.3	26.9%		Steel Many-One Rank Test

Point Estimate Summary

Analysis ID	Endpoint	Level	µg/L	95% LCL	95% UCL	TU	Method
20-5891-4291	96h Survival Rate	EC50	570.5	465.9	698.5		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	4	0.95	0.9127	0.9873	0.8	1	0.05	0.1	10.53%	0.0%
187.5		4	0.95	0.9127	0.9873	0.8	1	0.05	0.1	10.53%	0.0%
375		4	0.7	0.6036	0.7964	0.4	1	0.1291	0.2582	36.89%	26.32%
750		4	0.35	0.256	0.444	0	0.6	0.1258	0.2517	71.9%	63.16%
1500		4	0	0	0	0	0	0	0		100.0%
3000		4	0	0	0	0	0	0	0		100.0%

96h Survival Rate Detail

Conc-µg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	1	0.8	1	1
187.5		0.8	1	1	1
375		1	0.6	0.4	0.8
750		0.6	0.4	0	0.4
1500		0	0	0	0
3000		0	0	0	0

96 Hour Reference Toxicity Test Data Sheet - Nautilus Environmental
Freshwater Sediment 96-hr Chronic

Client: Reference Toxicant
Sample ID: 3000 ug/L CuCl₂
Test #: RTD12211C
3rd

Start Date & Time: 6/28/11 1100
End Date & Time: 6/27/11 1200
Test Organism: Chironomus tentans

Conc. CuCl ₂	Cont. #	Survival		Dissolved O ₂ (mg/L)					pH (units)					Cond. μS/cm					Temperature (°C)				
		0	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
0 ug/L	13	5	5	8.0	6.3	6.5	6.6	7.0	7.71	7.44	7.52	7.50	7.82	184	193	194	190	245	21.8	21.1	21.2	21.2	21.8
	19	5	4																				
	17	5	5																				
	18	5	5																				
187.5 ug/L	11	5	4	8.0	7.0	7.2	7.0	7.1	7.70	7.43	7.51	7.51	7.81	181	187	182	188	204	21.9	21.4	21.4	21.2	22.2
	3	5	5																				
	22	5	5																				
	15	5	5																				
375 ug/L	23	5	5	8.0	7.2	7.0	7.0	6.9	7.69	7.41	7.52	7.49	7.76	180	186	185	185	202	21.6	21.3	21.2	21.2	22.1
	1	5	3																				
	12	5	2																				
	2	5	4																				
750 ug/L	21	5	3	7.9	7.7	7.3	7.2	6.9	7.67	7.45	7.51	7.49	7.85	179	186	185	185	200	21.6	21.4	21.2	21.3	22.2
	20	5	2																				
	16	5	0																				
	5	5	2																				
1500 ug/L	4	5	0	7.9	7.9	7.4	7.0	7.0	7.60	7.44	7.47	7.36	7.66	181	184	187	176	200	21.6	21.3	21.2	21.3	22.1
	8	5	0																				
	14	5	0																				
	7	5	0																				
3000 ug/L	24	5	0	8.0	8.0	7.4	7.1	7.3	7.57	7.37	7.42	7.40	7.69	180	186	186	192	196	21.5	21.2	21.4	21.2	22.2
	9	5	0																				
	10	5	0																				
	12	5	0																				

Tech. Initials: IN BP gt IN MF

Test Chamber: PM.C

QA Check: IN

Animal Source: PM.C

ABS

Date Received: 6/8/11

Age at test initiation: 2nd instar

Comments: _____

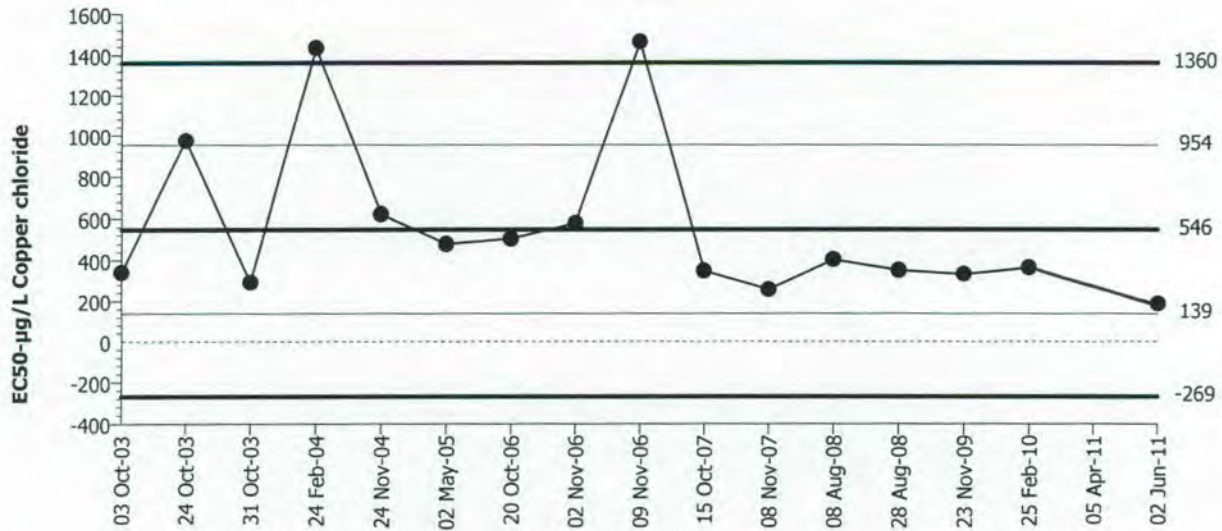


Acute Amphipod Survival Test

Nautilus Environmental WA

Test Type: Survival Organism: *Hyalella azteca* (Freshwater Amphip) Material: Copper chloride
 Protocol: ASTM E1706-00 (2000) Endpoint: Survival Rate Source: Reference Toxicant-REF

Acute Amphipod Survival Test



Mean: 546.4 Count: 16 -1s Warning Limit: 138.9 -2s Action Limit: -268.6
 Sigma: 407.5 CV: 74.60% +1s Warning Limit: 953.9 +2s Action Limit: 1361

Quality Control Data

Point	Year	Month	Day	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2003	Oct	3	341.2	-205.2	-0.5035			06-0775-4420	15-2295-2416
2			24	975.3	428.9	1.053	(+)		04-6438-3508	07-9828-8060
3			31	292.7	-253.7	-0.6225			08-3475-1373	04-5200-0455
4	2004	Feb	24	1434	887.3	2.177	(+)	(+)	07-1118-0626	17-7524-5953
5		Nov	24	620.2	73.81	0.1811			10-9772-9874	17-7888-1382
6	2005	May	2	477.4	-69.01	-0.1694			07-5117-5111	11-6732-4104
7	2006	Oct	20	503.5	-42.94	-0.1054			10-2603-2608	05-1924-5921
8		Nov	2	576.5	30.14	0.07397			04-1292-4263	07-3082-5987
9			9	1464	917.7	2.252	(+)	(+)	06-5458-2190	12-2747-1591
10	2007	Oct	15	348.4	-198	-0.486			13-4692-2778	05-0675-3882
11		Nov	8	257.2	-289.2	-0.7097			06-6607-2454	13-7012-4549
12	2008	Aug	8	403.7	-142.7	-0.3503			00-5616-2222	16-0415-1126
13			28	351.6	-194.8	-0.4781			02-4459-4152	20-2603-1886
14	2009	Nov	23	332.8	-213.6	-0.5242			20-2294-2173	19-9301-0079
15	2010	Feb	25	365	-181.4	-0.4452			16-9659-3406	11-7559-2786
16	2011	Apr	5	0	-546.4	-1.341	(-)		12-7538-8678	19-5580-0324
17		Jun	2	187.5	-358.9	-0.8807			04-1031-1615	02-7338-9085

CETIS Summary Report

Report Date: 06 Jun-11 12:58 (p 1 of 1)
 Test Code: RA060211HA | 04-1031-1615

Acute Amphipod Survival Test **Nautilus Environmental WA**

Batch ID: 17-7102-7421	Test Type: Survival	Analyst: Meghan Feuk
Start Date: 02 Jun-11 13:10	Protocol: ASTM E1706-00 (2000)	Diluent: Diluted Mineral Water (8:2)
Ending Date: 06 Jun-11 13:10	Species: Hyalella azteca	Brine:
Duration: 96h	Source: Aquatic Indicators	Age:

Sample ID: 17-8648-9088	Code: RA060211HA	Client: Reference Toxicant Test
Sample Date: 02 Jun-11 13:10	Material: Copper chloride	Project:
Receive Date: 02 Jun-11 13:10	Source: Reference Toxicant	
Sample Age: N/A	Station:	

Comparison Summary							
Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
09-8560-0831	Survival Rate	<187.5	187.5	N/A	4.59%		Steel Many-One Rank Test

Point Estimate Summary							
Analysis ID	Endpoint	Level	µg/L	95% LCL	95% UCL	TU	Method
02-7338-9085	Survival Rate	EC50	187.5	150.6	233.5		Trimmed Spearman-Kärber

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	4	1	1	1	1	1	0	0	0.0%	0.0%
187.5		4	0.5	0.4695	0.5305	0.4	0.6	0.04082	0.08165	16.33%	50.0%
375		4	0	0	0	0	0	0	0		100.0%
750		4	0	0	0	0	0	0	0		100.0%
1500		4	0	0	0	0	0	0	0		100.0%
3000		4	0	0	0	0	0	0	0		100.0%

Survival Rate Detail					
Conc-µg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	1	1	1	1
187.5		0.5	0.5	0.4	0.6
375		0	0	0	0
750		0	0	0	0
1500		0	0	0	0
3000		0	0	0	0

96 Hour Reference Toxicity Test Data Sheet - Nautilus Environmental Freshwater Sediment 96-hr Chronic

Client: Reference Toxicant
 Sample ID: 3000 µg/L CuCl₂
 Test #: RAB00211 Ha

Start Date & Time: 6/16³/11 1310
 End Date & Time: 6/16/11 1310
 Test Organism: H. azteca

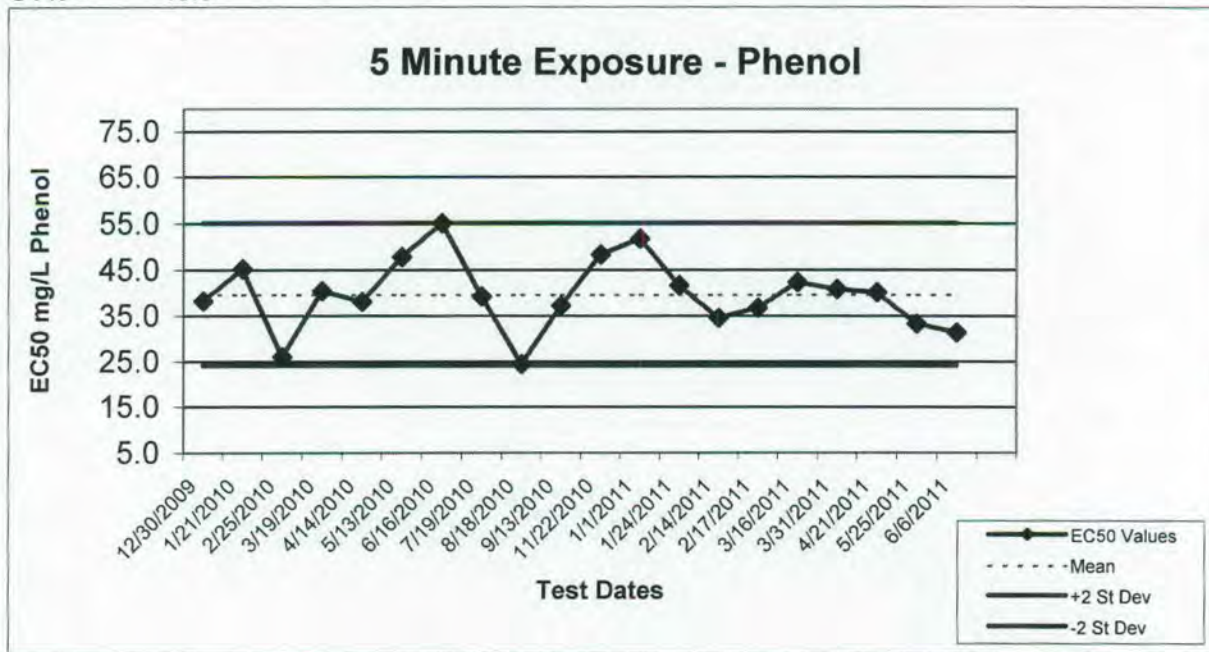
Conc. CuCl ₂	Cont. #	Survival		Dissolved O ₂ (mg/L)					pH (units)					Cond. µS/cm					Temperature (°C)				
		0	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
0 ug/L	21	10	10	8.3	8.1	8.0	8.0	8.0	7.81	7.83	7.87	7.20	7.19	189	205	204	210	209	22.7	23.0	23.2	23.5	23.2
	15	10	10																				
	19	10	10																				
	18	10	10																				
187.5	13	10	5	8.2	8.2	8.1	8.3	8.0	7.80	7.83	7.84	7.20	7.16	184	206	200	206	209	22.7	23.0	23.3	23.5	23.3
	1	10	5																				
	14	10	4																				
	3	10	6																				
375	4	10	0	8.3	7.9	8.1	8.2	7.9	7.77	7.80	7.78	7.17	7.00	184	202	202	207	206	22.6	23.3	23.4	23.5	23.5
	11	10	0																				
	10	10	0																				
	12	10	0																				
750	2	10	0	8.3	8.2	8.2	8.2	8.0	7.71	7.78	7.72	7.14	7.02	184	204	200	206	206	22.5	23.5	23.3	23.4	23.5
	20	10	0																				
	22	10	0																				
	9	10	0																				
1500	5	10	0	8.3	8.2	8.3	8.3	8.1	7.55	7.70	7.61	7.08	7.02	183	204	201	207	210	22.4	23.4	23.3	23.5	23.3
	24	10	0																				
	8	10	0																				
	7	10	0																				
3000	17	10	0	8.3	8.3	8.3	8.3	8.1	7.27	7.61	7.50	7.05	7.00	184	204	200	207	208	22.5	23.3	23.3	23.4	23.4
	6	10	0																				
	23	10	0																				
	16	10	0																				

Tech Initials: (M) SP ME SP SP (M)

Animal Source: AI Comments: _____
 Date Received: 6/2/11 Dilution Water: 8:2
 Age at test initiation: _____ Test Chamber: Rm. A QA Check: (M)

Reference Toxicant Control Chart Microtox 5-Minute Exposure

CV% = 19.5

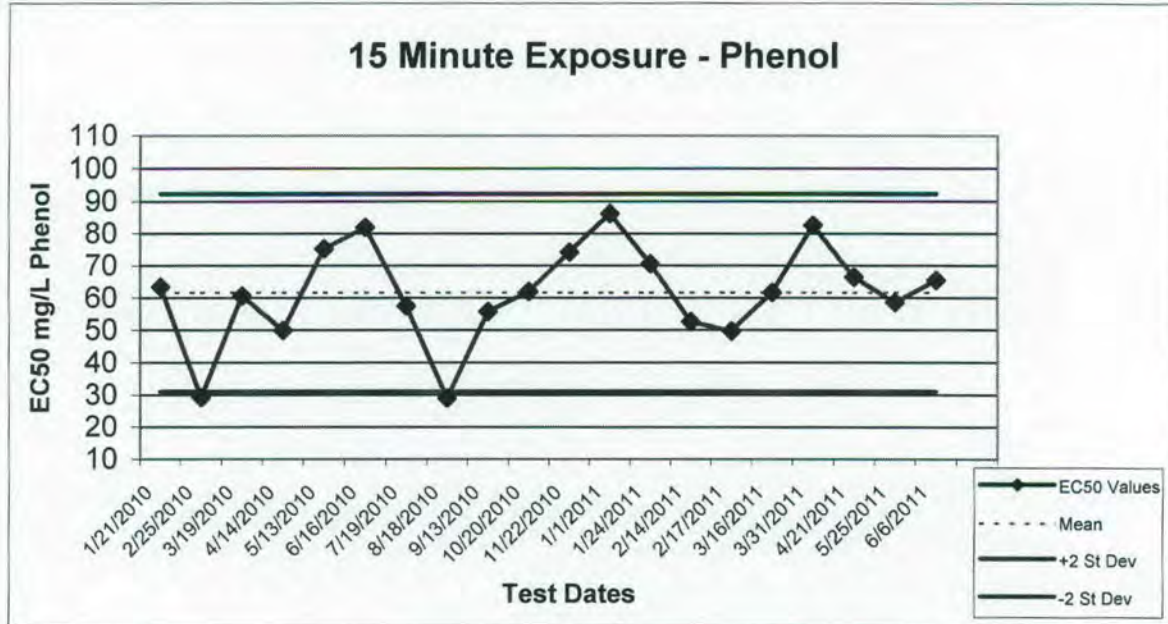


Date	Time	EC50 %	EC50 mg/L Phenol ^a	Mean	StDev	-2 SD	+2 SD
12/30/2009	911	22.5	38.3	39.6	7.7	24.2	55.1
1/21/2010	1015	26.6	45.2	39.6	7.7	24.2	55.1
2/25/2010	1223	15.3	26.0	39.6	7.7	24.2	55.1
3/19/2010	833	23.8	40.5	39.6	7.7	24.2	55.1
4/14/2010	934	23.8	38.1	39.6	7.7	24.2	55.1
5/13/2010	939	29.9	47.8	39.6	7.7	24.2	55.1
6/16/2010	912	34.4	55.0	39.6	7.7	24.2	55.1
7/19/2010	830	24.5	39.2	39.6	7.7	24.2	55.1
8/18/2010	1018	15.3	24.4	39.6	7.7	24.2	55.1
9/13/2010	1214	23.3	37.3	39.6	7.7	24.2	55.1
11/22/2010	1100	30.2	48.3	39.6	7.7	24.2	55.1
1/1/2011	1436	32.3	51.7	39.6	7.7	24.2	55.1
1/24/2011	829	26.0	41.7	39.6	7.7	24.2	55.1
2/14/2011	1339	21.6	34.5	39.6	7.7	24.2	55.1
2/17/2011	1010	23.0	36.8	39.6	7.7	24.2	55.1
3/16/2011	812	26.5	42.3	39.6	7.7	24.2	55.1
3/31/2011	1154	25.5	40.8	39.6	7.7	24.2	55.1
4/21/2011	917	25.1	40.2	39.6	7.7	24.2	55.1
5/25/2011	848	20.8	33.3	39.6	7.7	24.2	55.1
6/6/2011	1220	19.6	31.4	39.6	7.7	24.2	55.1

a - Highest concentration of Phenol is 160 mg/L

Reference Toxicant Control Chart Microtox 15-Minute Exposure

CV% = 24.8



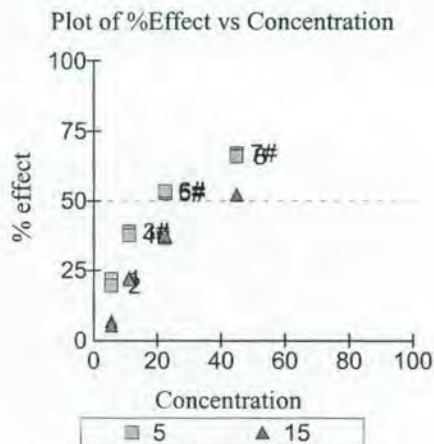
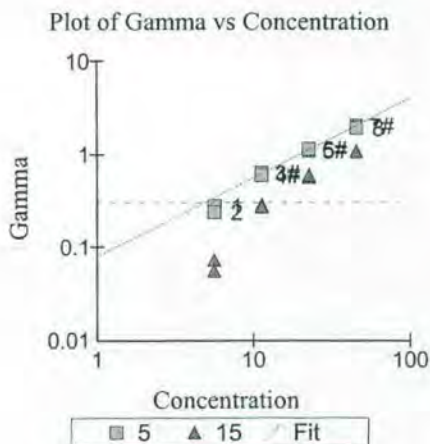
Date	Time	EC50 %	EC50 mg/L Phenol ^a	Mean	StDev	-2 SD	+2 SD
1/21/2010	1015	37.3	63.3	61.6	15.3	31.0	92.2
2/25/2010	1223	17.2	29.2	61.6	15.3	31.0	92.2
3/19/2010	833	35.6	60.5	61.6	15.3	31.0	92.2
4/14/2010	934	31.2	49.9	61.6	15.3	31.0	92.2
5/13/2010	939	47.0	75.2	61.6	15.3	31.0	92.2
6/16/2010	912	51.2	81.9	61.6	15.3	31.0	92.2
7/19/2010	830	35.9	57.4	61.6	15.3	31.0	92.2
8/18/2010	1018	18.2	29.1	61.6	15.3	31.0	92.2
9/13/2010	1214	34.8	55.7	61.6	15.3	31.0	92.2
10/20/2010	904	38.7	61.9	61.6	15.3	31.0	92.2
11/22/2010	1100	46.4	74.2	61.6	15.3	31.0	92.2
1/1/2011	1436	53.9	86.2	61.6	15.3	31.0	92.2
1/24/2011	829	44.1	70.5	61.6	15.3	31.0	92.2
2/14/2011	1339	32.9	52.6	61.6	15.3	31.0	92.2
2/17/2011	1010	31.0	49.6	61.6	15.3	31.0	92.2
3/16/2011	812	38.5	61.6	61.6	15.3	31.0	92.2
3/31/2011	1154	51.6	82.6	61.6	15.3	31.0	92.2
4/21/2011	917	41.5	66.4	61.6	15.3	31.0	92.2
5/25/2011	848	36.5	58.4	61.6	15.3	31.0	92.2
6/6/2011	1220	40.9	65.4	61.6	15.3	31.0	92.2

a - Highest concentration of Phenol is 160 mg/L

MicrotoxOmni Test Report

Date: 06/06/2011 12:20 PM

Test Protocol: Basic Test
 Sample: 160mg/L Phenol
 Toxicant: 160mg/L Phenol
 Reagent Lot no.: 10K1032
 Test description: Reference Toxicant
 Test name: RT060611VF
 Database file: C:\Program Files\MicrotoxOmni\Edge Analytical.mdb



Sample	Conc	5 Mins Data:				15 Mins Data:		
		Io	It	Gamma	% effect	It	Gamma	% effect
Control	0.000	95.37	94.07	0.9864 #		64.12	0.6723 #	
Control	0.000	96.55	96.74	1.002 #		65.20	0.6753 #	
1	5.625	102.88	79.94	0.2795	21.84%	64.63	0.0726	6.768%
2	5.625	99.02	79.24	0.2423	19.51%	63.20	0.0557	5.277%
3	11.25	103.46	62.83	0.6371 #	38.91%	54.10	0.2886	22.40%
4	11.25	105.65	65.49	0.6038 #	37.65%	55.82	0.2753	21.59%
5	22.50	107.92	50.83	1.111 #	52.62%	46.07	0.5784 #	36.65%
6	22.50	109.63	50.79	1.146 #	53.40%	46.09	0.6027 #	37.61%
7	45.00	109.14	35.85	2.027 #	66.96%	35.13	1.093 #	52.23%
8	45.00	108.87	36.88	1.935	65.93%	35.23	1.082 #	51.98%

- used in calculation; * - invalid data; D - deleted from calcs.
 Autocalc has been used.

Calculations on 5 Mins data:

EC50 Concentration: 19.62% (95% confidence range: 18.81 to 20.48)
 95% Confidence Factor: 1.043
 Estimating Equation: LOG C = 1.167 x LOG G + 1.293
 Coeff. of Determination (R²): 0.9980
 Slope: 0.8554
 Correction Factor: 0.9942

Calculations on 15 Mins data:

EC50 Concentration: 40.88% (95% confidence range: 38.35 to 43.57)
 95% Confidence Factor: 1.066
 Estimating Equation: LOG C = 1.132 x LOG G + 1.611
 Coeff. of Determination (R²): 0.9976
 Slope: 0.8815
 Correction Factor: 0.6738

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APPENDIX F - Chain-of-Custody Forms

Chain of Custody Record

Client Information (Sub Contract Lab)				Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:		
Client Contact: Shipping/Receiving				Phone:	Armstrong, Curtis		580-5839.1		
Company: Nautilus Environmental				E-Mail:	curtis.armstrong@testamericainc.com		Page: Page 1 of 1		
Address: 5009 Pacific Hwy. East, Suite 2, City: Tacoma State, Zip: WA, 98424 Phone: Email:				Due Date Requested: 6/6/2011	Analysis Requested		Job #: 580-26360-1		
Project Name: Yakima Steel				TAT Requested (days):	SUBCONTRACT Amphipod mortality (blot) Midge larva mortality and growth 2 days (microtox 1000 pore water 15 min CIV10 fisher)		Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify)		
Site:				PO #:			Total Number of containers:		Other:
Project #: 58004867				WO #:					
SSOW#:									
Sample Identification - Client ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No) Performs MSL/MSD (Yes or No)			Special Instructions/Note:	
E-WetSed-1-052311	5/23/11	10:10 Pacific		Solid	X			400 S11-048	
E-WetSed-2-052311	5/23/11	10:35 Pacific		Solid	X			S11-049	
E-WetSed-3-052311	5/23/11	11:10 Pacific		Solid	X			S11-050	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:			
Empty Kit Relinquished by: Relinquished by: <i>Cathy Gamble</i>			Date/Time: 5/25/11 13:40	Company: <i>TA-SEA</i>	Method of Shipment:		Date/Time: 5-25-11 1600	Company: <i>Nautilus</i>	
Relinquished by:			Date/Time:	Company:	Received by:		Date/Time:	Company:	
Relinquished by:			Date/Time:	Company:	Received by:		Date/Time:	Company:	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:			Cooler Temperature(s) °C and Other Remarks:				

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07/28/2011



Farallon Consulting, LLC

TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

Rush
 Short Hold

**Chain of
Custody Record**

Client 975-5th AVE NW		Client Contact Jeff Kaspar		Date 5/23/11	Chain of Custody Number 11239
Address Issaquah WA 98027		Telephone Number (Area Code)/Fax Number (425) 295-0808		Lab Number 26360	Page 1 of 1

Project Name and Location (State) Yakima Steel, WA			Billing Contact Jeff Kaspar			Analysis (Attach list if more space is needed) Amplified metallicity multiple large multiple medium multiple small microtox test particulate act Grain Size Total Solids Total Volatile Solids Total Organic Carbon						Special Instructions/ Conditions of Receipt	
Contract/Purchase Order/Quote No. 765-001			Matrix										

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives											Special Instructions/ Conditions of Receipt											
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Amplified metallicity	multiple large	multiple medium	multiple small	microtox test		particulate act	Grain Size	Total Solids	Total Volatile Solids	Total Organic Carbon						
-1 E-Wet Sed-1-052311	5/23/11	1010				X														X	X	X	X	X	X	X	X	X	HOLD Containers for additional analysis if necessary/ requested Analyze 16oz jars only Hold VOCs and 4oz jars
-2 E-Wet Sed-2-052311	"	1035				X														X	X	X	X	X	X	X	X	X	
-3 E-Wet Sed-3-052311	"	1110				X													X	X	X	X	X	X	X	X	X		

Cooler <input type="checkbox"/> Yes <input type="checkbox"/> No Cooler Temp: _____	Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown	Sample Disposal <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input checked="" type="checkbox"/> Archive For 1 Months	(A fee may be assessed if samples are retained longer than 1 month)
---	--	---	---

Turn Around Time Required (business days) <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 5 Days <input type="checkbox"/> 10 Days <input type="checkbox"/> 15 Days <input type="checkbox"/> Other _____	QC Requirements (Specify)
---	---------------------------

1. Relinquished By Sign/Print Ryan Hibbs	Date 5-23-11	Time 1405	1. Received By Sign/Print BRETT T. CARP	Date 5/23/11	Time 1405
2. Relinquished By Sign/Print Brett T. Carp	Date 5/24/11	Time 10:00	2. Received By Sign/Print Francisco Luna, Jr	Date 5/24/11	Time 1600
3. Relinquished By Sign/Print	Date	Time	3. Received By Sign/Print	Date	Time

Comments

Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-26360-1

Login Number: 26360
List Number: 1
Creator: Luna, Francisco

List Source: TestAmerica Seattle

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	6.8°C
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-26377-1
Client Project/Site: Yakima Steel
Revision: 1

For:
Farallon Consulting LLC
975 5th Avenue NW
Suite 100
Issaquah, Washington 98027

Attn: Jeff Kaspar

Pamela R. Johnson

Authorized for release by:
08/12/2011 03:18:10 PM
Pam Johnson
Project Manager I
pamr.johnson@testamericainc.com

Designee for
Kristine Allen
Project Manager I
kristine.allen@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.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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Case Narrative

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Job ID: 580-26377-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-26377-1

Receipt

The container label for the following sample(s) did not match the information listed on the Chain-of-Custody (COC): . Two 4oz. soil jars received, not on COC. These were both for sample "I-TP3-052411-0.0-0.5" collected on 05-24-2011 at 11:00. These samples were added to the end of the COC and logged-in.

All other samples were received in good condition within temperature requirements.

GC/MS VOA

Method(s) 8260B:

Ethylbenzene-d10 and 4-Bromofluorobenzene surrogate recovery for the following sample were outside control limits: I-TP3-052411-3.0 (580-26377-22). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Several target compounds exceeded calibration range in the direct sparge soil (DSS) analysis of sample I-TP3-052411-3.0 (580-26377-22). A request to schedule for methanolic analysis for the target compounds sec-Butylbenzene; n-Propylbenzene; 4-Isopropyltoluene; n-Butylbenzene; 1,2,4-Trimethylbenzene; and Naphthalene has been made to the project manager. The listed compounds have been marked as not needed in the DSS analysis and will be reported from the methanolic analysis. The re-analysis was performed outside the method required holding time affected sample has been qualified "H".

The initial calibration curve was outside acceptance criteria for Carbon Disulfide. As Carbon Disulfide was not a requested analyte at the time of sample analysis, it cannot be reported. The analyte was flagged rejected in the CCVIS and set to not needed in the associated samples and QC. 580-26377-21 and 580-26377-22

No other analytical or quality issues were noted.

GC Semi VOA

Method(s) 8081A:

The capping continuing calibration verification (CCV) analyzed on instrument TAC035, analytical batch 87207, did not meet criteria on both columns for the following analytes: CCV/17 - 4,4-DDT, DCB, Endosulfan sulfate and Endrin aldehyde were all recovering below lower control limits. CCV/23 - 4,4-DDE, 4,4-DDT, Aldrin, alpha-Chlordane, beta-BHC, DCB, Dieldrin, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin aldehyde, Endrin ketone and gamma-Chlordane were all recovering below lower control limits. CCV/24 - Toxaphene was recovering below lower control limits. The associated samples were analyzed twice with similar results. Data has been qualified "A" and reported.

Surrogate recovery for the following sample(s) was outside control limits: 580-26377-3, 580-26377-4, 580-26377-7, 580-26377-8, 580-26377-11, 580-26377-15, 580-26377-20, 580-26377-23 and 580-26377-28 MS. Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed. Data qualified "X" and reported.

The capping continuing calibration verification (CCV) in analytical batch 87303 on instrument TAC035 did not meet criteria on both columns for the following analytes: CCV/18 - 4,4-DDT, DCB, Endosulfan II, Endosulfan sulfate, Endrin aldehyde and Methoxychlor were recovering below lower control limits. CCV/31 - 4,4-DDT, DCB and Methoxychlor were recovering below lower control limits. CCV/36 - 4,4-DDT, DCB and Methoxychlor were recovering below lower control limits. The associated samples were analyzed twice with similar results. Data has been qualified "A" and reported.

Method(s) NWTPH-Dx/NWTPH-HCID:

For samples 580-26377-21 and 580-26377-22, the results in the C10-C24 range are due to a weathered diesel range product. The affected analyte range is qualified with the "Y" qualifier and reported.

No other analytical or quality issues were noted.

Metals

Method(s) 6010B:

The absolute value for some elements was above the RL value. The ICB, MB and CCB's were all within limits. Sample qualified "L". No

Case Narrative

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Job ID: 580-26377-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

bias is indicated.

No other analytical or quality issues were noted.

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Definitions/Glossary

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	Indicates the presence of an interference, recovery is not calculated.
X	Surrogate is outside control limits
H	Sample was prepped or analyzed beyond the specified holding time

GC Semi VOA

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
H	Sample was prepped or analyzed beyond the specified holding time
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
I	Indicates the presence of an interference, recovery is not calculated.
X	Surrogate is outside control limits
Y	The chromatographic response resembles a typical fuel pattern.
F	MS or MSD exceeds the control limits

Metals

Qualifier	Qualifier Description
F	Duplicate RPD exceeds the control limit
L	A negative instrument reading had an absolute value greater than the reporting limit

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit (Dioxin)
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or method detection limit if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: K-TP1-052311-0.0-0.5

Lab Sample ID: 580-26377-1

Date Collected: 05/23/11 13:50

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 92.1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
alpha-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
beta-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
delta-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
4,4'-DDD	ND		2.2		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
4,4'-DDE	9.1		2.2		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
4,4'-DDT	13	^	2.2		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
Dieldrin	2.9		2.2		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
Endosulfan I	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
Endosulfan II	ND	^	2.2		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
Endosulfan sulfate	ND	^	2.2		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
Endrin	ND		2.2		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
Endrin aldehyde	ND	^	2.2		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
Heptachlor	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
Heptachlor epoxide	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
Methoxychlor	ND	^	11		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
Endrin ketone	ND		2.2		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
Toxaphene	ND		110		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
alpha-Chlordane	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
gamma-Chlordane	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 18:33	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	74		49 - 123				05/31/11 11:16	06/06/11 18:33	1
<i>DCB Decachlorobiphenyl</i>	60	^	40 - 158				05/31/11 11:16	06/06/11 18:33	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92		0.10		%			05/31/11 11:19	1
Percent Moisture	7.9		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: K-TP1-052311-2.0-2.5

Lab Sample ID: 580-26377-2

Date Collected: 05/23/11 13:55

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 86.4

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
alpha-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
beta-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
delta-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
4,4'-DDD	ND		2.2		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
4,4'-DDE	ND		2.2		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
4,4'-DDT	ND	^	2.2		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
Dieldrin	ND		2.2		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
Endosulfan I	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
Endosulfan II	ND	^	2.2		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
Endosulfan sulfate	ND	^	2.2		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
Endrin	ND		2.2		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
Endrin aldehyde	ND	^	2.2		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
Heptachlor	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
Heptachlor epoxide	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
Methoxychlor	ND	^	11		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
Endrin ketone	ND		2.2		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
Toxaphene	ND		110		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
alpha-Chlordane	8.6	p	1.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
gamma-Chlordane	9.5		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:31	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	54		49 - 123				05/31/11 11:16	06/06/11 19:31	1
<i>DCB Decachlorobiphenyl</i>	62	^	40 - 158				05/31/11 11:16	06/06/11 19:31	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86		0.10		%			05/31/11 11:19	1
Percent Moisture	14		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: K-TP2-052311-1.0-1.5

Lab Sample ID: 580-26377-3

Date Collected: 05/23/11 14:40

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 94.7

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
alpha-BHC	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
beta-BHC	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
delta-BHC	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
4,4'-DDD	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
4,4'-DDE	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
4,4'-DDT	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
Dieldrin	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
Endosulfan I	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
Endosulfan II	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
Endosulfan sulfate	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
Endrin	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
Endrin aldehyde	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
Heptachlor	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
Heptachlor epoxide	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
Methoxychlor	ND	^	10		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
Endrin ketone	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
Toxaphene	ND		100		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
alpha-Chlordane	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
gamma-Chlordane	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 19:50	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	45	XI	49 - 123				05/31/11 11:16	06/06/11 19:50	1
DCB Decachlorobiphenyl	54	^	40 - 158				05/31/11 11:16	06/06/11 19:50	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	95		0.10		%			05/31/11 11:19	1
Percent Moisture	5.3		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: K-TP2-052311-3.5-4.0

Lab Sample ID: 580-26377-4

Date Collected: 05/23/11 14:45

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 83.0

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.2		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
alpha-BHC	ND		1.2		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
beta-BHC	ND		1.2		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
delta-BHC	ND		1.2		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
gamma-BHC (Lindane)	ND		1.2		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
4,4'-DDD	ND		2.3		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
4,4'-DDE	ND		2.3		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
4,4'-DDT	ND	^	2.3		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
Dieldrin	ND		2.3		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
Endosulfan I	ND		1.2		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
Endosulfan II	ND	^	2.3		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
Endosulfan sulfate	ND	^	2.3		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
Endrin	ND		2.3		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
Endrin aldehyde	ND	^	2.3		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
Heptachlor	ND		1.2		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
Heptachlor epoxide	ND		1.2		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
Methoxychlor	ND	^	12		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
Endrin ketone	ND		2.3		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
Toxaphene	ND		120		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
alpha-Chlordane	ND		1.2		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
gamma-Chlordane	ND		1.2		ug/Kg	*	05/31/11 11:16	06/06/11 20:10	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	37	X I	49 - 123				05/31/11 11:16	06/06/11 20:10	1
<i>DCB Decachlorobiphenyl</i>	18	X ^ I	40 - 158				05/31/11 11:16	06/06/11 20:10	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83		0.10		%			05/31/11 11:19	1
Percent Moisture	17		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: K-TP3-052311-0.0-0.5

Lab Sample ID: 580-26377-5

Date Collected: 05/23/11 15:30

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 93.3

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
alpha-BHC	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
beta-BHC	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
delta-BHC	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
4,4'-DDD	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
4,4'-DDE	8.1		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
4,4'-DDT	3.8	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
Dieldrin	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
Endosulfan I	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
Endosulfan II	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
Endosulfan sulfate	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
Endrin	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
Endrin aldehyde	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
Heptachlor	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
Heptachlor epoxide	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
Methoxychlor	ND	^	10		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
Endrin ketone	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
Toxaphene	ND		100		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
alpha-Chlordane	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
gamma-Chlordane	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 20:29	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	75		49 - 123				05/31/11 11:16	06/06/11 20:29	1
DCB Decachlorobiphenyl	60	^	40 - 158				05/31/11 11:16	06/06/11 20:29	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93		0.10		%			05/31/11 11:19	1
Percent Moisture	6.7		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: K-TP3-052311-2.0-2.5

Lab Sample ID: 580-26377-6

Date Collected: 05/23/11 15:35

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 90.9

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
alpha-BHC	ND		1.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
beta-BHC	ND		1.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
delta-BHC	ND		1.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
4,4'-DDD	5.1	p	2.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
4,4'-DDE	8.7		2.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
4,4'-DDT	22	^	2.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
Dieldrin	5.5	^ p	2.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
Endosulfan I	ND		1.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
Endosulfan II	ND	^	2.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
Endosulfan sulfate	ND	^	2.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
Endrin	ND		2.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
Endrin aldehyde	ND	^	2.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
Heptachlor	ND		1.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
Heptachlor epoxide	1.6	p	1.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
Methoxychlor	ND	^	11		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
Endrin ketone	ND		2.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
Toxaphene	ND		110		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
alpha-Chlordane	36	p	1.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
gamma-Chlordane	41		1.1		ug/Kg	☼	05/31/11 11:16	06/06/11 20:49	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	56		49 - 123				05/31/11 11:16	06/06/11 20:49	1
DCB Decachlorobiphenyl	59	^	40 - 158				05/31/11 11:16	06/06/11 20:49	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91		0.10		%			05/31/11 11:19	1
Percent Moisture	9.1		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: L-TP1-052311-0.0-0.5

Lab Sample ID: 580-26377-7

Date Collected: 05/23/11 16:14

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 90.8

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
alpha-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
beta-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
delta-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
4,4'-DDD	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
4,4'-DDE	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
4,4'-DDT	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
Dieldrin	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
Endosulfan I	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
Endosulfan II	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
Endosulfan sulfate	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
Endrin	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
Endrin aldehyde	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
Heptachlor	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
Heptachlor epoxide	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
Methoxychlor	ND	^	11		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
Endrin ketone	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
Toxaphene	ND		110		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
alpha-Chlordane	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
gamma-Chlordane	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 22:26	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	66		49 - 123				05/31/11 11:16	06/06/11 22:26	1
DCB Decachlorobiphenyl	39	^ X I	40 - 158				05/31/11 11:16	06/06/11 22:26	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91		0.10		%			05/31/11 11:19	1
Percent Moisture	9.2		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: L-TP1-052311-3.0-3.5

Lab Sample ID: 580-26377-8

Date Collected: 05/23/11 16:20

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 45.7

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		4.3		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
alpha-BHC	ND		4.3		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
beta-BHC	ND		4.3		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
delta-BHC	ND		4.3		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
gamma-BHC (Lindane)	ND		4.3		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
4,4'-DDD	ND		8.5		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
4,4'-DDE	ND		8.5		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
4,4'-DDT	ND	^	8.5		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
Dieldrin	ND		8.5		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
Endosulfan I	ND		4.3		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
Endosulfan II	ND	^	8.5		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
Endosulfan sulfate	ND	^	8.5		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
Endrin	ND		8.5		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
Endrin aldehyde	ND	^	8.5		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
Heptachlor	ND		4.3		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
Heptachlor epoxide	ND		4.3		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
Methoxychlor	ND	^	43		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
Endrin ketone	ND		8.5		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
Toxaphene	ND		430		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
alpha-Chlordane	ND		4.3		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
gamma-Chlordane	ND		4.3		ug/Kg	*	05/31/11 11:16	06/06/11 22:46	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	70		49 - 123				05/31/11 11:16	06/06/11 22:46	1
DCB Decachlorobiphenyl	14	X ^ I	40 - 158				05/31/11 11:16	06/06/11 22:46	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	46		0.10		%			05/31/11 11:19	1
Percent Moisture	54		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: L-TP2-052311-0.0-0.5

Lab Sample ID: 580-26377-9

Date Collected: 05/23/11 16:50

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 90.0

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
alpha-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
beta-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
delta-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
4,4'-DDD	4.4		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
4,4'-DDE	5.9		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
4,4'-DDT	13	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
Dieldrin	2.9		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
Endosulfan I	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
Endosulfan II	3.6	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
Endosulfan sulfate	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
Endrin	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
Endrin aldehyde	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
Heptachlor	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
Heptachlor epoxide	2.4	p	1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
Methoxychlor	ND	^	11		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
Endrin ketone	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
Toxaphene	ND		110		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
alpha-Chlordane	2.9	p	1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
gamma-Chlordane	2.7	p	1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:05	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	60		49 - 123				05/31/11 11:16	06/06/11 23:05	1
DCB Decachlorobiphenyl	67	^	40 - 158				05/31/11 11:16	06/06/11 23:05	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90		0.10		%			05/31/11 11:19	1
Percent Moisture	10		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: L-TP2.2-052311-0.0-0.5

Lab Sample ID: 580-26377-10

Date Collected: 05/23/11 16:55

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 89.9

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
alpha-BHC	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
beta-BHC	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
delta-BHC	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
gamma-BHC (Lindane)	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
4,4'-DDD	5.0	H	2.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
4,4'-DDE	7.7	H	2.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
4,4'-DDT	20	H ^	2.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
Dieldrin	ND	H	2.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
Endosulfan I	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
Endosulfan II	ND	H	2.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
Endosulfan sulfate	ND	H	2.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
Endrin	ND	H	2.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
Endrin aldehyde	ND	H	2.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
Heptachlor	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
Heptachlor epoxide	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
Methoxychlor	ND	H	11		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
Endrin ketone	ND	H	2.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
Toxaphene	ND	H	110		ug/Kg	☼	06/20/11 09:58	06/22/11 13:06	1
alpha-Chlordane	6.4	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
gamma-Chlordane	4.9	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:12	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	69		49 - 123				06/20/11 09:58	06/21/11 18:12	1
DCB Decachlorobiphenyl	82		40 - 158				06/20/11 09:58	06/21/11 18:12	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90		0.10		%			06/03/11 10:22	1
Percent Moisture	10		0.10		%			06/03/11 10:22	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: L-TP2-052311-2.0-2.5

Lab Sample ID: 580-26377-11

Date Collected: 05/23/11 17:00

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 89.7

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
alpha-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
beta-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
delta-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
4,4'-DDD	3.0		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
4,4'-DDE	3.5		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
4,4'-DDT	3.2	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
Dieldrin	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
Endosulfan I	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
Endosulfan II	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
Endosulfan sulfate	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
Endrin	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
Endrin aldehyde	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
Heptachlor	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
Heptachlor epoxide	ND		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
Methoxychlor	ND	^	11		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
Endrin ketone	ND		2.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
Toxaphene	ND		110		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
alpha-Chlordane	1.7	p	1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
gamma-Chlordane	1.7		1.1		ug/Kg	*	05/31/11 11:16	06/06/11 23:25	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	47	XI	49 - 123				05/31/11 11:16	06/06/11 23:25	1
DCB Decachlorobiphenyl	58	^	40 - 158				05/31/11 11:16	06/06/11 23:25	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90		0.10		%			05/31/11 11:19	1
Percent Moisture	10		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: L-TP3-052411-0.0-0.5

Lab Sample ID: 580-26377-12

Date Collected: 05/24/11 07:35

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 93.3

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
alpha-BHC	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
beta-BHC	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
delta-BHC	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
4,4'-DDD	5.0		2.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
4,4'-DDE	28		2.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
4,4'-DDT	4.1	^	2.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
Dieldrin	ND		2.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
Endosulfan I	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
Endosulfan II	ND	^	2.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
Endosulfan sulfate	ND	^	2.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
Endrin	2.6		2.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
Endrin aldehyde	ND	^	2.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
Heptachlor	ND		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
Heptachlor epoxide	2.3	p	1.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
Methoxychlor	ND	^	10		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
Endrin ketone	ND		2.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
Toxaphene	ND		100		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
alpha-Chlordane	13		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
gamma-Chlordane	12		1.0		ug/Kg	*	05/31/11 11:16	06/06/11 23:44	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	68		49 - 123				05/31/11 11:16	06/06/11 23:44	1
DCB Decachlorobiphenyl	57	^	40 - 158				05/31/11 11:16	06/06/11 23:44	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93		0.10		%			05/31/11 11:19	1
Percent Moisture	6.7		0.10		%			05/31/11 11:19	1



Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: L-TP3-052411-2.0-2.5

Lab Sample ID: 580-26377-13

Date Collected: 05/24/11 07:40

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 91.9

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.0		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
alpha-BHC	ND		1.0		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
beta-BHC	ND		1.0		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
delta-BHC	ND		1.0		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
4,4'-DDD	ND		2.1		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
4,4'-DDE	ND		2.1		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
4,4'-DDT	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
Dieldrin	ND		2.1		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
Endosulfan I	ND		1.0		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
Endosulfan II	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
Endosulfan sulfate	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
Endrin	ND		2.1		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
Endrin aldehyde	ND	^	2.1		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
Heptachlor	ND		1.0		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
Heptachlor epoxide	ND		1.0		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
Methoxychlor	ND	^	10		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
Endrin ketone	ND		2.1		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
Toxaphene	ND		100		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
alpha-Chlordane	ND		1.0		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
gamma-Chlordane	ND		1.0		ug/Kg	*	05/31/11 11:16	06/07/11 00:04	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	58		49 - 123				05/31/11 11:16	06/07/11 00:04	1
DCB Decachlorobiphenyl	36	X ^ I	40 - 158				05/31/11 11:16	06/07/11 00:04	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92		0.10		%			05/31/11 11:19	1
Percent Moisture	8.1		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: J-TP1-052411-0.0-0.5

Lab Sample ID: 580-26377-14

Date Collected: 05/24/11 08:35

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 95.8

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.0		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
alpha-BHC	ND		1.0		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
beta-BHC	ND		1.0		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
delta-BHC	ND		1.0		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
4,4'-DDD	2.4		2.1		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
4,4'-DDE	10		2.1		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
4,4'-DDT	ND	^	2.1		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
Dieldrin	ND		2.1		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
Endosulfan I	ND		1.0		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
Endosulfan II	ND	^	2.1		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
Endosulfan sulfate	ND	^	2.1		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
Endrin	ND		2.1		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
Endrin aldehyde	ND	^	2.1		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
Heptachlor	ND		1.0		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
Heptachlor epoxide	ND		1.0		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
Methoxychlor	ND	^	10		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
Endrin ketone	ND		2.1		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
Toxaphene	ND		100		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
alpha-Chlordane	ND		1.0		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
gamma-Chlordane	ND		1.0		ug/Kg	☼	05/31/11 11:16	06/07/11 00:23	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	77		49 - 123				05/31/11 11:16	06/07/11 00:23	1
DCB Decachlorobiphenyl	57	^	40 - 158				05/31/11 11:16	06/07/11 00:23	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.9		mg/Kg	☼	06/06/11 13:07	06/06/11 22:28	1
Lead	50		1.4		mg/Kg	☼	06/06/11 13:07	06/06/11 22:28	1
Antimony	2.9		2.9		mg/Kg	☼	06/06/11 13:07	06/06/11 22:28	1
Cadmium	ND		0.48		mg/Kg	☼	06/06/11 13:07	06/06/11 22:28	1
Copper	57		0.96		mg/Kg	☼	06/06/11 13:07	06/07/11 10:31	1
Manganese	380		0.96		mg/Kg	☼	06/06/11 13:07	06/06/11 22:28	1
Zinc	190		1.9		mg/Kg	☼	06/06/11 13:07	06/06/11 22:28	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.25		0.017		mg/Kg	☼	06/07/11 08:30	06/07/11 10:36	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	96		0.10		%			05/31/11 11:19	1
Percent Moisture	4.2		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: J-TP1-052411-3.0-3.5

Lab Sample ID: 580-26377-15

Date Collected: 05/24/11 08:40

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 61.2

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.6		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
alpha-BHC	ND		1.6		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
beta-BHC	ND		1.6		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
delta-BHC	ND		1.6		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
gamma-BHC (Lindane)	ND		1.6		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
4,4'-DDD	ND		3.3		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
4,4'-DDE	ND		3.3		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
4,4'-DDT	ND	^	3.3		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
Dieldrin	ND		3.3		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
Endosulfan I	ND		1.6		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
Endosulfan II	ND	^	3.3		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
Endosulfan sulfate	ND	^	3.3		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
Endrin	ND		3.3		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
Endrin aldehyde	ND	^	3.3		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
Heptachlor	ND		1.6		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
Heptachlor epoxide	ND		1.6		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
Methoxychlor	ND	^	16		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
Endrin ketone	ND		3.3		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
Toxaphene	ND		160		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
alpha-Chlordane	ND		1.6		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
gamma-Chlordane	ND		1.6		ug/Kg	*	05/31/11 11:16	06/07/11 00:43	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	31	X I	49 - 123				05/31/11 11:16	06/07/11 00:43	1
DCB Decachlorobiphenyl	9	X ^ I	40 - 158				05/31/11 11:16	06/07/11 00:43	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	61		0.10		%			05/31/11 11:19	1
Percent Moisture	39		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: I-TP1-052411-0.0-0.5

Lab Sample ID: 580-26377-16

Date Collected: 05/24/11 09:20

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 87.2

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
alpha-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
beta-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
delta-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
4,4'-DDD	ND		2.3		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
4,4'-DDE	ND		2.3		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
4,4'-DDT	ND	^	2.3		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
Dieldrin	ND		2.3		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
Endosulfan I	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
Endosulfan II	ND	^	2.3		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
Endosulfan sulfate	ND	^	2.3		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
Endrin	ND		2.3		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
Endrin aldehyde	ND	^	2.3		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
Heptachlor	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
Heptachlor epoxide	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
Methoxychlor	ND	^	11		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
Endrin ketone	ND		2.3		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
Toxaphene	ND		110		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
alpha-Chlordane	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
gamma-Chlordane	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 01:02	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	81		49 - 123				05/31/11 11:16	06/07/11 01:02	1
DCB Decachlorobiphenyl	44	^	40 - 158				05/31/11 11:16	06/07/11 01:02	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87		0.10		%			05/31/11 11:19	1
Percent Moisture	13		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: I-TP1-052411-6.0

Lab Sample ID: 580-26377-17

Date Collected: 05/24/11 09:25

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 86.3

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
alpha-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
beta-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
delta-BHC	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
4,4'-DDD	ND		2.3		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
4,4'-DDE	ND		2.3		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
4,4'-DDT	ND	^	2.3		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
Dieldrin	ND		2.3		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
Endosulfan I	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
Endosulfan II	ND		2.3		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
Endosulfan sulfate	ND		2.3		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
Endrin	ND		2.3		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
Endrin aldehyde	ND		2.3		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
Heptachlor	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
Heptachlor epoxide	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
Methoxychlor	ND	^	11		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
Endrin ketone	ND		2.3		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
Toxaphene	ND		110		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
alpha-Chlordane	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
gamma-Chlordane	ND		1.1		ug/Kg	*	05/31/11 11:16	06/07/11 02:40	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	79		49 - 123				05/31/11 11:16	06/07/11 02:40	1
DCB Decachlorobiphenyl	52	^	40 - 158				05/31/11 11:16	06/07/11 02:40	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86		0.10		%			05/31/11 11:19	1
Percent Moisture	14		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: I-TP2-052411-0.0-0.5

Lab Sample ID: 580-26377-19

Date Collected: 05/24/11 10:05

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 91.7

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
alpha-BHC	ND		1.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
beta-BHC	ND		1.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
delta-BHC	ND		1.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
4,4'-DDD	ND		2.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
4,4'-DDE	3.7		2.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
4,4'-DDT	3.5	^	2.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
Dieldrin	ND		2.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
Endosulfan I	ND		1.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
Endosulfan II	ND		2.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
Endosulfan sulfate	ND	^	2.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
Endrin	ND		2.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
Endrin aldehyde	ND	^	2.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
Heptachlor	ND		1.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
Heptachlor epoxide	ND		1.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
Methoxychlor	ND		10		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
Endrin ketone	ND		2.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
Toxaphene	ND		100		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
alpha-Chlordane	ND		1.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
gamma-Chlordane	ND		1.0		ug/Kg	*	06/01/11 14:52	06/03/11 19:16	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	84		49 - 123				06/01/11 14:52	06/03/11 19:16	1
DCB Decachlorobiphenyl	58	^	40 - 158				06/01/11 14:52	06/03/11 19:16	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92		0.10		%			05/31/11 11:19	1
Percent Moisture	8.3		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: I-TP2-052411-2.0-2.5

Lab Sample ID: 580-26377-20

Date Collected: 05/24/11 10:10

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 82.8

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
alpha-BHC	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
beta-BHC	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
delta-BHC	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
4,4'-DDD	ND		2.3		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
4,4'-DDE	ND		2.3		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
4,4'-DDT	ND	^	2.3		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
Dieldrin	ND		2.3		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
Endosulfan I	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
Endosulfan II	ND		2.3		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
Endosulfan sulfate	ND	^	2.3		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
Endrin	ND		2.3		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
Endrin aldehyde	ND	^	2.3		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
Heptachlor	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
Heptachlor epoxide	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
Methoxychlor	ND		11		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
Endrin ketone	ND		2.3		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
Toxaphene	ND		110		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
alpha-Chlordane	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
gamma-Chlordane	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:35	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	79		49 - 123				06/01/11 14:52	06/03/11 19:35	1
DCB Decachlorobiphenyl	35	X ^ I	40 - 158				06/01/11 14:52	06/03/11 19:35	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83		0.10		%			05/31/11 11:19	1
Percent Moisture	17		0.10		%			05/31/11 11:19	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: I-TP3-052411-7.5

Lab Sample ID: 580-26377-21

Date Collected: 05/24/11 11:15

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 79.2

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Chloromethane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Vinyl chloride	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Bromomethane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Chloroethane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Trichlorofluoromethane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
1,1-Dichloroethene	ND		4.7		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Methylene Chloride	ND		14		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
trans-1,2-Dichloroethene	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
1,1-Dichloroethane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
2,2-Dichloropropane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
cis-1,2-Dichloroethene	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Chlorobromomethane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Chloroform	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
1,1,1-Trichloroethane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Carbon tetrachloride	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
1,1-Dichloropropene	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Benzene	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
1,2-Dichloroethane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Trichloroethene	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
1,2-Dichloropropane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Dibromomethane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Dichlorobromomethane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
cis-1,3-Dichloropropene	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Toluene	ND		1.9		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
trans-1,3-Dichloropropene	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
1,1,2-Trichloroethane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Tetrachloroethene	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
1,3-Dichloropropane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Chlorodibromomethane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Ethylene Dibromide	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Chlorobenzene	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Ethylbenzene	5.6		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
1,1,1,2-Tetrachloroethane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
1,1,2,2-Tetrachloroethane	ND		1.9		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
m-Xylene & p-Xylene	ND		1.9		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
o-Xylene	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Styrene	ND		1.9		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Bromoform	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Isopropylbenzene	15		1.9		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
Bromobenzene	ND		1.9		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
N-Propylbenzene	30		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
1,2,3-Trichloropropane	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
2-Chlorotoluene	ND		1.9		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
1,3,5-Trimethylbenzene	23		4.7		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
4-Chlorotoluene	ND		1.9		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
tert-Butylbenzene	2.2		1.9		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
1,2,4-Trimethylbenzene	140		1.9		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
sec-Butylbenzene	29		1.9		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1
1,3-Dichlorobenzene	ND		0.95		ug/Kg	*	05/27/11 13:09	05/31/11 02:37	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: I-TP3-052411-7.5

Lab Sample ID: 580-26377-21

Date Collected: 05/24/11 11:15

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 79.2

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	32		1.9		ug/Kg	☼	05/27/11 13:09	05/31/11 02:37	1
1,4-Dichlorobenzene	ND		0.95		ug/Kg	☼	05/27/11 13:09	05/31/11 02:37	1
n-Butylbenzene	91		1.9		ug/Kg	☼	05/27/11 13:09	05/31/11 02:37	1
1,2-Dichlorobenzene	ND		0.95		ug/Kg	☼	05/27/11 13:09	05/31/11 02:37	1
1,2-Dibromo-3-Chloropropane	ND		1.9		ug/Kg	☼	05/27/11 13:09	05/31/11 02:37	1
1,2,4-Trichlorobenzene	ND		1.9		ug/Kg	☼	05/27/11 13:09	05/31/11 02:37	1
1,2,3-Trichlorobenzene	ND		1.9		ug/Kg	☼	05/27/11 13:09	05/31/11 02:37	1
Hexachlorobutadiene	ND		0.95		ug/Kg	☼	05/27/11 13:09	05/31/11 02:37	1
Naphthalene	120		4.7		ug/Kg	☼	05/27/11 13:09	05/31/11 02:37	1
Methyl tert-butyl ether	ND		0.95		ug/Kg	☼	05/27/11 13:09	05/31/11 02:37	1
Acetone	29		14		ug/Kg	☼	05/27/11 13:09	05/31/11 02:37	1
4-Methyl-2-pentanone	ND		4.7		ug/Kg	☼	05/27/11 13:09	05/31/11 02:37	1
2-Butanone	6.5		4.7		ug/Kg	☼	05/27/11 13:09	05/31/11 02:37	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	99		80 - 120	05/27/11 13:09	05/31/11 02:37	1
Toluene-d8 (Surr)	101		80 - 120	05/27/11 13:09	05/31/11 02:37	1
Ethylbenzene-d10	100		70 - 120	05/27/11 13:09	05/31/11 02:37	1
4-Bromofluorobenzene (Surr)	111		70 - 120	05/27/11 13:09	05/31/11 02:37	1
Trifluorotoluene (Surr)	86		65 - 140	05/27/11 13:09	05/31/11 02:37	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	390	Y	30		mg/Kg	☼	06/02/11 11:58	06/02/11 20:13	1
Motor Oil (>C24-C36)	ND		60		mg/Kg	☼	06/02/11 11:58	06/02/11 20:13	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	95		50 - 150	06/02/11 11:58	06/02/11 20:13	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		120		mg/Kg	☼	05/31/11 08:57	05/31/11 17:28	1
Gasoline	54	Y	24		mg/Kg	☼	05/31/11 08:57	05/31/11 17:28	1
#2 Diesel (>C12-C24)	410	Y	60		mg/Kg	☼	05/31/11 08:57	05/31/11 17:28	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	95		50 - 150	05/31/11 08:57	05/31/11 17:28	1
4-Bromofluorobenzene (Surr)	86		50 - 150	05/31/11 08:57	05/31/11 17:28	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79		0.10		%			05/31/11 09:01	1
Percent Moisture	21		0.10		%			05/31/11 09:01	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: I-TP3-052411-3.0

Lab Sample ID: 580-26377-22

Date Collected: 05/24/11 11:30

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 80.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Chloromethane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Vinyl chloride	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Bromomethane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Chloroethane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Trichlorofluoromethane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
1,1-Dichloroethene	ND		5.0		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Methylene Chloride	ND		15		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
trans-1,2-Dichloroethene	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
1,1-Dichloroethane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
2,2-Dichloropropane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
cis-1,2-Dichloroethene	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Chlorobromomethane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Chloroform	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
1,1,1-Trichloroethane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Carbon tetrachloride	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
1,1-Dichloropropene	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Benzene	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
1,2-Dichloroethane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Trichloroethene	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
1,2-Dichloropropane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Dibromomethane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Dichlorobromomethane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
cis-1,3-Dichloropropene	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Toluene	ND		2.0		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
trans-1,3-Dichloropropene	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
1,1,2-Trichloroethane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Tetrachloroethene	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
1,3-Dichloropropane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Chlorodibromomethane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Ethylene Dibromide	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Chlorobenzene	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Ethylbenzene	29		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
1,1,1,2-Tetrachloroethane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
m-Xylene & p-Xylene	13		2.0		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
o-Xylene	23		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Styrene	ND		2.0		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Bromoform	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Isopropylbenzene	150		2.0		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
Bromobenzene	ND		2.0		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
1,2,3-Trichloropropane	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
2-Chlorotoluene	ND		2.0		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
1,3,5-Trimethylbenzene	150		5.0		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
4-Chlorotoluene	ND		2.0		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
tert-Butylbenzene	32		2.0		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
1,3-Dichlorobenzene	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
1,4-Dichlorobenzene	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
1,2-Dichlorobenzene	ND		0.99		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/Kg	*	05/27/11 13:09	05/31/11 03:01	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: I-TP3-052411-3.0

Lab Sample ID: 580-26377-22

Date Collected: 05/24/11 11:30

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 80.1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg	☼	05/27/11 13:09	05/31/11 03:01	1
1,2,3-Trichlorobenzene	ND		2.0		ug/Kg	☼	05/27/11 13:09	05/31/11 03:01	1
Hexachlorobutadiene	ND		0.99		ug/Kg	☼	05/27/11 13:09	05/31/11 03:01	1
Methyl tert-butyl ether	ND		0.99		ug/Kg	☼	05/27/11 13:09	05/31/11 03:01	1
Acetone	390		15		ug/Kg	☼	05/27/11 13:09	05/31/11 03:01	1
4-Methyl-2-pentanone	ND		5.0		ug/Kg	☼	05/27/11 13:09	05/31/11 03:01	1
2-Butanone	68		5.0		ug/Kg	☼	05/27/11 13:09	05/31/11 03:01	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	98		80 - 120				05/27/11 13:09	05/31/11 03:01	1
Toluene-d8 (Surr)	103		80 - 120				05/27/11 13:09	05/31/11 03:01	1
Ethylbenzene-d10	138	X I	70 - 120				05/27/11 13:09	05/31/11 03:01	1
4-Bromofluorobenzene (Surr)	127	X I	70 - 120				05/27/11 13:09	05/31/11 03:01	1
Trifluorotoluene (Surr)	115		65 - 140				05/27/11 13:09	05/31/11 03:01	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	180	H	47		ug/Kg	☼	06/08/11 17:15	06/09/11 07:15	1
1,2,4-Trimethylbenzene	760	H	47		ug/Kg	☼	06/08/11 17:15	06/09/11 07:15	1
sec-Butylbenzene	320	H	47		ug/Kg	☼	06/08/11 17:15	06/09/11 07:15	1
4-Isopropyltoluene	250	H	47		ug/Kg	☼	06/08/11 17:15	06/09/11 07:15	1
n-Butylbenzene	230	H	47		ug/Kg	☼	06/08/11 17:15	06/09/11 07:15	1
Naphthalene	1700	H	47		ug/Kg	☼	06/08/11 17:15	06/09/11 07:15	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	97		80 - 120				06/08/11 17:15	06/09/11 07:15	1
Toluene-d8 (Surr)	98		80 - 120				06/08/11 17:15	06/09/11 07:15	1
Ethylbenzene-d10	96		70 - 120				06/08/11 17:15	06/09/11 07:15	1
4-Bromofluorobenzene (Surr)	101		70 - 120				06/08/11 17:15	06/09/11 07:15	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	4600	Y	31		mg/Kg	☼	06/02/11 11:58	06/02/11 20:37	1
Motor Oil (>C24-C36)	220		61		mg/Kg	☼	06/02/11 11:58	06/02/11 20:37	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	140		50 - 150				06/02/11 11:58	06/02/11 20:37	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	350		120		mg/Kg	☼	05/31/11 08:57	05/31/11 17:50	1
Gasoline	430	Y	24		mg/Kg	☼	05/31/11 08:57	05/31/11 17:50	1
#2 Diesel (>C12-C24)	3800		61		mg/Kg	☼	05/31/11 08:57	05/31/11 17:50	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	119		50 - 150				05/31/11 08:57	05/31/11 17:50	1
4-Bromofluorobenzene (Surr)	123		50 - 150				05/31/11 08:57	05/31/11 17:50	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.0		mg/Kg	☼	06/06/11 13:07	06/06/11 22:34	1
Lead	730		1.5		mg/Kg	☼	06/06/11 13:07	06/06/11 22:34	1

TestAmerica Seattle

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: I-TP3-052411-3.0

Lab Sample ID: 580-26377-22

Date Collected: 05/24/11 11:30

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 80.1

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.2		3.0		mg/Kg	☼	06/06/11 13:07	06/06/11 22:34	1
Cadmium	0.82		0.50		mg/Kg	☼	06/06/11 13:07	06/06/11 22:34	1
Copper	160		1.0		mg/Kg	☼	06/06/11 13:07	06/07/11 10:37	1
Manganese	390		1.0		mg/Kg	☼	06/06/11 13:07	06/06/11 22:34	1
Zinc	870		2.0		mg/Kg	☼	06/06/11 13:07	06/06/11 22:34	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.38		0.019		mg/Kg	☼	06/07/11 08:30	06/07/11 10:43	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	80		0.10		%			05/31/11 09:01	1
Percent Moisture	20		0.10		%			05/31/11 09:01	1



Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: I-TP3-052411-1.5

Lab Sample ID: 580-26377-23

Date Collected: 05/24/11 12:35

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 86.1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
alpha-BHC	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
beta-BHC	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
delta-BHC	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
4,4'-DDD	28	p	2.2		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
4,4'-DDE	ND		2.2		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
4,4'-DDT	ND	^	2.2		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
Dieldrin	ND		2.2		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
Endosulfan I	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
Endosulfan II	ND		2.2		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
Endosulfan sulfate	ND	^	2.2		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
Endrin	ND		2.2		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
Endrin aldehyde	ND	^	2.2		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
Heptachlor	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
Heptachlor epoxide	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
Methoxychlor	ND		11		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
Endrin ketone	ND		2.2		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
Toxaphene	ND		110		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
alpha-Chlordane	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
gamma-Chlordane	ND		1.1		ug/Kg	*	06/01/11 14:52	06/03/11 19:55	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	40	XI	49 - 123				06/01/11 14:52	06/03/11 19:55	1
DCB Decachlorobiphenyl	81	^	40 - 158				06/01/11 14:52	06/03/11 19:55	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.2		3.1		mg/Kg	*	06/06/11 13:07	06/06/11 22:41	1
Lead	370		1.5		mg/Kg	*	06/06/11 13:07	06/06/11 22:41	1
Antimony	3.6		3.1		mg/Kg	*	06/06/11 13:07	06/06/11 22:41	1
Cadmium	ND		0.51		mg/Kg	*	06/06/11 13:07	06/06/11 22:41	1
Copper	53		1.0		mg/Kg	*	06/06/11 13:07	06/07/11 10:43	1
Manganese	380		1.0		mg/Kg	*	06/06/11 13:07	06/06/11 22:41	1
Zinc	570		2.0		mg/Kg	*	06/06/11 13:07	06/06/11 22:41	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.40		0.030		mg/L		06/06/11 10:58	06/06/11 16:27	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.24		0.015		mg/Kg	*	06/07/11 08:30	06/07/11 10:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86		0.10		%			06/01/11 11:39	1
Percent Moisture	14		0.10		%			06/01/11 11:39	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: J-TP2-052411-0.0-0.5

Lab Sample ID: 580-26377-24

Date Collected: 05/24/11 14:30

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 90.6

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
alpha-BHC	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
beta-BHC	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
delta-BHC	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
4,4'-DDD	ND		2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
4,4'-DDE	24		2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
4,4'-DDT	30	^	2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
Dieldrin	ND		2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
Endosulfan I	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
Endosulfan II	ND		2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
Endosulfan sulfate	ND	^	2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
Endrin	2.8		2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
Endrin aldehyde	ND	^	2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
Heptachlor	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
Heptachlor epoxide	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
Methoxychlor	ND		11		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
Endrin ketone	ND		2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
Toxaphene	ND		110		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
alpha-Chlordane	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
gamma-Chlordane	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:14	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	72		49 - 123				06/01/11 14:52	06/03/11 20:14	1
DCB Decachlorobiphenyl	50	^	40 - 158				06/01/11 14:52	06/03/11 20:14	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.1		mg/Kg	☼	06/06/11 13:07	06/06/11 22:47	1
Lead	410		1.6		mg/Kg	☼	06/06/11 13:07	06/06/11 22:47	1
Antimony	7.1		3.1		mg/Kg	☼	06/06/11 13:07	06/06/11 22:47	1
Cadmium	1.4		0.52		mg/Kg	☼	06/06/11 13:07	06/06/11 22:47	1
Copper	74		1.0		mg/Kg	☼	06/06/11 13:07	06/07/11 10:50	1
Manganese	520		1.0		mg/Kg	☼	06/06/11 13:07	06/06/11 22:47	1
Zinc	790		2.1		mg/Kg	☼	06/06/11 13:07	06/06/11 22:47	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.38		0.014		mg/Kg	☼	06/07/11 08:30	06/07/11 10:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91		0.10		%			06/01/11 11:39	1
Percent Moisture	9.4		0.10		%			06/01/11 11:39	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: J-TP2-052411-2.0-2.5

Lab Sample ID: 580-26377-25

Date Collected: 05/24/11 14:35

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 92.1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND	^	1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
alpha-BHC	ND		1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
beta-BHC	ND	^	1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
delta-BHC	ND		1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
gamma-BHC (Lindane)	1.7		1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
4,4'-DDD	ND		2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
4,4'-DDE	5.0	^	2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
4,4'-DDT	22	^ p	2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
Dieldrin	ND	^	2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
Endosulfan I	ND	^	1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
Endosulfan II	ND	^	2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
Endosulfan sulfate	ND	^	2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
Endrin	ND		2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
Endrin aldehyde	ND	^	2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
Heptachlor	ND		1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
Heptachlor epoxide	ND		1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
Methoxychlor	ND		10		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
Endrin ketone	ND	^	2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
Toxaphene	ND	^	100		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
alpha-Chlordane	3.0	^ p	1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
gamma-Chlordane	3.8	^ p	1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 23:09	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	75		49 - 123				06/01/11 14:52	06/03/11 23:09	1
DCB Decachlorobiphenyl	63	^	40 - 158				06/01/11 14:52	06/03/11 23:09	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92		0.10		%			06/01/11 11:39	1
Percent Moisture	7.9		0.10		%			06/01/11 11:39	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: N-TP1-052411-0.0-0.5

Lab Sample ID: 580-26377-26

Date Collected: 05/24/11 15:15

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 88.7

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND	^	1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
alpha-BHC	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
beta-BHC	ND	^	1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
delta-BHC	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
4,4'-DDD	ND		2.2		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
4,4'-DDE	ND	^	2.2		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
4,4'-DDT	4.6	^	2.2		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
Dieldrin	ND	^	2.2		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
Endosulfan I	ND	^	1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
Endosulfan II	ND	^	2.2		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
Endosulfan sulfate	ND	^	2.2		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
Endrin	ND		2.2		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
Endrin aldehyde	ND	^	2.2		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
Heptachlor	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
Heptachlor epoxide	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
Methoxychlor	ND		11		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
Endrin ketone	ND	^	2.2		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
Toxaphene	ND	^	110		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
alpha-Chlordane	ND	^	1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
gamma-Chlordane	ND	^	1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 23:29	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	70		49 - 123				06/01/11 14:52	06/03/11 23:29	1
DCB Decachlorobiphenyl	65	^	40 - 158				06/01/11 14:52	06/03/11 23:29	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.9		3.3		mg/Kg	☼	06/06/11 13:07	06/06/11 22:53	1
Lead	40		1.6		mg/Kg	☼	06/06/11 13:07	06/06/11 22:53	1
Antimony	ND		3.3		mg/Kg	☼	06/06/11 13:07	06/06/11 22:53	1
Cadmium	ND	L	0.54		mg/Kg	☼	06/06/11 13:07	06/06/11 22:53	1
Copper	25		1.1		mg/Kg	☼	06/06/11 13:07	06/07/11 10:56	1
Manganese	500		1.1		mg/Kg	☼	06/06/11 13:07	06/06/11 22:53	1
Zinc	97		2.2		mg/Kg	☼	06/06/11 13:07	06/06/11 22:53	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.096		0.016		mg/Kg	☼	06/07/11 08:30	06/07/11 10:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89		0.10		%			06/01/11 11:39	1
Percent Moisture	11		0.10		%			06/01/11 11:39	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: N-TP1-052411-2.0-2.5

Lab Sample ID: 580-26377-27

Date Collected: 05/24/11 15:30

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 88.8

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
alpha-BHC	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
beta-BHC	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
delta-BHC	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
4,4'-DDD	ND		2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
4,4'-DDE	2.4		2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
4,4'-DDT	2.9	^	2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
Dieldrin	ND		2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
Endosulfan I	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
Endosulfan II	ND		2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
Endosulfan sulfate	ND	^	2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
Endrin	ND		2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
Endrin aldehyde	ND	^	2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
Heptachlor	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
Heptachlor epoxide	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
Methoxychlor	ND		11		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
Endrin ketone	ND		2.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
Toxaphene	ND		110		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
alpha-Chlordane	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
gamma-Chlordane	ND		1.1		ug/Kg	☼	06/01/11 14:52	06/03/11 20:33	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	66		49 - 123				06/01/11 14:52	06/03/11 20:33	1
<i>DCB Decachlorobiphenyl</i>	41	^	40 - 158				06/01/11 14:52	06/03/11 20:33	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89		0.10		%			06/01/11 11:39	1
Percent Moisture	11		0.10		%			06/01/11 11:39	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: I-TP3-052411-0.0-0.5

Lab Sample ID: 580-26377-28

Date Collected: 05/24/11 11:00

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 94.1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
alpha-BHC	ND		1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
beta-BHC	ND		1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
delta-BHC	ND		1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
4,4'-DDD	5.2		2.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
4,4'-DDE	5.2		2.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
4,4'-DDT	2.2	^	2.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
Dieldrin	ND		2.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
Endosulfan I	ND		1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
Endosulfan II	ND		2.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
Endosulfan sulfate	ND	^	2.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
Endrin	ND		2.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
Endrin aldehyde	ND	^	2.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
Heptachlor	ND		1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
Heptachlor epoxide	ND		1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
Methoxychlor	ND		10		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
Endrin ketone	ND		2.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
Toxaphene	ND		100		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
alpha-Chlordane	ND		1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
gamma-Chlordane	ND		1.0		ug/Kg	☼	06/01/11 14:52	06/03/11 20:53	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	56		49 - 123				06/01/11 14:52	06/03/11 20:53	1
<i>DCB Decachlorobiphenyl</i>	64	^	40 - 158				06/01/11 14:52	06/03/11 20:53	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.9		mg/Kg	☼	06/06/11 13:07	06/06/11 22:59	1
Lead	67		1.5		mg/Kg	☼	06/06/11 13:07	06/06/11 22:59	1
Antimony	ND		2.9		mg/Kg	☼	06/06/11 13:07	06/06/11 22:59	1
Cadmium	ND		0.49		mg/Kg	☼	06/06/11 13:07	06/06/11 22:59	1
Copper	41		0.98		mg/Kg	☼	06/06/11 13:07	06/07/11 11:02	1
Manganese	560		0.98		mg/Kg	☼	06/06/11 13:07	06/06/11 22:59	1
Zinc	210		2.0		mg/Kg	☼	06/06/11 13:07	06/06/11 22:59	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.14		0.017		mg/Kg	☼	06/07/11 08:30	06/07/11 10:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	94		0.10		%			06/01/11 11:39	1
Percent Moisture	5.9		0.10		%			06/01/11 11:39	1

QC Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-86872/1-A
Matrix: Solid
Analysis Batch: 86901

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 86872

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dichlorodifluoromethane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Chloromethane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Vinyl chloride	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Bromomethane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Chloroethane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Trichlorofluoromethane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,1-Dichloroethene	ND		5.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Methylene Chloride	ND		15		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
trans-1,2-Dichloroethene	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,1-Dichloroethane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
2,2-Dichloropropane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
cis-1,2-Dichloroethene	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Chlorobromomethane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Chloroform	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,1,1-Trichloroethane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Carbon tetrachloride	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,1-Dichloropropene	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Benzene	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,2-Dichloroethane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Trichloroethene	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,2-Dichloropropane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Dibromomethane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Dichlorobromomethane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Toluene	ND		2.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
trans-1,3-Dichloropropene	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,1,2-Trichloroethane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Tetrachloroethene	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,3-Dichloropropane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Chlorodibromomethane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Ethylene Dibromide	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Chlorobenzene	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Ethylbenzene	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
o-Xylene	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Styrene	ND		2.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Bromoform	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Isopropylbenzene	ND		2.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Bromobenzene	ND		2.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
N-Propylbenzene	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,2,3-Trichloropropane	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
2-Chlorotoluene	ND		2.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
4-Chlorotoluene	ND		2.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
tert-Butylbenzene	ND		2.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
sec-Butylbenzene	ND		2.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-86872/1-A

Matrix: Solid

Analysis Batch: 86901

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 86872

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,3-Dichlorobenzene	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
4-Isopropyltoluene	ND		2.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
n-Butylbenzene	ND		2.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,2-Dichlorobenzene	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
1,2,3-Trichlorobenzene	ND		2.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Hexachlorobutadiene	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Naphthalene	ND		5.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Methyl tert-butyl ether	ND		1.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
Acetone	ND		15		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
4-Methyl-2-pentanone	ND		5.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1
2-Butanone	ND		5.0		ug/Kg		05/27/11 13:09	05/30/11 18:33	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
Fluorobenzene (Surr)	100		80 - 120	05/27/11 13:09	05/30/11 18:33	1
Toluene-d8 (Surr)	94		80 - 120	05/27/11 13:09	05/30/11 18:33	1
Ethylbenzene-d10	96		70 - 120	05/27/11 13:09	05/30/11 18:33	1
4-Bromofluorobenzene (Surr)	98		70 - 120	05/27/11 13:09	05/30/11 18:33	1
Trifluorotoluene (Surr)	122		65 - 140	05/27/11 13:09	05/30/11 18:33	1

Lab Sample ID: LCS 580-86872/2-A

Matrix: Solid

Analysis Batch: 86901

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 86872

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
1,1-Dichloroethene	40.0	47.6		ug/Kg		119	65 - 135
Benzene	40.0	42.3		ug/Kg		106	75 - 125
Trichloroethene	40.0	43.7		ug/Kg		109	75 - 125
Toluene	40.0	40.8		ug/Kg		102	70 - 125
Chlorobenzene	40.0	41.6		ug/Kg		104	75 - 125

Surrogate	LCS LCS		Limits
	% Recovery	Qualifier	
Fluorobenzene (Surr)	101		80 - 120
Toluene-d8 (Surr)	93		80 - 120
Ethylbenzene-d10	103		70 - 120
4-Bromofluorobenzene (Surr)	96		70 - 120
Trifluorotoluene (Surr)	115		65 - 140

Lab Sample ID: LCSD 580-86872/3-A

Matrix: Solid

Analysis Batch: 86901

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 86872

Analyte	Spike Added	LCSD LCSD		Unit	D	% Rec	% Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
1,1-Dichloroethene	40.0	41.5		ug/Kg		104	65 - 135	14	30
Benzene	40.0	40.9		ug/Kg		102	75 - 125	3	30
Trichloroethene	40.0	40.4		ug/Kg		101	75 - 125	8	30
Toluene	40.0	41.9		ug/Kg		105	70 - 125	3	30

TestAmerica Seattle

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS5 580-86872/3-A

Matrix: Solid

Analysis Batch: 86901

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 86872

Analyte	Spike Added	LCS5 Result	LCS5 Qualifier	Unit	D	% Rec	% Rec.		RPD	Limit
							Limits	RPD		
Chlorobenzene	40.0	46.8		ug/Kg		117	75 - 125	12		30
LCSD LCSD										
Surrogate	% Recovery	Qualifier	Limits							
Fluorobenzene (Surr)	100		80 - 120							
Toluene-d8 (Surr)	97		80 - 120							
Ethylbenzene-d10	115		70 - 120							
4-Bromofluorobenzene (Surr)	106		70 - 120							
Trifluorotoluene (Surr)	108		65 - 140							

Lab Sample ID: MB 580-87530/1-A

Matrix: Solid

Analysis Batch: 87540

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 87530

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
										N-Propylbenzene
1,2,4-Trimethylbenzene	ND		40		ug/Kg		06/08/11 17:15	06/09/11 03:40	1	
sec-Butylbenzene	ND		40		ug/Kg		06/08/11 17:15	06/09/11 03:40	1	
4-Isopropyltoluene	ND		40		ug/Kg		06/08/11 17:15	06/09/11 03:40	1	
n-Butylbenzene	ND		40		ug/Kg		06/08/11 17:15	06/09/11 03:40	1	
Naphthalene	ND		40		ug/Kg		06/08/11 17:15	06/09/11 03:40	1	
MB MB										
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac				
Fluorobenzene (Surr)	99		80 - 120	06/08/11 17:15	06/09/11 03:40	1				
Toluene-d8 (Surr)	99		80 - 120	06/08/11 17:15	06/09/11 03:40	1				
Ethylbenzene-d10	97		70 - 120	06/08/11 17:15	06/09/11 03:40	1				
4-Bromofluorobenzene (Surr)	103		70 - 120	06/08/11 17:15	06/09/11 03:40	1				
Trifluorotoluene (Surr)	99		65 - 140	06/08/11 17:15	06/09/11 03:40	1				

Lab Sample ID: LCS 580-87530/2-A

Matrix: Solid

Analysis Batch: 87540

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 87530

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	RPD
N-Propylbenzene	800	664		ug/Kg		83	65 - 135	
1,2,4-Trimethylbenzene	801	748		ug/Kg		93	65 - 135	
sec-Butylbenzene	800	724		ug/Kg		90	65 - 130	
4-Isopropyltoluene	796	704		ug/Kg		88	75 - 135	
n-Butylbenzene	792	792		ug/Kg		100	65 - 140	
Naphthalene	800	944		ug/Kg		118	40 - 125	
LCS LCS								
Surrogate	% Recovery	Qualifier	Limits					
Fluorobenzene (Surr)	99		80 - 120					
Toluene-d8 (Surr)	100		80 - 120					
Ethylbenzene-d10	99		70 - 120					
4-Bromofluorobenzene (Surr)	105		70 - 120					
Trifluorotoluene (Surr)	92		65 - 140					

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-87530/3-A
Matrix: Solid
Analysis Batch: 87540

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87530

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD
		Result	Qualifier				Limits	RPD	
N-Propylbenzene	800	684		ug/Kg		86	65 - 135	3	30
1,2,4-Trimethylbenzene	801	772		ug/Kg		96	65 - 135	3	30
sec-Butylbenzene	800	744		ug/Kg		93	65 - 130	3	30
4-Isopropyltoluene	796	720		ug/Kg		90	75 - 135	2	30
n-Butylbenzene	792	812		ug/Kg		103	65 - 140	2	30
Naphthalene	800	920		ug/Kg		115	40 - 125	3	30

Surrogate	LCSD		Limits
	% Recovery	Qualifier	
Fluorobenzene (Surr)	100		80 - 120
Toluene-d8 (Surr)	95		80 - 120
Ethylbenzene-d10	96		70 - 120
4-Bromofluorobenzene (Surr)	101		70 - 120
Trifluorotoluene (Surr)	94		65 - 140

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-86934/1-A
Matrix: Solid
Analysis Batch: 87303

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 86934

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aldrin	ND		1.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
alpha-BHC	ND		1.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
beta-BHC	ND		1.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
delta-BHC	ND		1.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
4,4'-DDD	ND		2.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
4,4'-DDE	ND		2.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
4,4'-DDT	ND	^	2.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
Dieldrin	ND		2.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
Endosulfan I	ND		1.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
Endosulfan II	ND	^	2.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
Endosulfan sulfate	ND	^	2.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
Endrin	ND		2.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
Endrin aldehyde	ND	^	2.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
Heptachlor	ND		1.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
Heptachlor epoxide	ND		1.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
Methoxychlor	ND	^	10		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
Endrin ketone	ND		2.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
Toxaphene	ND		100		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
alpha-Chlordane	ND		1.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1
gamma-Chlordane	ND		1.0		ug/Kg		05/31/11 11:16	06/06/11 17:54	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
Tetrachloro-m-xylene	87		49 - 123	05/31/11 11:16	06/06/11 17:54	1
DCB Decachlorobiphenyl	84	^	40 - 158	05/31/11 11:16	06/06/11 17:54	1

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-86934/2-A
Matrix: Solid
Analysis Batch: 87303

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 86934

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
Aldrin	20.0	21.1		ug/Kg		106	53 - 126
alpha-BHC	20.0	18.6		ug/Kg		93	41 - 128
beta-BHC	20.0	18.5		ug/Kg		93	48 - 121
delta-BHC	20.0	13.6		ug/Kg		68	22 - 153
gamma-BHC (Lindane)	20.0	17.6		ug/Kg		88	50 - 127
4,4'-DDD	20.0	18.6		ug/Kg		93	44 - 141
4,4'-DDE	20.0	20.7		ug/Kg		104	47 - 140
4,4'-DDT	20.0	18.1	^	ug/Kg		91	34 - 159
Dieldrin	20.0	20.6		ug/Kg		103	53 - 134
Endosulfan I	20.0	19.9		ug/Kg		100	52 - 122
Endosulfan II	20.0	18.0	^	ug/Kg		90	53 - 132
Endosulfan sulfate	20.0	16.5	^	ug/Kg		83	42 - 128
Endrin	20.0	22.5		ug/Kg		113	46 - 138
Endrin aldehyde	20.0	17.9	^	ug/Kg		90	12 - 179
Heptachlor	20.0	20.2		ug/Kg		101	50 - 130
Heptachlor epoxide	20.0	20.1		ug/Kg		101	49 - 123
Methoxychlor	20.0	18.9	^	ug/Kg		95	46 - 154
Endrin ketone	20.0	18.1		ug/Kg		91	45 - 127
alpha-Chlordane	20.0	19.5		ug/Kg		98	46 - 118
gamma-Chlordane	20.0	19.0		ug/Kg		95	49 - 122

Surrogate	LCS		Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	86		49 - 123
DCB Decachlorobiphenyl	82	^	40 - 158

Lab Sample ID: 580-26377-1 MS
Matrix: Solid
Analysis Batch: 87303

Client Sample ID: K-TP1-052311-0.0-0.5
Prep Type: Total/NA
Prep Batch: 86934

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	% Rec	% Rec. Limits
				Result	Qualifier				
Aldrin	ND		20.9	17.6		ug/Kg	☼	84	53 - 126
alpha-BHC	ND		20.9	17.0		ug/Kg	☼	81	41 - 128
beta-BHC	ND		20.9	16.1		ug/Kg	☼	77	48 - 121
delta-BHC	ND		20.9	15.8		ug/Kg	☼	75	22 - 153
gamma-BHC (Lindane)	ND		20.9	15.8		ug/Kg	☼	75	50 - 127
4,4'-DDD	ND		20.9	16.8		ug/Kg	☼	81	44 - 141
4,4'-DDE	9.1		20.9	25.8		ug/Kg	☼	80	47 - 140
4,4'-DDT	13	^	20.9	31.8	^	ug/Kg	☼	89	34 - 159
Dieldrin	2.9		20.9	19.1		ug/Kg	☼	85	53 - 134
Endosulfan I	ND		20.9	16.3		ug/Kg	☼	78	52 - 122
Endosulfan II	ND	^	20.9	16.2	^	ug/Kg	☼	77	53 - 132
Endosulfan sulfate	ND	^	20.9	15.2	^	ug/Kg	☼	72	42 - 128
Endrin	ND		20.9	20.7		ug/Kg	☼	99	46 - 138
Endrin aldehyde	ND	^	20.9	15.4	^	ug/Kg	☼	74	12 - 179
Heptachlor	ND		20.9	21.2		ug/Kg	☼	101	50 - 130
Heptachlor epoxide	ND		20.9	21.1		ug/Kg	☼	101	49 - 123
Methoxychlor	ND	^	20.9	21.7	^	ug/Kg	☼	103	46 - 154
Endrin ketone	ND		20.9	16.9		ug/Kg	☼	81	45 - 127
alpha-Chlordane	ND		20.9	16.7		ug/Kg	☼	80	46 - 118

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 580-26377-1 MS

Matrix: Solid

Analysis Batch: 87303

Client Sample ID: K-TP1-052311-0.0-0.5

Prep Type: Total/NA

Prep Batch: 86934

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	% Rec	% Rec.	
	Result	Qualifier		Result	Qualifier				Limits	RPD
gamma-Chlordane	ND		20.9	18.0		ug/Kg	☼	86	49 - 122	
MS MS										
Surrogate	% Recovery	Qualifier	Limits							
Tetrachloro-m-xylene	71		49 - 123							
DCB Decachlorobiphenyl	65	^	40 - 158							

Lab Sample ID: 580-26377-1 MSD

Matrix: Solid

Analysis Batch: 87303

Client Sample ID: K-TP1-052311-0.0-0.5

Prep Type: Total/NA

Prep Batch: 86934

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	% Rec	% Rec.		RPD
	Result	Qualifier		Result	Qualifier				Limits	RPD	Limit
Aldrin	ND		21.0	17.6		ug/Kg	☼	84	53 - 126	0	30
alpha-BHC	ND		21.0	17.7		ug/Kg	☼	84	41 - 128	4	30
beta-BHC	ND		21.0	16.7		ug/Kg	☼	79	48 - 121	3	30
delta-BHC	ND		21.0	19.5		ug/Kg	☼	93	22 - 153	21	30
gamma-BHC (Lindane)	ND		21.0	16.8		ug/Kg	☼	80	50 - 127	6	30
4,4'-DDD	ND		21.0	17.8		ug/Kg	☼	85	44 - 141	6	30
4,4'-DDE	9.1		21.0	27.7		ug/Kg	☼	89	47 - 140	7	30
4,4'-DDT	13	^	21.0	32.4	^	ug/Kg	☼	91	34 - 159	2	30
Dieldrin	2.9		21.0	20.2		ug/Kg	☼	90	53 - 134	6	30
Endosulfan I	ND		21.0	18.4		ug/Kg	☼	87	52 - 122	12	30
Endosulfan II	ND	^	21.0	16.6	^	ug/Kg	☼	79	53 - 132	2	30
Endosulfan sulfate	ND	^	21.0	15.7	^	ug/Kg	☼	75	42 - 128	4	30
Endrin	ND		21.0	22.1		ug/Kg	☼	106	46 - 138	7	30
Endrin aldehyde	ND	^	21.0	15.9	^	ug/Kg	☼	76	12 - 179	4	30
Heptachlor	ND		21.0	25.7		ug/Kg	☼	122	50 - 130	19	30
Heptachlor epoxide	ND		21.0	19.6		ug/Kg	☼	93	49 - 123	7	30
Methoxychlor	ND	^	21.0	23.9	^	ug/Kg	☼	114	46 - 154	10	30
Endrin ketone	ND		21.0	19.1		ug/Kg	☼	91	45 - 127	12	30
alpha-Chlordane	ND		21.0	20.5		ug/Kg	☼	97	46 - 118	20	30
gamma-Chlordane	ND		21.0	15.8		ug/Kg	☼	75	49 - 122	13	30
MSD MSD											
Surrogate	% Recovery	Qualifier	Limits								
Tetrachloro-m-xylene	81		49 - 123								
DCB Decachlorobiphenyl	67	^	40 - 158								

Lab Sample ID: MB 580-87028/1-A

Matrix: Solid

Analysis Batch: 87207

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 87028

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aldrin	ND		1.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
alpha-BHC	ND		1.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
beta-BHC	ND		1.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
delta-BHC	ND		1.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
4,4'-DDD	ND		2.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
4,4'-DDE	ND		2.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
4,4'-DDT	ND	^	2.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1

TestAmerica Seattle

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 580-87028/1-A

Matrix: Solid

Analysis Batch: 87207

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 87028

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dieldrin	ND		2.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
Endosulfan I	ND		1.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
Endosulfan II	ND		2.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
Endosulfan sulfate	ND	^	2.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
Endrin	ND		2.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
Endrin aldehyde	ND	^	2.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
Heptachlor	ND		1.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
Heptachlor epoxide	ND		1.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
Methoxychlor	ND		10		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
Endrin ketone	ND		2.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
Toxaphene	ND		100		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
alpha-Chlordane	ND		1.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1
gamma-Chlordane	ND		1.0		ug/Kg		06/01/11 14:52	06/03/11 18:37	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
Tetrachloro-m-xylene	94		49 - 123	06/01/11 14:52	06/03/11 18:37	1
DCB Decachlorobiphenyl	83	^	40 - 158	06/01/11 14:52	06/03/11 18:37	1

Lab Sample ID: LCS 580-87028/2-A

Matrix: Solid

Analysis Batch: 87207

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 87028

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
Aldrin	20.0	20.4		ug/Kg		102	53 - 126
alpha-BHC	20.0	18.1		ug/Kg		91	41 - 128
beta-BHC	20.0	18.4		ug/Kg		92	48 - 121
delta-BHC	20.0	17.1		ug/Kg		86	22 - 153
gamma-BHC (Lindane)	20.0	18.7		ug/Kg		94	50 - 127
4,4'-DDD	20.0	19.6		ug/Kg		98	44 - 141
4,4'-DDE	20.0	20.0		ug/Kg		100	47 - 140
4,4'-DDT	20.0	14.9	^	ug/Kg		75	34 - 159
Dieldrin	20.0	19.9		ug/Kg		100	53 - 134
Endosulfan I	20.0	19.3		ug/Kg		97	52 - 122
Endosulfan II	20.0	18.9		ug/Kg		95	53 - 132
Endosulfan sulfate	20.0	18.1	^	ug/Kg		91	42 - 128
Endrin	20.0	21.7		ug/Kg		109	46 - 138
Endrin aldehyde	20.0	18.5	^	ug/Kg		93	12 - 179
Heptachlor	20.0	19.4		ug/Kg		97	50 - 130
Heptachlor epoxide	20.0	19.6		ug/Kg		98	49 - 123
Methoxychlor	20.0	18.0		ug/Kg		90	46 - 154
Endrin ketone	20.0	19.6		ug/Kg		98	45 - 127
alpha-Chlordane	20.0	18.8		ug/Kg		94	46 - 118
gamma-Chlordane	20.0	18.8		ug/Kg		94	49 - 122

Surrogate	LCS LCS		Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	97		49 - 123
DCB Decachlorobiphenyl	90	^	40 - 158

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 580-26377-28 MS

Matrix: Solid

Analysis Batch: 87207

Client Sample ID: I-TP3-052411-0.0-0.5

Prep Type: Total/NA

Prep Batch: 87028

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Aldrin	ND		20.5	11.4		ug/Kg	*	55	53 - 126	
alpha-BHC	ND		20.5	11.1		ug/Kg	*	54	41 - 128	
beta-BHC	ND		20.5	10.0		ug/Kg	*	49	48 - 121	
delta-BHC	ND		20.5	9.36		ug/Kg	*	46	22 - 153	
gamma-BHC (Lindane)	ND		20.5	12.4		ug/Kg	*	60	50 - 127	
4,4'-DDD	5.2		20.5	19.0		ug/Kg	*	67	44 - 141	
4,4'-DDE	5.2		20.5	17.9		ug/Kg	*	62	47 - 140	
4,4'-DDT	2.2		20.5	14.2	^	ug/Kg	*	58	34 - 159	
Dieldrin	ND		20.5	14.7		ug/Kg	*	71	53 - 134	
Endosulfan I	ND		20.5	11.6		ug/Kg	*	56	52 - 122	
Endosulfan II	ND		20.5	13.9		ug/Kg	*	67	53 - 132	
Endosulfan sulfate	ND		20.5	12.8	^	ug/Kg	*	62	42 - 128	
Endrin	ND		20.5	18.6		ug/Kg	*	91	46 - 138	
Endrin aldehyde	ND		20.5	13.1	^	ug/Kg	*	64	12 - 179	
Heptachlor	ND		20.5	13.9		ug/Kg	*	67	50 - 130	
Heptachlor epoxide	ND		20.5	8.39	F	ug/Kg	*	41	49 - 123	
Methoxychlor	ND		20.5	19.1		ug/Kg	*	93	46 - 154	
Endrin ketone	ND		20.5	18.1		ug/Kg	*	88	45 - 127	
alpha-Chlordane	ND		20.5	11.1		ug/Kg	*	54	46 - 118	
gamma-Chlordane	ND		20.5	11.4		ug/Kg	*	55	49 - 122	
		MS MS								
Surrogate	% Recovery	Qualifier	Limits							
Tetrachloro-m-xylene	48	X I	49 - 123							
DCB Decachlorobiphenyl	55	^	40 - 158							

Lab Sample ID: 580-26377-28 MSD

Matrix: Solid

Analysis Batch: 87207

Client Sample ID: I-TP3-052411-0.0-0.5

Prep Type: Total/NA

Prep Batch: 87028

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Aldrin	ND		20.5	11.4		ug/Kg	*	56	53 - 126	0	30	
alpha-BHC	ND		20.5	11.1		ug/Kg	*	54	41 - 128	0	30	
beta-BHC	ND		20.5	9.94		ug/Kg	*	48	48 - 121	1	30	
delta-BHC	ND		20.5	9.16		ug/Kg	*	45	22 - 153	2	30	
gamma-BHC (Lindane)	ND		20.5	12.4		ug/Kg	*	61	50 - 127	0	30	
4,4'-DDD	5.2		20.5	18.6		ug/Kg	*	65	44 - 141	2	30	
4,4'-DDE	5.2		20.5	18.1		ug/Kg	*	63	47 - 140	1	30	
4,4'-DDT	2.2		20.5	13.4	^	ug/Kg	*	55	34 - 159	5	30	
Dieldrin	ND		20.5	14.6		ug/Kg	*	71	53 - 134	1	30	
Endosulfan I	ND		20.5	11.5		ug/Kg	*	56	52 - 122	1	30	
Endosulfan II	ND		20.5	13.2		ug/Kg	*	65	53 - 132	5	30	
Endosulfan sulfate	ND		20.5	12.5	^	ug/Kg	*	61	42 - 128	2	30	
Endrin	ND		20.5	18.0		ug/Kg	*	88	46 - 138	3	30	
Endrin aldehyde	ND		20.5	12.5	^	ug/Kg	*	61	12 - 179	5	30	
Heptachlor	ND		20.5	14.0		ug/Kg	*	68	50 - 130	1	30	
Heptachlor epoxide	ND		20.5	8.30	F	ug/Kg	*	40	49 - 123	1	30	
Methoxychlor	ND		20.5	17.8		ug/Kg	*	87	46 - 154	7	30	
Endrin ketone	ND		20.5	17.1		ug/Kg	*	84	45 - 127	5	30	
alpha-Chlordane	ND		20.5	11.2		ug/Kg	*	55	46 - 118	1	30	

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 580-26377-28 MSD

Matrix: Solid

Analysis Batch: 87207

Client Sample ID: I-TP3-052411-0.0-0.5

Prep Type: Total/NA

Prep Batch: 87028

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
gamma-Chlordane	ND		20.5	11.5		ug/Kg	☼	56	49 - 122	1	30
MSD MSD											
Surrogate	% Recovery	Qualifier	Limits								
Tetrachloro-m-xylene	54		49 - 123								
DCB Decachlorobiphenyl	62	^	40 - 158								

Lab Sample ID: MB 580-88316/1-A

Matrix: Solid

Analysis Batch: 88444

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 88316

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Aldrin	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
alpha-BHC	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
beta-BHC	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
delta-BHC	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
gamma-BHC (Lindane)	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
4,4'-DDD	ND		2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
4,4'-DDE	ND		2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
4,4'-DDT	ND	^	2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
Dieldrin	ND		2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
Endosulfan I	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
Endosulfan II	ND		2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
Endosulfan sulfate	ND		2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
Endrin	ND		2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
Endrin aldehyde	ND		2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
Heptachlor	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
Heptachlor epoxide	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
Methoxychlor	ND		10		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
Endrin ketone	ND		2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
alpha-Chlordane	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
gamma-Chlordane	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1	
MB MB										
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac				
Tetrachloro-m-xylene	105		49 - 123	06/20/11 09:58	06/21/11 17:33	1				
DCB Decachlorobiphenyl	110		40 - 158	06/20/11 09:58	06/21/11 17:33	1				

Lab Sample ID: MB 580-88316/1-A

Matrix: Solid

Analysis Batch: 88541

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 88316

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	ND		100		ug/Kg		06/20/11 09:58	06/22/11 12:27	1
MB MB									
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
Tetrachloro-m-xylene	110		49 - 123	06/20/11 09:58	06/22/11 12:27	1			
DCB Decachlorobiphenyl	99		40 - 158	06/20/11 09:58	06/22/11 12:27	1			

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-88316/2-A
Matrix: Solid
Analysis Batch: 88444

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88316

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
Aldrin	20.0	20.3		ug/Kg		102	53 - 126
alpha-BHC	20.0	19.9		ug/Kg		100	41 - 128
beta-BHC	20.0	19.7		ug/Kg		99	48 - 121
delta-BHC	20.0	19.9		ug/Kg		100	22 - 153
gamma-BHC (Lindane)	20.0	19.4		ug/Kg		97	50 - 127
4,4'-DDD	20.0	24.2		ug/Kg		121	44 - 141
4,4'-DDE	20.0	21.2		ug/Kg		106	47 - 140
4,4'-DDT	20.0	13.4	^	ug/Kg		67	34 - 159
Dieldrin	20.0	20.9		ug/Kg		105	53 - 134
Endosulfan I	20.0	20.3		ug/Kg		102	52 - 122
Endosulfan II	20.0	20.7		ug/Kg		104	53 - 132
Endosulfan sulfate	20.0	20.3		ug/Kg		102	42 - 128
Endrin	20.0	21.7		ug/Kg		109	46 - 138
Endrin aldehyde	20.0	21.2		ug/Kg		106	12 - 179
Heptachlor	20.0	20.7		ug/Kg		104	50 - 130
Heptachlor epoxide	20.0	20.7		ug/Kg		104	49 - 123
Methoxychlor	20.0	15.5		ug/Kg		78	46 - 154
Endrin ketone	20.0	20.7		ug/Kg		104	45 - 127
alpha-Chlordane	20.0	20.3		ug/Kg		102	46 - 118
gamma-Chlordane	20.0	20.4		ug/Kg		102	49 - 122

Surrogate	LCS		Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	103		49 - 123
DCB Decachlorobiphenyl	111		40 - 158

Lab Sample ID: LCS 580-88316/2-A
Matrix: Solid
Analysis Batch: 88541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88316

Surrogate	LCS		Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	113		49 - 123
DCB Decachlorobiphenyl	105		40 - 158

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-87101/1-B
Matrix: Solid
Analysis Batch: 87061

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87101

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
#2 Diesel (C10-C24)	ND		25		mg/Kg		06/02/11 11:58	06/02/11 14:45	1
Motor Oil (>C24-C36)	ND		50		mg/Kg		06/02/11 11:58	06/02/11 14:45	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
o-Terphenyl	85		50 - 150	06/02/11 11:58	06/02/11 14:45	1

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 580-87101/2-B
Matrix: Solid
Analysis Batch: 87061

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87101

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec.		
		Result	Qualifier				Limits		
#2 Diesel (C10-C24)	500	427		mg/Kg		85	64 - 127		
Motor Oil (>C24-C36)	500	391		mg/Kg		78	70 - 125		
		LCS	LCS						
Surrogate	% Recovery	Qualifier	Limits						
<i>o-Terphenyl</i>	81		50 - 150						

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Lab Sample ID: MB 580-86922/1-A
Matrix: Solid
Analysis Batch: 86946

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 86922

Analyte	MB		RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Motor Oil	ND		100		mg/Kg		05/31/11 08:57	05/31/11 15:39	1
Gasoline	ND		20		mg/Kg		05/31/11 08:57	05/31/11 15:39	1
#2 Diesel (>C12-C24)	ND		50		mg/Kg		05/31/11 08:57	05/31/11 15:39	1
		MB	MB						
Surrogate	% Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
<i>o-Terphenyl</i>	99		50 - 150			05/31/11 08:57	05/31/11 15:39	1	
<i>4-Bromofluorobenzene (Surr)</i>	94		50 - 150			05/31/11 08:57	05/31/11 15:39	1	

Method: 6010B - Metals (ICP)

Lab Sample ID: LCS 580-87248/8-A
Matrix: Solid
Analysis Batch: 87315

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87248

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Lead	1.00	0.892		mg/L		89	80 - 120	

Lab Sample ID: LCSD 580-87248/9-A
Matrix: Solid
Analysis Batch: 87315

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87248

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD	
		Result	Qualifier				Limits	RPD	Limit	
Lead	1.00	0.899		mg/L		90	80 - 120	1	20	

Lab Sample ID: MB 580-87281/22-A
Matrix: Solid
Analysis Batch: 87325

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87281

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0		mg/Kg		06/06/11 13:07	06/06/11 19:22	1
Lead	ND		1.5		mg/Kg		06/06/11 13:07	06/06/11 19:22	1
Antimony	ND		3.0		mg/Kg		06/06/11 13:07	06/06/11 19:22	1
Cadmium	ND		0.50		mg/Kg		06/06/11 13:07	06/06/11 19:22	1
Copper	ND		1.0		mg/Kg		06/06/11 13:07	06/06/11 19:22	1
Manganese	ND		1.0		mg/Kg		06/06/11 13:07	06/06/11 19:22	1
Zinc	ND		2.0		mg/Kg		06/06/11 13:07	06/06/11 19:22	1

QC Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 580-87281/22-A
Matrix: Solid
Analysis Batch: 87429

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87281

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0		mg/Kg		06/06/11 13:07	06/07/11 10:13	1
Lead	ND		1.5		mg/Kg		06/06/11 13:07	06/07/11 10:13	1
Antimony	ND		3.0		mg/Kg		06/06/11 13:07	06/07/11 10:13	1
Cadmium	ND		0.50		mg/Kg		06/06/11 13:07	06/07/11 10:13	1
Copper	ND		1.0		mg/Kg		06/06/11 13:07	06/07/11 10:13	1
Zinc	ND		2.0		mg/Kg		06/06/11 13:07	06/07/11 10:13	1

Lab Sample ID: LCS 580-87281/23-A
Matrix: Solid
Analysis Batch: 87325

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87281

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Arsenic	200	188		mg/Kg		94	80 - 120	
Lead	50.0	46.1		mg/Kg		92	80 - 120	
Antimony	150	131		mg/Kg		87	80 - 120	
Cadmium	5.00	4.84		mg/Kg		97	80 - 120	
Copper	25.0	23.8		mg/Kg		95	80 - 120	
Manganese	50.0	50.2		mg/Kg		100	80 - 120	
Zinc	50.0	46.7		mg/Kg		93	80 - 120	

Lab Sample ID: LCS 580-87281/23-A
Matrix: Solid
Analysis Batch: 87429

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87281

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Arsenic	200	191		mg/Kg		95	80 - 120	
Lead	50.0	47.8		mg/Kg		96	80 - 120	
Antimony	150	138		mg/Kg		92	80 - 120	
Cadmium	5.00	4.82		mg/Kg		96	80 - 120	
Copper	25.0	24.1		mg/Kg		96	80 - 120	
Zinc	50.0	47.0		mg/Kg		94	80 - 120	

Lab Sample ID: LCSD 580-87281/24-A
Matrix: Solid
Analysis Batch: 87325

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87281

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	
							Limits		RPD	Limit
Arsenic	200	190		mg/Kg		95	80 - 120	1	20	
Lead	50.0	46.8		mg/Kg		94	80 - 120	2	20	
Antimony	150	132		mg/Kg		88	80 - 120	1	20	
Cadmium	5.00	4.90		mg/Kg		98	80 - 120	1	20	
Copper	25.0	23.6		mg/Kg		94	80 - 120	1	20	
Manganese	50.0	50.4		mg/Kg		101	80 - 120	0	20	
Zinc	50.0	47.0		mg/Kg		94	80 - 120	1	20	

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCSD 580-87281/24-A
Matrix: Solid
Analysis Batch: 87429

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87281

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD
		Result	Qualifier				Limits	RPD	
Arsenic	200	191		mg/Kg		95	80 - 120	0	20
Lead	50.0	48.1		mg/Kg		96	80 - 120	0	20
Antimony	150	139		mg/Kg		93	80 - 120	1	20
Cadmium	5.00	4.78		mg/Kg		96	80 - 120	1	20
Copper	25.0	24.1		mg/Kg		96	80 - 120	0	20
Zinc	50.0	46.7		mg/Kg		93	80 - 120	1	20

Lab Sample ID: MB 580-87180/1-B
Matrix: Solid
Analysis Batch: 87315

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 87248

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lead	ND		0.030		mg/L		06/06/11 10:58	06/06/11 16:23	1

Lab Sample ID: MB 580-87180/4-B
Matrix: Solid
Analysis Batch: 87315

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 87248

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lead	ND		0.030		mg/L		06/06/11 10:58	06/06/11 15:38	1

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-87297/18-A
Matrix: Solid
Analysis Batch: 87386

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87297

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.017		mg/Kg		06/07/11 08:30	06/07/11 10:31	1

Lab Sample ID: LCS 580-87297/19-A
Matrix: Solid
Analysis Batch: 87386

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87297

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	RPD
Mercury	0.167	0.189		mg/Kg		113	80 - 120	

Lab Sample ID: LCSD 580-87297/20-A
Matrix: Solid
Analysis Batch: 87386

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87297

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD
		Result	Qualifier				Limits	RPD	
Mercury	0.167	0.183		mg/Kg		110	80 - 120	3	20

Lab Sample ID: 580-26377-14 MS
Matrix: Solid
Analysis Batch: 87386

Client Sample ID: J-TP1-052411-0.0-0.5
Prep Type: Total/NA
Prep Batch: 87297

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	% Rec	% Rec.	
				Result	Qualifier				Limits	RPD
Mercury	0.25		0.155	0.396		mg/Kg	✱	96	80 - 120	

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: 580-26377-14 MSD
Matrix: Solid
Analysis Batch: 87386

Client Sample ID: J-TP1-052411-0.0-0.5
Prep Type: Total/NA
Prep Batch: 87297

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.	RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit
Mercury	0.25		0.154	0.375		mg/Kg	✪	83	80 - 120	6	20

Lab Sample ID: 580-26377-14 DU
Matrix: Solid
Analysis Batch: 87386

Client Sample ID: J-TP1-052411-0.0-0.5
Prep Type: Total/NA
Prep Batch: 87297

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Mercury	0.25		0.329	F	mg/Kg	✪	28	20

Method: Moisture - Percent Moisture

Lab Sample ID: 580-26377-21 DU
Matrix: Solid
Analysis Batch: 86925

Client Sample ID: I-TP3-052411-7.5
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Percent Solids	79		81		%		2	20
Percent Moisture	21		19		%		9	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: K-TP1-052311-0.0-0.5

Lab Sample ID: 580-26377-1

Date Collected: 05/23/11 13:50

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 92.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			86934	05/31/11 11:16	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87303	06/06/11 18:33	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Client Sample ID: K-TP1-052311-2.0-2.5

Lab Sample ID: 580-26377-2

Date Collected: 05/23/11 13:55

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 86.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			86934	05/31/11 11:16	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87303	06/06/11 19:31	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Client Sample ID: K-TP2-052311-1.0-1.5

Lab Sample ID: 580-26377-3

Date Collected: 05/23/11 14:40

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 94.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			86934	05/31/11 11:16	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87303	06/06/11 19:50	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Client Sample ID: K-TP2-052311-3.5-4.0

Lab Sample ID: 580-26377-4

Date Collected: 05/23/11 14:45

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 83.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			86934	05/31/11 11:16	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87303	06/06/11 20:10	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Client Sample ID: K-TP3-052311-0.0-0.5

Lab Sample ID: 580-26377-5

Date Collected: 05/23/11 15:30

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 93.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			86934	05/31/11 11:16	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87303	06/06/11 20:29	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: K-TP3-052311-2.0-2.5

Lab Sample ID: 580-26377-6

Date Collected: 05/23/11 15:35

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 90.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			86934	05/31/11 11:16	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87303	06/06/11 20:49	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Client Sample ID: L-TP1-052311-0.0-0.5

Lab Sample ID: 580-26377-7

Date Collected: 05/23/11 16:14

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 90.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			86934	05/31/11 11:16	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87303	06/06/11 22:26	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Client Sample ID: L-TP1-052311-3.0-3.5

Lab Sample ID: 580-26377-8

Date Collected: 05/23/11 16:20

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 45.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			86934	05/31/11 11:16	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87303	06/06/11 22:46	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Client Sample ID: L-TP2-052311-0.0-0.5

Lab Sample ID: 580-26377-9

Date Collected: 05/23/11 16:50

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 90.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			86934	05/31/11 11:16	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87303	06/06/11 23:05	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Client Sample ID: L-TP2.2-052311-0.0-0.5

Lab Sample ID: 580-26377-10

Date Collected: 05/23/11 16:55

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 89.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			88316	06/20/11 09:58	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88444	06/21/11 18:12	MAM	TAL SEA
Total/NA	Analysis	8081A		1	88541	06/22/11 13:06	CM	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: L-TP2-052311-2.0-2.5

Lab Sample ID: 580-26377-11

Date Collected: 05/23/11 17:00

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 89.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			86934	05/31/11 11:16	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87303	06/06/11 23:25	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Client Sample ID: L-TP3-052411-0.0-0.5

Lab Sample ID: 580-26377-12

Date Collected: 05/24/11 07:35

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 93.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			86934	05/31/11 11:16	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87303	06/06/11 23:44	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Client Sample ID: L-TP3-052411-2.0-2.5

Lab Sample ID: 580-26377-13

Date Collected: 05/24/11 07:40

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 91.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			86934	05/31/11 11:16	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87303	06/07/11 00:04	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Client Sample ID: J-TP1-052411-0.0-0.5

Lab Sample ID: 580-26377-14

Date Collected: 05/24/11 08:35

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 95.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			86934	05/31/11 11:16	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87303	06/07/11 00:23	MAM	TAL SEA
Total/NA	Prep	3050B			87281	06/06/11 13:07	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87325	06/06/11 22:28	SP	TAL SEA
Total/NA	Prep	7471A			87297	06/07/11 08:30	PAB	TAL SEA
Total/NA	Analysis	7471A		1	87386	06/07/11 10:36	FCW	TAL SEA
Total/NA	Analysis	6010B		1	87429	06/07/11 10:31	SP	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Client Sample ID: J-TP1-052411-3.0-3.5

Lab Sample ID: 580-26377-15

Date Collected: 05/24/11 08:40

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 61.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			86934	05/31/11 11:16	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87303	06/07/11 00:43	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: I-TP1-052411-0.0-0.5

Lab Sample ID: 580-26377-16

Date Collected: 05/24/11 09:20

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 87.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			86934	05/31/11 11:16	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87303	06/07/11 01:02	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Client Sample ID: I-TP1-052411-6.0

Lab Sample ID: 580-26377-17

Date Collected: 05/24/11 09:25

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 86.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			86934	05/31/11 11:16	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87303	06/07/11 02:40	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Client Sample ID: I-TP2-052411-0.0-0.5

Lab Sample ID: 580-26377-19

Date Collected: 05/24/11 10:05

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 91.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87028	06/01/11 14:52	MT	TAL SEA
Total/NA	Analysis	8081A		1	87207	06/03/11 19:16	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Client Sample ID: I-TP2-052411-2.0-2.5

Lab Sample ID: 580-26377-20

Date Collected: 05/24/11 10:10

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 82.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87028	06/01/11 14:52	MT	TAL SEA
Total/NA	Analysis	8081A		1	87207	06/03/11 19:35	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 11:19	KKW	TAL SEA

Client Sample ID: I-TP3-052411-7.5

Lab Sample ID: 580-26377-21

Date Collected: 05/24/11 11:15

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 79.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			86872	05/27/11 13:09	SK	TAL SEA
Total/NA	Analysis	8260B		1	86901	05/31/11 02:37	SK	TAL SEA
Total/NA	Prep	3550B			86922	05/31/11 08:57	KKW	TAL SEA
Total/NA	Analysis	NWTPH-HCID		1	86946	05/31/11 17:28	EK	TAL SEA
Total/NA	Prep	3550B			87101	06/02/11 11:58	KKW	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	87061	06/02/11 20:13	ES	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 09:01	KKW	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: I-TP3-052411-3.0

Lab Sample ID: 580-26377-22

Date Collected: 05/24/11 11:30

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 80.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			86872	05/27/11 13:09	SK	TAL SEA
Total/NA	Analysis	8260B		1	86901	05/31/11 03:01	SK	TAL SEA
Total/NA	Prep	5035	RA		87530	06/08/11 17:15	TR	TAL SEA
Total/NA	Analysis	8260B	RA	1	87540	06/09/11 07:15	TR	TAL SEA
Total/NA	Prep	3550B			86922	05/31/11 08:57	KKW	TAL SEA
Total/NA	Analysis	NWTPH-HCID		1	86946	05/31/11 17:50	EK	TAL SEA
Total/NA	Prep	3550B			87101	06/02/11 11:58	KKW	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	87061	06/02/11 20:37	ES	TAL SEA
Total/NA	Prep	3050B			87281	06/06/11 13:07	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87325	06/06/11 22:34	SP	TAL SEA
Total/NA	Prep	7471A			87297	06/07/11 08:30	PAB	TAL SEA
Total/NA	Analysis	7471A		1	87386	06/07/11 10:43	FCW	TAL SEA
Total/NA	Analysis	6010B		1	87429	06/07/11 10:37	SP	TAL SEA
Total/NA	Analysis	Moisture		1	86925	05/31/11 09:01	KKW	TAL SEA

Client Sample ID: I-TP3-052411-1.5

Lab Sample ID: 580-26377-23

Date Collected: 05/24/11 12:35

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87028	06/01/11 14:52	MT	TAL SEA
Total/NA	Analysis	8081A		1	87207	06/03/11 19:55	MAM	TAL SEA
TCLP	Leach	1311			87180	06/03/11 12:11	RS	TAL SEA
TCLP	Prep	3010A			87248	06/06/11 10:58	PAB	TAL SEA
TCLP	Analysis	6010B		1	87315	06/06/11 16:27	SP	TAL SEA
Total/NA	Prep	3050B			87281	06/06/11 13:07	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87325	06/06/11 22:41	SP	TAL SEA
Total/NA	Prep	7471A			87297	06/07/11 08:30	PAB	TAL SEA
Total/NA	Analysis	7471A		1	87386	06/07/11 10:45	FCW	TAL SEA
Total/NA	Analysis	6010B		1	87429	06/07/11 10:43	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87006	06/01/11 11:39	RS	TAL SEA

Client Sample ID: J-TP2-052411-0.0-0.5

Lab Sample ID: 580-26377-24

Date Collected: 05/24/11 14:30

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 90.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87028	06/01/11 14:52	MT	TAL SEA
Total/NA	Analysis	8081A		1	87207	06/03/11 20:14	MAM	TAL SEA
Total/NA	Prep	3050B			87281	06/06/11 13:07	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87325	06/06/11 22:47	SP	TAL SEA
Total/NA	Prep	7471A			87297	06/07/11 08:30	PAB	TAL SEA
Total/NA	Analysis	7471A		1	87386	06/07/11 10:46	FCW	TAL SEA
Total/NA	Analysis	6010B		1	87429	06/07/11 10:50	SP	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: J-TP2-052411-0.0-0.5

Lab Sample ID: 580-26377-24

Date Collected: 05/24/11 14:30

Matrix: Solid

Date Received: 05/25/11 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	87006	06/01/11 11:39	RS	TAL SEA

Client Sample ID: J-TP2-052411-2.0-2.5

Lab Sample ID: 580-26377-25

Date Collected: 05/24/11 14:35

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 92.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87028	06/01/11 14:52	MT	TAL SEA
Total/NA	Analysis	8081A		1	87207	06/03/11 23:09	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	87006	06/01/11 11:39	RS	TAL SEA

Client Sample ID: N-TP1-052411-0.0-0.5

Lab Sample ID: 580-26377-26

Date Collected: 05/24/11 15:15

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 88.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87028	06/01/11 14:52	MT	TAL SEA
Total/NA	Analysis	8081A		1	87207	06/03/11 23:29	MAM	TAL SEA
Total/NA	Prep	3050B			87281	06/06/11 13:07	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87325	06/06/11 22:53	SP	TAL SEA
Total/NA	Prep	7471A			87297	06/07/11 08:30	PAB	TAL SEA
Total/NA	Analysis	7471A		1	87386	06/07/11 10:55	FCW	TAL SEA
Total/NA	Analysis	6010B		1	87429	06/07/11 10:56	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87006	06/01/11 11:39	RS	TAL SEA

Client Sample ID: N-TP1-052411-2.0-2.5

Lab Sample ID: 580-26377-27

Date Collected: 05/24/11 15:30

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 88.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87028	06/01/11 14:52	MT	TAL SEA
Total/NA	Analysis	8081A		1	87207	06/03/11 20:33	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	87006	06/01/11 11:39	RS	TAL SEA

Client Sample ID: I-TP3-052411-0.0-0.5

Lab Sample ID: 580-26377-28

Date Collected: 05/24/11 11:00

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 94.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87028	06/01/11 14:52	MT	TAL SEA
Total/NA	Analysis	8081A		1	87207	06/03/11 20:53	MAM	TAL SEA
Total/NA	Prep	3050B			87281	06/06/11 13:07	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87325	06/06/11 22:59	SP	TAL SEA
Total/NA	Prep	7471A			87297	06/07/11 08:30	PAB	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Client Sample ID: I-TP3-052411-0.0-0.5

Lab Sample ID: 580-26377-28

Date Collected: 05/24/11 11:00

Matrix: Solid

Date Received: 05/25/11 10:00

Percent Solids: 94.1

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared Or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Analysis	7471A		1	87386	06/07/11 10:57	FCW	TAL SEA
Total/NA	Analysis	6010B		1	87429	06/07/11 11:02	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87006	06/01/11 11:39	RS	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310



Certification Summary

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022
TestAmerica Seattle	Alaska	TA-Port Heiden Mobile Lab	10	UST-093
TestAmerica Seattle	California	NELAC	9	1115CA
TestAmerica Seattle	Florida	NELAC	4	E871074
TestAmerica Seattle	L-A-B	DoD ELAP		L2236
TestAmerica Seattle	L-A-B	ISO/IEC 17025		L2236
TestAmerica Seattle	Louisiana	NELAC	6	05016
TestAmerica Seattle	Montana	MT DEQ UST	8	N/A
TestAmerica Seattle	Oregon	NELAC	10	WA100007
TestAmerica Seattle	USDA	USDA		P330-11-00222
TestAmerica Seattle	Washington	State Program	10	C553

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.



Sample Summary

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26377-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-26377-1	K-TP1-052311-0.0-0.5	Solid	05/23/11 13:50	05/25/11 10:00
580-26377-2	K-TP1-052311-2.0-2.5	Solid	05/23/11 13:55	05/25/11 10:00
580-26377-3	K-TP2-052311-1.0-1.5	Solid	05/23/11 14:40	05/25/11 10:00
580-26377-4	K-TP2-052311-3.5-4.0	Solid	05/23/11 14:45	05/25/11 10:00
580-26377-5	K-TP3-052311-0.0-0.5	Solid	05/23/11 15:30	05/25/11 10:00
580-26377-6	K-TP3-052311-2.0-2.5	Solid	05/23/11 15:35	05/25/11 10:00
580-26377-7	L-TP1-052311-0.0-0.5	Solid	05/23/11 16:14	05/25/11 10:00
580-26377-8	L-TP1-052311-3.0-3.5	Solid	05/23/11 16:20	05/25/11 10:00
580-26377-9	L-TP2-052311-0.0-0.5	Solid	05/23/11 16:50	05/25/11 10:00
580-26377-10	L-TP2.2-052311-0.0-0.5	Solid	05/23/11 16:55	05/25/11 10:00
580-26377-11	L-TP2-052311-2.0-2.5	Solid	05/23/11 17:00	05/25/11 10:00
580-26377-12	L-TP3-052411-0.0-0.5	Solid	05/24/11 07:35	05/25/11 10:00
580-26377-13	L-TP3-052411-2.0-2.5	Solid	05/24/11 07:40	05/25/11 10:00
580-26377-14	J-TP1-052411-0.0-0.5	Solid	05/24/11 08:35	05/25/11 10:00
580-26377-15	J-TP1-052411-3.0-3.5	Solid	05/24/11 08:40	05/25/11 10:00
580-26377-16	I-TP1-052411-0.0-0.5	Solid	05/24/11 09:20	05/25/11 10:00
580-26377-17	I-TP1-052411-6.0	Solid	05/24/11 09:25	05/25/11 10:00
580-26377-19	I-TP2-052411-0.0-0.5	Solid	05/24/11 10:05	05/25/11 10:00
580-26377-20	I-TP2-052411-2.0-2.5	Solid	05/24/11 10:10	05/25/11 10:00
580-26377-21	I-TP3-052411-7.5	Solid	05/24/11 11:15	05/25/11 10:00
580-26377-22	I-TP3-052411-3.0	Solid	05/24/11 11:30	05/25/11 10:00
580-26377-23	I-TP3-052411-1.5	Solid	05/24/11 12:35	05/25/11 10:00
580-26377-24	J-TP2-052411-0.0-0.5	Solid	05/24/11 14:30	05/25/11 10:00
580-26377-25	J-TP2-052411-2.0-2.5	Solid	05/24/11 14:35	05/25/11 10:00
580-26377-26	N-TP1-052411-0.0-0.5	Solid	05/24/11 15:15	05/25/11 10:00
580-26377-27	N-TP1-052411-2.0-2.5	Solid	05/24/11 15:30	05/25/11 10:00
580-26377-28	I-TP3-052411-0.0-0.5	Solid	05/24/11 11:00	05/25/11 10:00

TestAmerica

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Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

Rush
 Short Hold

Chain of Custody Record

26377

Client Forallon	Client Contact Brett Corp	Date 5-24-11	Chain of Custody Number 11240
Address 975 5th Ave NW	Telephone Number (Area Code)/Fax Number (425) 295-0800	Lab Number	Page 1 of 3

City Issaquah	State WA	Zip Code 98027	Sampler R. Hibbs	Lab Contact	Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt
Project Name and Location (State) VSP - Yakima, WA			Billing Contact			

Contract/Purchase Order/Quote No.
765-001

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix					Containers & Preservatives					Special Instructions/ Conditions of Receipt	
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		
1 K-TP1-052311-00-0.5	5-23-11	1350				X	X							Duplicate (Field) #2 Cooler/TB (Dig/IR cor. p.3 unc 0.3) Cooler/Dsc to enter blue @ Lab - Wet Packs Packing bubble bag w/o FedEx P.O.
2 K-TP1-052311-20-2.5		1355												
3 K-TP2-052311-10-1.5		1440												
4 K-TP2-052311-3.5-4.0		1445												
5 K-TP3-052311-0.0-0.5		1530												
6 K-TP3-052311-2.0-2.5		1535												
7 L-TP1-052311-010-0.5		1614												
8 L-TP1-052311-3.0-3.5		1620												
9 L-TP2-052311-0.0-0.5		1650												
10 L-TP2.2-052311-0.0-0.5		1655												
11 L-TP2-052311-20-2.5		1700												

Cooler Yes No Cooler Temp: _____ Possible Hazard Identification Non-Hazard Flammable Skin Irritant Poison B Unknown Return To Client Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days)
 24 Hours 48 Hours 5 Days 10 Days 15 Days Other Hold

1. Relinquished By Sign/Print Ryan Hibbs	Date 5-24-11	Time 1550	QC Requirements (Specify)	1. Received By Sign/Print Cathy Gumb	Date 5/24/11	Time 10:00
2. Relinquished By Sign/Print	Date	Time		2. Received By Sign/Print	Date	Time
3. Relinquished By Sign/Print	Date	Time		3. Received By Sign/Print	Date	Time

Comments **Hold samples until directed which samples to analyze Metals to include: Antimony, arsenic, cadmium, copper, lead, manganese, mercury, zinc**

DISTRIBUTION: WHITE - Stays with the Samples; CANARY - Returned to Client with Report; PINK - Field Copy

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www.testamericainc.com

Rush
 Short Hold

Chain of Custody Record

212377

Client Forallon		Client Contact Brett Corp		Date 5-24-11	Chain of Custody Number 11248
Address 975 5th Ave NW		Telephone Number (Area Code)/Fax Number (425) 245-0800		Lab Number	Page 2 of 3
City Issaquah	State WA	Zip Code 98027	Sampler R. Hibbs	Lab Contact	Special Instructions/ Conditions of Receipt
Project Name and Location (State) YSF Yakima, WA		Billing Contact		Analysis (Attach list if more space is needed)	
Contract/Purchase Order/Quote No. 765-001		Matrix		Containers & Preservatives	

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives							Special Instructions/Conditions of Receipt				
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Percent					
12 L-TP3-052411-0.0-0.5	5-24-11	0735				X												
13 L-TP3-052411-2.0-2.5		0740																
14 J-TP1-052411-0.0-0.5		0835																
15 J-TP1-052411-3.0-3.5		0840																
16 I-TP1-052411-0.0-0.5		0920																
17 I-TP1-052411-6.0		0925																
18 I-TP1-052411-7.0		0930																
19 I-TP2-052411-0.0-0.5		1005																
20 I-TP2-052411-2.0-2.5		1010																
21 I-TP3-052411-7.5		1115																
22 I-TP3-052411-3.0		1130																
23 I-TP3-052411-1.5		1235																

Cooler Yes No Cooler Temp: _____ Possible Hazard Identification Non-Hazard Flammable Skin Irritant Poison B Unknown Sample Disposal Return To Client Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days) 24 Hours 48 Hours 5 Days 10 Days 15 Days Other **Hold** QC Requirements (Specify)

1. Relinquished By Sign/Print Raymond Hibbs	Date	Time	1. Received By Sign/Print Cathy Gamble	Date 5/25/11	Time 10:00
2. Relinquished By Sign/Print	Date	Time	2. Received By Sign/Print	Date	Time
3. Relinquished By Sign/Print	Date	Time	3. Received By Sign/Print	Date	Time

Comments **See page 1 comments Metals includes: Antimony, arsenic, cadmium, copper, lead, manganese, mercury, and zinc.**

DISTRIBUTION: WHITE - Stays with the Samples; CANARY - Returned to Client with Report; PINK - Field Copy

26877

Client: Furallon Client Contact: Brett Corp Date: 5-24-11 Chain of Custody Number: 112A1

Address: _____ Telephone Number (Area Code)/Fax Number: (425) 295-0800 Lab Number: _____ Page: 3 of 3

City: Issaquah State: WA Zip Code: 98027 Sampler: R. Hibbs Lab Contact: _____

Project Name and Location (State): 765-001 Billing Contact: _____ Analysis (Attach list if more space is needed): _____

Contract/Purchase Order/Quote No.: _____

Special Instructions/Conditions of Receipt

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives						Analysis	Methods (See Index page)	Special Instructions/Conditions of Receipt		
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnCl2				NaOH	
<u>I-TP2-052411-0.0-0.5</u>	<u>5-24-11</u>	<u>1730</u>				X									X	X	
<u>S-TP2-052411-2.0-2.5</u>		<u>1735</u>													X	X	
<u>N-TP1-052411-0.0-0.5</u>		<u>1515</u>													X	X	
<u>N-TP1-052411-2.0-2.5</u>		<u>1530</u>													X	X	
<u>I-TP3-052411-0.0-0.5</u>	<u>5-24-11</u>	<u>1100</u>													X	X	

Cooler: Yes No Cooler Temp: _____ Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown

Sample Disposal: Return To Client Disposal By Lab Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): 24 Hours 48 Hours 5 Days 10 Days 15 Days Other Hold

QC Requirements (Specify)

1. Relinquished By Sign/Print: <u>Ryan Hibbs</u>	Date: <u>5-24-11</u>	Time: _____	1. Received By Sign/Print: <u>Cathy Crumble</u>	Date: <u>5/25/11</u>	Time: <u>10:00</u>
2. Relinquished By Sign/Print: _____	Date: _____	Time: _____	2. Received By Sign/Print: _____	Date: _____	Time: _____
3. Relinquished By Sign/Print: _____	Date: _____	Time: _____	3. Received By Sign/Print: _____	Date: _____	Time: _____

Comments: See page 1 Methods to include: Antimony, arsenic, cadmium, copper, lead, manganese, mercury, nickel, zinc

Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-26377-1

Login Number: 26377

List Source: TestAmerica Seattle

List Number: 1

Creator: Gamble, Cathy

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	False	Received extra samples not listed on COC.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	Not needed.
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	No VOA rec'd.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-26451-1
Client Project/Site: Yakima Steel
Revision: 1

For:
Farallon Consulting LLC
975 5th Avenue NW
Suite 100
Issaquah, Washington 98027

Attn: Jeff Kaspar

Pamela R. Johnson

Authorized for release by:
08/12/2011 03:25:54 PM
Pam Johnson
Project Manager I
pamr.johnson@testamericainc.com

Designee for
Kristine Allen
Project Manager I
kristine.allen@testamericainc.com

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www.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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Case Narrative

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Job ID: 580-26451-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-26451-1

Comments

No additional comments.

Receipt

COC not with samples. Received via email next day.

Some samples leaking because they were submerged in water. One soil jar for sample "E-WETSOIL.2-052611-1.0-2.0" was broken upon receipt. Some of sample volume was salvaged and placed in a 4oz. jar. One stir bar for sample "B-TP3-052611-5.5" was broken and could not be salvaged.

The container label for the following sample(s) did not match the information listed on the Chain-of-Custody (COC): . One MeOH preserved and one DI water & stir bar vial were received as trip blanks, but no listed on the COC. These two vials were added to the COC and logged-in.

Also, sample "H-TP2-052611-1.0-1.5" as listed on the COC is listed as "H-TP2-052611-0.0-0.5" on the 4oz. soil jar label. Collection date and time were matched to find the correct sample set.

Sample "D-TP3.2-052611-4.5" as listed on the COC lists "D-TP3-052611-4.5" on its soil jar label. Collection date and time were matched to find the correct sample set.

Sample "G-WETSOIL-052611-0.0-0.5" as listed on the COC lists "G-WETSOIL-052611-0.5-1.0" on both soil jar labels. Collection date and time were matched to find the correct sample set.

All ID discrepancies were labeled according to the COC.

All other samples were received in good condition within temperature requirements.

GC/MS VOA

Method(s) 5035:

The following samples were prepared outside of preparation holding time due to the sample being received after the 48 hour preservation window for method 5035: B-TP1-052611-6.0 (580-26451-39), E-WETSOIL-052611-0.5-1.0 (580-26451-47), E-WETSOIL-2-052611-1.0-2.0 (580-26451-49), G-WETSOIL-052611-0.0-0.5 (580-26451-44), H-TP2-052611-2.0-2.5 (580-26451-24), H-TP3-052611-0.0-0.5 (580-26451-26). Samples were received in bulk soil jars all sample containers contained head space. Sample qualified "H".

Method(s) 8260B:

Surrogate recovery for the following sample(s) was outside the upper control limit: E-WETSOIL-052611-0.0-0.5 (580-26451-46), H-TP2-052611-1.0-1.5 (580-26451-23), H-TP3-052611-0.0-0.5 (580-26451-26). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Internal standard response for the following sample exceeded the lower control limit: E-WETSOIL-052611-0.0-0.5 (580-26451-46). As such, the sample results may be biased high. As the sample did not contain any target compounds above the reporting limit, the data have been qualified as appropriate and reported.

The Trifluorotoluene (TFT) surrogate recovery for the blank associated with batch 580-87535 was outside recovery limits. As the deficient recovery indicated a potential high bias, no target compounds were detected in the method blank above the reporting limit, and all associated sample TFT surrogate recoveries fell within acceptance criteria, the data have been reported.

The following sample(s) was analyzed outside of the 14 day analytical holding time due to system recalibration required following a heavily contaminated sample B-TP1-052611-6.0 (580-26451-39), E-WETSOIL-052611-0.5-1.0 (580-26451-47), E-WETSOIL-2-052611-0.5-1.0 (580-26451-48), E-WETSOIL-2-052611-1.0-2.0 (580-26451-49), G-WETSOIL-052611-0.0-0.5 (580-26451-44), H-TP2-052611-2.0-2.5 (580-26451-24), H-TP3-052611-0.0-0.5 (580-26451-26).

Case Narrative

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Job ID: 580-26451-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

No other analytical or quality issues were noted.

GC Semi VOA

Method(s) 8081A:

Samples 580-26451-1, 580-26451-2, 580-26451-3, 580-26451-4 and 580-26451-5 required re-extraction due to an laboratory error with the initial extraction. Samples are qualified "H".

Surrogate recovery for the following sample(s) was outside control limits: 580-26451-28, 580-26451-29, 580-26451-30, 580-26451-32, 580-26451-33, 580-26451-34, 580-26451-35, 580-26451-45 and 580-26451-46. Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Surrogate recovery for the following sample(s) was outside control limits: 580-26451-11, 580-26451-15, 580-26451-16, 580-26451-17, 580-26451-20, 580-26451-22 and 580-26451-24. Evidence of matrix interference is present indicated by high percent moisture; therefore, re-extraction and/or re-analysis was not performed.

The capping continuing calibration verification (CCV) analyzed on instrument TAC035, analytical batch 88098, did not meet criteria on both columns for the following analytes: CCV/24 - Recovering below lower control limits for 4,4-DDT. CCV/37 - Recovering below lower control limits for 4,4-DDT, DCB, Endosulfan II, Endosulfan sulfate, Endrin aldehyde and Methoxychlor. CCV/41 - Recovering below lower control limits for 4,4-DDT and DCB. CCV/38 - Recovering below lower control limits for Toxaphene. The associated samples were analyzed twice with similar results. Data has been qualified "^" and reported.

No other analytical or quality issues were noted.

Metals

Method(s) 6010B: The absolute value for some elements was above the RL value. The ICB, MB and CCB's were all within limits. Sample qualified "L". No bias is indicated.

No other analytical or quality issues were noted.



Definitions/Glossary

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
H	Sample was prepped or analyzed beyond the specified holding time
*	ISTD response or retention time outside acceptable limits

GC Semi VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
F	MS or MSD exceeds the control limits
I	Indicates the presence of an interference, recovery is not calculated.
X	Surrogate is outside control limits
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
F	RPD of the MS and MSD exceeds the control limits

Metals

Qualifier	Qualifier Description
L	A negative instrument reading had an absolute value greater than the reporting limit
F	Duplicate RPD exceeds the control limit
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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit (Dioxin)
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or method detection limit if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: G-TP1-052511-0.0-0.5

Lab Sample ID: 580-26451-1

Date Collected: 05/25/11 07:40

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 86.7

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
alpha-BHC	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
beta-BHC	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
delta-BHC	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
gamma-BHC (Lindane)	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
4,4'-DDD	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
4,4'-DDE	7.3	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
4,4'-DDT	6.2	H ^	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
Dieldrin	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
Endosulfan I	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
Endosulfan II	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
Endosulfan sulfate	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
Endrin	6.6	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
Endrin aldehyde	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
Heptachlor	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
Heptachlor epoxide	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
Methoxychlor	ND	H	11		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
Endrin ketone	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
Toxaphene	ND	H	110		ug/Kg	☼	06/20/11 09:58	06/22/11 13:25	1
alpha-Chlordane	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
gamma-Chlordane	1.8	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 18:31	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	78		49 - 123				06/20/11 09:58	06/21/11 18:31	1
DCB Decachlorobiphenyl	66		40 - 158				06/20/11 09:58	06/21/11 18:31	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.6		2.8		mg/Kg	☼	06/13/11 11:07	06/13/11 19:02	1
Lead	27		1.4		mg/Kg	☼	06/13/11 11:07	06/13/11 19:02	1
Antimony	ND	L	2.8		mg/Kg	☼	06/13/11 11:07	06/13/11 19:02	1
Cadmium	1.3		0.46		mg/Kg	☼	06/13/11 11:07	06/13/11 19:02	1
Copper	19		0.93		mg/Kg	☼	06/13/11 11:07	06/13/11 19:02	1
Manganese	540		0.93		mg/Kg	☼	06/13/11 11:07	06/13/11 19:02	1
Zinc	61		1.9		mg/Kg	☼	06/13/11 11:07	06/13/11 19:02	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.19		0.018		mg/Kg	☼	06/13/11 09:30	06/13/11 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87		0.10		%			06/03/11 10:22	1
Percent Moisture	13		0.10		%			06/03/11 10:22	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: G-TP1-052511-2.0-2.5

Lab Sample ID: 580-26451-2

Date Collected: 05/25/11 07:45

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 87.2

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
alpha-BHC	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
beta-BHC	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
delta-BHC	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
gamma-BHC (Lindane)	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
4,4'-DDD	10	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
4,4'-DDE	61	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
4,4'-DDT	3.6	H ^	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
Dieldrin	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
Endosulfan I	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
Endosulfan II	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
Endosulfan sulfate	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
Endrin	4.4	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
Endrin aldehyde	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
Heptachlor	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
Heptachlor epoxide	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
Methoxychlor	ND	H	11		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
Endrin ketone	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
Toxaphene	ND	H	110		ug/Kg	☼	06/20/11 09:58	06/22/11 14:24	1
alpha-Chlordane	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
gamma-Chlordane	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 19:29	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	86		49 - 123				06/20/11 09:58	06/21/11 19:29	1
<i>DCB Decachlorobiphenyl</i>	78		40 - 158				06/20/11 09:58	06/21/11 19:29	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.6		3.3		mg/Kg	☼	06/13/11 11:07	06/13/11 19:07	1
Lead	44		1.7		mg/Kg	☼	06/13/11 11:07	06/13/11 19:07	1
Antimony	ND	L	3.3		mg/Kg	☼	06/13/11 11:07	06/13/11 19:07	1
Cadmium	1.6		0.55		mg/Kg	☼	06/13/11 11:07	06/13/11 19:07	1
Copper	25		1.1		mg/Kg	☼	06/13/11 11:07	06/13/11 19:07	1
Manganese	550		1.1		mg/Kg	☼	06/13/11 11:07	06/13/11 19:07	1
Zinc	150		2.2		mg/Kg	☼	06/13/11 11:07	06/13/11 19:07	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	2.4		0.31		mg/Kg	☼	06/13/11 09:30	06/13/11 13:54	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87		0.10		%			06/03/11 10:22	1
Percent Moisture	13		0.10		%			06/03/11 10:22	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: G-TP2-052511-0.0-0.5

Lab Sample ID: 580-26451-3

Date Collected: 05/25/11 08:30

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 80.7

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND	H	1.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
alpha-BHC	ND	H	1.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
beta-BHC	ND	H	1.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
delta-BHC	ND	H	1.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
gamma-BHC (Lindane)	ND	H	1.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
4,4'-DDD	3.5	H	2.4		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
4,4'-DDE	59	H	2.4		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
4,4'-DDT	8.2	H ^	2.4		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
Dieldrin	39	H	2.4		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
Endosulfan I	ND	H	1.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
Endosulfan II	ND	H	2.4		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
Endosulfan sulfate	ND	H	2.4		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
Endrin	ND	H	2.4		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
Endrin aldehyde	ND	H	2.4		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
Heptachlor	ND	H	1.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
Heptachlor epoxide	ND	H	1.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
Methoxychlor	ND	H	12		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
Endrin ketone	ND	H	2.4		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
Toxaphene	ND	H	120		ug/Kg	☼	06/20/11 09:58	06/22/11 14:43	1
alpha-Chlordane	5.0	H	1.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
gamma-Chlordane	2.9	H	1.2		ug/Kg	☼	06/20/11 09:58	06/21/11 19:49	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	95		49 - 123				06/20/11 09:58	06/21/11 19:49	1
DCB Decachlorobiphenyl	70		40 - 158				06/20/11 09:58	06/21/11 19:49	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.2		3.7		mg/Kg	☼	06/13/11 11:07	06/13/11 19:22	1
Lead	31		1.9		mg/Kg	☼	06/13/11 11:07	06/13/11 19:22	1
Antimony	ND		3.7		mg/Kg	☼	06/13/11 11:07	06/13/11 19:22	1
Cadmium	1.3		0.62		mg/Kg	☼	06/13/11 11:07	06/13/11 19:22	1
Copper	25		1.2		mg/Kg	☼	06/13/11 11:07	06/13/11 19:22	1
Manganese	510		1.2		mg/Kg	☼	06/13/11 11:07	06/13/11 19:22	1
Zinc	80		2.5		mg/Kg	☼	06/13/11 11:07	06/14/11 16:04	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.070		0.019		mg/Kg	☼	06/13/11 09:30	06/13/11 13:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81		0.10		%			06/03/11 09:31	1
Percent Moisture	19		0.10		%			06/03/11 09:31	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: G-TP2-052511-2.0-2.5

Lab Sample ID: 580-26451-4

Date Collected: 05/25/11 08:35

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 88.0

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND	H	1.1		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
alpha-BHC	ND	H	1.1		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
beta-BHC	ND	H	1.1		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
delta-BHC	ND	H	1.1		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
gamma-BHC (Lindane)	ND	H	1.1		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
4,4'-DDD	6.5	H	2.2		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
4,4'-DDE	32	H	2.2		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
4,4'-DDT	ND	H ^	2.2		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
Dieldrin	ND	H	2.2		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
Endosulfan I	ND	H	1.1		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
Endosulfan II	ND	H	2.2		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
Endosulfan sulfate	ND	H	2.2		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
Endrin	ND	H	2.2		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
Endrin aldehyde	ND	H	2.2		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
Heptachlor	ND	H	1.1		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
Heptachlor epoxide	ND	H	1.1		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
Methoxychlor	ND	H	11		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
Endrin ketone	ND	H	2.2		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
Toxaphene	ND	H	110		ug/Kg	*	06/20/11 09:58	06/22/11 15:02	1
alpha-Chlordane	ND	H	1.1		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
gamma-Chlordane	ND	H	1.1		ug/Kg	*	06/20/11 09:58	06/21/11 20:08	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	85		49 - 123				06/20/11 09:58	06/21/11 20:08	1
<i>DCB Decachlorobiphenyl</i>	79		40 - 158				06/20/11 09:58	06/21/11 20:08	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88		0.10		%			06/03/11 09:31	1
Percent Moisture	12		0.10		%			06/03/11 09:31	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: G-TP3-052511-0.0-0.5

Lab Sample ID: 580-26451-5

Date Collected: 05/25/11 08:50

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 89.1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
alpha-BHC	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
beta-BHC	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
delta-BHC	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
gamma-BHC (Lindane)	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
4,4'-DDD	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
4,4'-DDE	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
4,4'-DDT	ND	H ^	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
Dieldrin	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
Endosulfan I	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
Endosulfan II	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
Endosulfan sulfate	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
Endrin	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
Endrin aldehyde	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
Heptachlor	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
Heptachlor epoxide	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
Methoxychlor	ND	H	11		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
Endrin ketone	ND	H	2.2		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
Toxaphene	ND	H	110		ug/Kg	☼	06/20/11 09:58	06/22/11 15:22	1
alpha-Chlordane	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
gamma-Chlordane	ND	H	1.1		ug/Kg	☼	06/20/11 09:58	06/21/11 20:28	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	82		49 - 123				06/20/11 09:58	06/21/11 20:28	1
DCB Decachlorobiphenyl	69		40 - 158				06/20/11 09:58	06/21/11 20:28	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.4		3.3		mg/Kg	☼	06/13/11 11:07	06/13/11 19:26	1
Lead	30		1.6		mg/Kg	☼	06/13/11 11:07	06/13/11 19:26	1
Antimony	ND	L	3.3		mg/Kg	☼	06/13/11 11:07	06/13/11 19:26	1
Cadmium	1.7		0.54		mg/Kg	☼	06/13/11 11:07	06/13/11 19:26	1
Copper	28		1.1		mg/Kg	☼	06/13/11 11:07	06/13/11 19:26	1
Manganese	530		1.1		mg/Kg	☼	06/13/11 11:07	06/13/11 19:26	1
Zinc	100		22		mg/Kg	☼	06/13/11 11:07	06/14/11 16:09	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.055		0.016		mg/Kg	☼	06/13/11 09:30	06/13/11 13:31	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89		0.10		%			06/03/11 09:31	1
Percent Moisture	11		0.10		%			06/03/11 09:31	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: G-TP3-052511-2.0-2.5

Lab Sample ID: 580-26451-6

Date Collected: 05/25/11 08:55

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 80.4

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.9		3.3		mg/Kg	*	06/13/11 11:07	06/13/11 19:31	1
Lead	150		1.6		mg/Kg	*	06/13/11 11:07	06/13/11 19:31	1
Antimony	ND		3.3		mg/Kg	*	06/13/11 11:07	06/13/11 19:31	1
Cadmium	1.2		0.54		mg/Kg	*	06/13/11 11:07	06/13/11 19:31	1
Copper	23		1.1		mg/Kg	*	06/13/11 11:07	06/13/11 19:31	1
Manganese	240		1.1		mg/Kg	*	06/13/11 11:07	06/13/11 19:31	1
Zinc	450		22		mg/Kg	*	06/13/11 11:07	06/14/11 16:13	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.48		0.020		mg/Kg	*	06/13/11 09:30	06/13/11 13:33	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	80		0.10		%			06/03/11 10:22	1
Percent Moisture	20		0.10		%			06/03/11 10:22	1



Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: G-TP3-052511-3.5-4.0

Lab Sample ID: 580-26451-7

Date Collected: 05/25/11 09:00

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 85.6

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
alpha-BHC	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
beta-BHC	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
delta-BHC	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
4,4'-DDD	3.8		2.3		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
4,4'-DDE	8.7		2.3		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
4,4'-DDT	7.5	^	2.3		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
Dieldrin	ND		2.3		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
Endosulfan I	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
Endosulfan II	31		2.3		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
Endosulfan sulfate	ND		2.3		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
Endrin	ND		2.3		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
Endrin aldehyde	ND		2.3		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
Heptachlor	ND	^	1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
Heptachlor epoxide	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
Methoxychlor	ND		11		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
Endrin ketone	ND		2.3		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
Toxaphene	ND		110		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
alpha-Chlordane	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
gamma-Chlordane	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:11	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	79		49 - 123				06/03/11 09:27	06/16/11 17:11	1
<i>DCB Decachlorobiphenyl</i>	47	^	40 - 158				06/03/11 09:27	06/16/11 17:11	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86		0.10		%			06/03/11 09:31	1
Percent Moisture	14		0.10		%			06/03/11 09:31	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: E-TP1-052511-4.5

Lab Sample ID: 580-26451-8

Date Collected: 05/25/11 10:05

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 90.5

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.5		mg/Kg	☼	06/13/11 11:07	06/13/11 19:36	1
Lead	27		1.3		mg/Kg	☼	06/13/11 11:07	06/13/11 19:36	1
Antimony	ND	L	2.5		mg/Kg	☼	06/13/11 11:07	06/13/11 19:36	1
Cadmium	8.8		0.42		mg/Kg	☼	06/13/11 11:07	06/13/11 19:36	1
Copper	19		0.85		mg/Kg	☼	06/13/11 11:07	06/13/11 19:36	1
Manganese	570		0.85		mg/Kg	☼	06/13/11 11:07	06/13/11 19:36	1
Zinc	2200		34		mg/Kg	☼	06/13/11 11:07	06/14/11 16:17	20

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.041		0.016		mg/Kg	☼	06/13/11 09:30	06/13/11 13:35	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90		0.10		%			06/03/11 10:22	1
Percent Moisture	9.5		0.10		%			06/03/11 10:22	1



Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: E-TP2-052511-3.0

Lab Sample ID: 580-26451-9

Date Collected: 05/25/11 10:25

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 88.3

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.7		mg/Kg	☼	06/13/11 11:07	06/13/11 19:41	1
Lead	100		1.3		mg/Kg	☼	06/13/11 11:07	06/13/11 19:41	1
Antimony	ND	L	2.7		mg/Kg	☼	06/13/11 11:07	06/13/11 19:41	1
Cadmium	6.2		0.45		mg/Kg	☼	06/13/11 11:07	06/13/11 19:41	1
Copper	28		0.89		mg/Kg	☼	06/13/11 11:07	06/13/11 19:41	1
Manganese	480		0.89		mg/Kg	☼	06/13/11 11:07	06/13/11 19:41	1
Zinc	2400		36		mg/Kg	☼	06/13/11 11:07	06/14/11 16:21	20

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.087		0.017		mg/Kg	☼	06/13/11 09:30	06/13/11 13:40	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88		0.10		%			06/03/11 10:22	1
Percent Moisture	12		0.10		%			06/03/11 10:22	1



Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: M-TP1-052511-0.0-0.5

Lab Sample ID: 580-26451-10

Date Collected: 05/25/11 12:50

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 87.6

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
alpha-BHC	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
beta-BHC	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
delta-BHC	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
4,4'-DDD	2.9		2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
4,4'-DDE	25		2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
4,4'-DDT	14	^	2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
Dieldrin	ND		2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
Endosulfan I	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
Endosulfan II	ND		2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
Endosulfan sulfate	ND		2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
Endrin	ND		2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
Endrin aldehyde	ND		2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
Heptachlor	ND	^	1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
Heptachlor epoxide	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
Methoxychlor	ND		11		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
Endrin ketone	ND		2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
Toxaphene	ND		110		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
alpha-Chlordane	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
gamma-Chlordane	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 17:30	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	73		49 - 123				06/03/11 09:27	06/16/11 17:30	1
<i>DCB Decachlorobiphenyl</i>	44	^	40 - 158				06/03/11 09:27	06/16/11 17:30	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.2		3.1		mg/Kg	☼	06/13/11 11:07	06/13/11 19:45	1
Lead	130		1.5		mg/Kg	☼	06/13/11 11:07	06/13/11 19:45	1
Antimony	ND		3.1		mg/Kg	☼	06/13/11 11:07	06/13/11 19:45	1
Cadmium	2.8		0.51		mg/Kg	☼	06/13/11 11:07	06/13/11 19:45	1
Copper	1300		1.0		mg/Kg	☼	06/13/11 11:07	06/13/11 19:45	1
Manganese	550		1.0		mg/Kg	☼	06/13/11 11:07	06/13/11 19:45	1
Zinc	120		10		mg/Kg	☼	06/13/11 11:07	06/14/11 16:25	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.070		0.017		mg/Kg	☼	06/13/11 09:30	06/13/11 13:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88		0.10		%			06/03/11 09:31	1
Percent Moisture	12		0.10		%			06/03/11 09:31	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: M-TP1-052511-3.0-3.5

Lab Sample ID: 580-26451-11

Date Collected: 05/25/11 12:55

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 79.4

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
alpha-BHC	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
beta-BHC	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
delta-BHC	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
gamma-BHC (Lindane)	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
4,4'-DDD	ND		2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
4,4'-DDE	3.4		2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
4,4'-DDT	ND	^	2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
Dieldrin	ND		2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
Endosulfan I	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
Endosulfan II	ND		2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
Endosulfan sulfate	ND		2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
Endrin	ND		2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
Endrin aldehyde	ND		2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
Heptachlor	ND	^	1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
Heptachlor epoxide	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
Methoxychlor	ND		12		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
Endrin ketone	ND		2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
Toxaphene	ND		120		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
alpha-Chlordane	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
gamma-Chlordane	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 17:49	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	57		49 - 123				06/03/11 09:27	06/16/11 17:49	1
DCB Decachlorobiphenyl	37	X ^ I	40 - 158				06/03/11 09:27	06/16/11 17:49	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.4		3.7		mg/Kg	☼	06/14/11 10:32	06/14/11 19:23	1
Lead	13		1.9		mg/Kg	☼	06/14/11 10:32	06/14/11 19:23	1
Antimony	ND		3.7		mg/Kg	☼	06/14/11 10:32	06/14/11 19:23	1
Cadmium	ND	L	0.62		mg/Kg	☼	06/14/11 10:32	06/14/11 19:23	1
Copper	23		1.2		mg/Kg	☼	06/14/11 10:32	06/14/11 19:23	1
Manganese	430		12		mg/Kg	☼	06/14/11 10:32	06/14/11 19:29	10
Zinc	37		2.5		mg/Kg	☼	06/14/11 10:32	06/14/11 19:23	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.095		0.020		mg/Kg	☼	06/13/11 09:30	06/13/11 13:44	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79		0.10		%			06/03/11 09:31	1
Percent Moisture	21		0.10		%			06/03/11 09:31	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: M-TP1.2-052511-0.0-0.5

Lab Sample ID: 580-26451-12

Date Collected: 05/25/11 13:00

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 88.2

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
alpha-BHC	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
beta-BHC	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
delta-BHC	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
4,4'-DDD	2.9		2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
4,4'-DDE	22		2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
4,4'-DDT	13	^	2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
Dieldrin	ND	^	2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
Endosulfan I	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
Endosulfan II	ND	^	2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
Endosulfan sulfate	ND	^	2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
Endrin	ND		2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
Endrin aldehyde	ND	^	2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
Heptachlor	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
Heptachlor epoxide	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
Methoxychlor	ND	^	11		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
Endrin ketone	ND		2.2		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
Toxaphene	ND	^	110		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
alpha-Chlordane	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
gamma-Chlordane	ND		1.1		ug/Kg	☼	06/03/11 09:27	06/16/11 19:07	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	83		49 - 123				06/03/11 09:27	06/16/11 19:07	1
<i>DCB Decachlorobiphenyl</i>	54	^	40 - 158				06/03/11 09:27	06/16/11 19:07	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10		2.9		mg/Kg	☼	06/14/11 10:32	06/14/11 19:35	1
Lead	130		1.4		mg/Kg	☼	06/14/11 10:32	06/14/11 19:35	1
Antimony	3.7		2.9		mg/Kg	☼	06/14/11 10:32	06/14/11 19:35	1
Cadmium	ND	L	0.48		mg/Kg	☼	06/14/11 10:32	06/14/11 19:35	1
Copper	910		0.96		mg/Kg	☼	06/14/11 10:32	06/14/11 19:35	1
Manganese	560		0.96		mg/Kg	☼	06/14/11 10:32	06/14/11 19:35	1
Zinc	220		1.9		mg/Kg	☼	06/14/11 10:32	06/14/11 19:35	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.088		0.017		mg/Kg	☼	06/13/11 09:30	06/13/11 13:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88		0.10		%			06/03/11 09:31	1
Percent Moisture	12		0.10		%			06/03/11 09:31	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: M-TP2-052511-0.0-0.5

Lab Sample ID: 580-26451-14

Date Collected: 05/25/11 14:15

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 93.8

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
alpha-BHC	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
beta-BHC	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
delta-BHC	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
4,4'-DDD	ND		2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
4,4'-DDE	3.5		2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
4,4'-DDT	19	^	2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
Dieldrin	ND		2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
Endosulfan I	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
Endosulfan II	ND	^	2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
Endosulfan sulfate	ND	^	2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
Endrin	ND		2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
Endrin aldehyde	ND	^	2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
Heptachlor	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
Heptachlor epoxide	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
Methoxychlor	ND	^	10		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
Endrin ketone	ND		2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
Toxaphene	ND	^	100		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
alpha-Chlordane	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
gamma-Chlordane	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 19:27	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	87		49 - 123				06/03/11 09:27	06/16/11 19:27	1
<i>DCB Decachlorobiphenyl</i>	56	^	40 - 158				06/03/11 09:27	06/16/11 19:27	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.3		3.0		mg/Kg	☼	06/14/11 10:32	06/14/11 19:48	1
Lead	160		1.5		mg/Kg	☼	06/14/11 10:32	06/14/11 19:48	1
Antimony	ND		3.0		mg/Kg	☼	06/14/11 10:32	06/14/11 19:48	1
Cadmium	1.4		0.51		mg/Kg	☼	06/14/11 10:32	06/14/11 19:48	1
Copper	67		1.0		mg/Kg	☼	06/14/11 10:32	06/14/11 19:48	1
Manganese	420		10		mg/Kg	☼	06/14/11 10:32	06/14/11 19:54	10
Zinc	490		2.0		mg/Kg	☼	06/14/11 10:32	06/14/11 19:48	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.26		0.018		mg/Kg	☼	06/13/11 09:00	06/13/11 12:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	94		0.10		%			06/03/11 09:31	1
Percent Moisture	6.2		0.10		%			06/03/11 09:31	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: M-TP2-052511-3.5-4.0

Lab Sample ID: 580-26451-15

Date Collected: 05/25/11 14:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 77.0

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	5.4		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
alpha-BHC	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
beta-BHC	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
delta-BHC	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
gamma-BHC (Lindane)	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
4,4'-DDD	4.9		2.6		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
4,4'-DDE	8.9		2.6		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
4,4'-DDT	3.8	^	2.6		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
Dieldrin	14		2.6		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
Endosulfan I	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
Endosulfan II	ND	^	2.6		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
Endosulfan sulfate	ND	^	2.6		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
Endrin	ND		2.6		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
Endrin aldehyde	ND	^	2.6		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
Heptachlor	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
Heptachlor epoxide	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
Methoxychlor	ND	^	13		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
Endrin ketone	ND		2.6		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
Toxaphene	ND	^	130		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
alpha-Chlordane	1.8	p	1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
gamma-Chlordane	2.2		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 19:46	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	39	X I	49 - 123				06/03/11 09:27	06/16/11 19:46	1
DCB Decachlorobiphenyl	17	X ^ I	40 - 158				06/03/11 09:27	06/16/11 19:46	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	77		0.10		%			06/03/11 09:31	1
Percent Moisture	23		0.10		%			06/03/11 09:31	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: D-TP1-052511-4.5

Lab Sample ID: 580-26451-16

Date Collected: 05/25/11 15:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 76.1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
alpha-BHC	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
beta-BHC	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
delta-BHC	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
gamma-BHC (Lindane)	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
4,4'-DDD	ND		2.5		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
4,4'-DDE	ND		2.5		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
4,4'-DDT	ND	^	2.5		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
Dieldrin	ND		2.5		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
Endosulfan I	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
Endosulfan II	ND	^	2.5		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
Endosulfan sulfate	ND	^	2.5		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
Endrin	ND		2.5		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
Endrin aldehyde	ND	^	2.5		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
Heptachlor	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
Heptachlor epoxide	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
Methoxychlor	ND	^	13		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
Endrin ketone	ND		2.5		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
Toxaphene	ND	^	130		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
alpha-Chlordane	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
gamma-Chlordane	ND		1.3		ug/Kg	☼	06/03/11 09:27	06/16/11 20:06	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	59		49 - 123				06/03/11 09:27	06/16/11 20:06	1
DCB Decachlorobiphenyl	25	X ^ I	40 - 158				06/03/11 09:27	06/16/11 20:06	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.5		mg/Kg	☼	06/14/11 10:32	06/14/11 20:21	1
Lead	20		1.8		mg/Kg	☼	06/14/11 10:32	06/14/11 20:21	1
Antimony	ND		3.5		mg/Kg	☼	06/14/11 10:32	06/14/11 20:21	1
Cadmium	ND	L	0.59		mg/Kg	☼	06/14/11 10:32	06/14/11 20:21	1
Copper	27		1.2		mg/Kg	☼	06/14/11 10:32	06/14/11 20:21	1
Manganese	370		1.2		mg/Kg	☼	06/14/11 10:32	06/14/11 20:21	1
Zinc	340		2.4		mg/Kg	☼	06/14/11 10:32	06/14/11 20:21	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10		0.021		mg/Kg	☼	06/13/11 09:00	06/13/11 12:16	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	76		0.10		%			06/03/11 09:31	1
Percent Moisture	24		0.10		%			06/03/11 09:31	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: D-TP1-052511-5.5

Lab Sample ID: 580-26451-17

Date Collected: 05/25/11 15:45

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 55.5

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.8		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
alpha-BHC	ND		1.8		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
beta-BHC	ND		1.8		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
delta-BHC	ND		1.8		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
gamma-BHC (Lindane)	ND		1.8		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
4,4'-DDD	ND		3.6		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
4,4'-DDE	ND		3.6		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
4,4'-DDT	ND	^	3.6		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
Dieldrin	ND		3.6		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
Endosulfan I	ND		1.8		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
Endosulfan II	ND	^	3.6		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
Endosulfan sulfate	ND	^	3.6		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
Endrin	ND		3.6		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
Endrin aldehyde	ND	^	3.6		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
Heptachlor	ND		1.8		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
Heptachlor epoxide	ND		1.8		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
Methoxychlor	ND	^	18		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
Endrin ketone	ND		3.6		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
Toxaphene	ND	^	180		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
alpha-Chlordane	ND		1.8		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
gamma-Chlordane	ND		1.8		ug/Kg	☼	06/03/11 09:27	06/16/11 20:25	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	20	X	49 - 123				06/03/11 09:27	06/16/11 20:25	1
DCB Decachlorobiphenyl	7	X ^ I	40 - 158				06/03/11 09:27	06/16/11 20:25	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.3		mg/Kg	☼	06/14/11 10:32	06/14/11 20:34	1
Lead	1000		2.7		mg/Kg	☼	06/14/11 10:32	06/14/11 20:34	1
Antimony	ND		5.3		mg/Kg	☼	06/14/11 10:32	06/14/11 20:34	1
Cadmium	88		0.89		mg/Kg	☼	06/14/11 10:32	06/14/11 20:34	1
Copper	74		1.8		mg/Kg	☼	06/14/11 10:32	06/14/11 20:34	1
Manganese	410		1.8		mg/Kg	☼	06/14/11 10:32	06/14/11 20:34	1
Zinc	7000		36		mg/Kg	☼	06/14/11 10:32	06/14/11 20:40	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.43		0.024		mg/Kg	☼	06/13/11 09:00	06/13/11 12:18	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	56		0.10		%			06/03/11 09:31	1
Percent Moisture	44		0.10		%			06/03/11 09:31	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: J-TP3-052511-0.5-1.0

Lab Sample ID: 580-26451-18

Date Collected: 05/25/11 16:40

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 94.7

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
alpha-BHC	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
beta-BHC	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
delta-BHC	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
4,4'-DDD	ND		2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
4,4'-DDE	ND		2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
4,4'-DDT	ND	^	2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
Dieldrin	ND		2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
Endosulfan I	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
Endosulfan II	ND	^	2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
Endosulfan sulfate	ND	^	2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
Endrin	ND		2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
Endrin aldehyde	ND	^	2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
Heptachlor	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
Heptachlor epoxide	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
Methoxychlor	ND	^	10		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
Endrin ketone	ND		2.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
Toxaphene	ND	^	100		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
alpha-Chlordane	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
gamma-Chlordane	ND		1.0		ug/Kg	☼	06/03/11 09:27	06/16/11 20:44	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	101		49 - 123				06/03/11 09:27	06/16/11 20:44	1
DCB Decachlorobiphenyl	72	^	40 - 158				06/03/11 09:27	06/16/11 20:44	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	95		0.10		%			06/03/11 09:31	1
Percent Moisture	5.3		0.10		%			06/03/11 09:31	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: J-TP3-052511-1.5-2.0

Lab Sample ID: 580-26451-19

Date Collected: 05/25/11 16:45

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 89.1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.5		2.8		mg/Kg	*	06/14/11 10:32	06/14/11 20:47	1
Lead	600		1.4		mg/Kg	*	06/14/11 10:32	06/14/11 20:47	1
Antimony	ND		2.8		mg/Kg	*	06/14/11 10:32	06/14/11 20:47	1
Cadmium	0.48		0.47		mg/Kg	*	06/14/11 10:32	06/14/11 20:47	1
Copper	29		0.93		mg/Kg	*	06/14/11 10:32	06/14/11 20:47	1
Manganese	300		0.93		mg/Kg	*	06/14/11 10:32	06/14/11 20:47	1
Zinc	480		1.9		mg/Kg	*	06/14/11 10:32	06/14/11 20:47	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.17		0.016		mg/Kg	*	06/13/11 09:00	06/13/11 12:19	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89		0.10		%			06/03/11 10:22	1
Percent Moisture	11		0.10		%			06/03/11 10:22	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: J-TP3-052511-3.5-4.0

Lab Sample ID: 580-26451-20

Date Collected: 05/25/11 16:50

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 61.3

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.6		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
alpha-BHC	ND		1.6		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
beta-BHC	ND		1.6		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
delta-BHC	ND		1.6		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
gamma-BHC (Lindane)	ND		1.6		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
4,4'-DDD	ND		3.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
4,4'-DDE	ND		3.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
4,4'-DDT	ND	^	3.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
Dieldrin	ND		3.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
Endosulfan I	ND		1.6		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
Endosulfan II	ND	^	3.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
Endosulfan sulfate	ND	^	3.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
Endrin	ND		3.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
Endrin aldehyde	ND	^	3.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
Heptachlor	ND		1.6		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
Heptachlor epoxide	ND		1.6		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
Methoxychlor	ND	^	16		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
Endrin ketone	ND		3.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
Toxaphene	ND	^	160		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
alpha-Chlordane	ND		1.6		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
gamma-Chlordane	ND		1.6		ug/Kg	*	06/03/11 09:27	06/16/11 21:04	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	49		49 - 123				06/03/11 09:27	06/16/11 21:04	1
DCB Decachlorobiphenyl	21	X ^ I	40 - 158				06/03/11 09:27	06/16/11 21:04	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	61		0.10		%			06/03/11 09:31	1
Percent Moisture	39		0.10		%			06/03/11 09:31	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP1-052611-0.0-0.5

Lab Sample ID: 580-26451-21

Date Collected: 05/26/11 07:05

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 92.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Chloromethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Vinyl chloride	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Bromomethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Chloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Trichlorofluoromethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,1-Dichloroethene	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Methylene Chloride	ND		14		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
trans-1,2-Dichloroethene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,1-Dichloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
2,2-Dichloropropane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
cis-1,2-Dichloroethene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Chlorobromomethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Chloroform	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,1,1-Trichloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Carbon tetrachloride	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,1-Dichloropropene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Benzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,2-Dichloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Trichloroethene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,2-Dichloropropane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Dibromomethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Dichlorobromomethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
cis-1,3-Dichloropropene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Toluene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
trans-1,3-Dichloropropene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,1,2-Trichloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Tetrachloroethene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,3-Dichloropropane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Chlorodibromomethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Ethylene Dibromide	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Chlorobenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Ethylbenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,1,1,2-Tetrachloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,1,2,2-Tetrachloroethane	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
m-Xylene & p-Xylene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
o-Xylene	2.1		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Styrene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Bromoform	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Isopropylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Bromobenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
N-Propylbenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,2,3-Trichloropropane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
2-Chlorotoluene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,3,5-Trimethylbenzene	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
4-Chlorotoluene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
tert-Butylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,2,4-Trimethylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
sec-Butylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,3-Dichlorobenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP1-052611-0.0-0.5

Lab Sample ID: 580-26451-21

Date Collected: 05/26/11 07:05

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 92.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,4-Dichlorobenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
n-Butylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,2-Dichlorobenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,2-Dibromo-3-Chloropropane	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,2,4-Trichlorobenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
1,2,3-Trichlorobenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Hexachlorobutadiene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Naphthalene	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Methyl tert-butyl ether	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Carbon disulfide	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Acetone	ND		14		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
4-Methyl-2-pentanone	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
2-Butanone	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 21:24	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	103		80 - 120				06/09/11 09:59	06/09/11 21:24	1
Toluene-d8 (Surr)	97		80 - 120				06/09/11 09:59	06/09/11 21:24	1
Ethylbenzene-d10	116		70 - 120				06/09/11 09:59	06/09/11 21:24	1
4-Bromofluorobenzene (Surr)	106		70 - 120				06/09/11 09:59	06/09/11 21:24	1
Trifluorotoluene (Surr)	98		65 - 140				06/09/11 09:59	06/09/11 21:24	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
alpha-BHC	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
beta-BHC	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
delta-BHC	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
4,4'-DDD	ND		2.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
4,4'-DDE	7.5		2.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
4,4'-DDT	12	^	2.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
Dieldrin	ND	^	2.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
Endosulfan I	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
Endosulfan II	ND	^	2.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
Endosulfan sulfate	ND	^	2.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
Endrin	ND		2.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
Endrin aldehyde	ND	^	2.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
Heptachlor	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
Heptachlor epoxide	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
Methoxychlor	ND	^	11		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
Endrin ketone	ND		2.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
Toxaphene	ND	^	110		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
alpha-Chlordane	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
gamma-Chlordane	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 21:23	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	93		49 - 123				06/03/11 09:27	06/16/11 21:23	1
DCB Decachlorobiphenyl	59	^	40 - 158				06/03/11 09:27	06/16/11 21:23	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP1-052611-0.0-0.5

Lab Sample ID: 580-26451-21

Date Collected: 05/26/11 07:05

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 92.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.7		mg/Kg	☼	06/10/11 13:06	06/10/11 17:14	1
Lead	72		1.3		mg/Kg	☼	06/10/11 13:06	06/10/11 17:14	1
Antimony	3.3		2.7		mg/Kg	☼	06/10/11 13:06	06/10/11 17:14	1
Cadmium	1.0		0.45		mg/Kg	☼	06/10/11 13:06	06/10/11 17:14	1
Copper	360		8.9		mg/Kg	☼	06/10/11 13:06	06/13/11 20:22	10
Manganese	440		0.89		mg/Kg	☼	06/10/11 13:06	06/10/11 17:14	1
Zinc	270		18		mg/Kg	☼	06/10/11 13:06	06/13/11 20:22	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.048		0.017		mg/Kg	☼	06/13/11 09:00	06/13/11 12:25	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92		0.10		%			06/03/11 09:31	1
Percent Moisture	8.0		0.10		%			06/03/11 09:31	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP1-052611-3.5-4.0

Lab Sample ID: 580-26451-22

Date Collected: 05/26/11 07:10

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 79.9

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Chloromethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Vinyl chloride	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Bromomethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Chloroethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Trichlorofluoromethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,1-Dichloroethene	ND		5.3		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Methylene Chloride	ND		16		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
trans-1,2-Dichloroethene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,1-Dichloroethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
2,2-Dichloropropane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
cis-1,2-Dichloroethene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Chlorobromomethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Chloroform	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,1,1-Trichloroethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Carbon tetrachloride	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,1-Dichloropropene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Benzene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,2-Dichloroethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Trichloroethene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,2-Dichloropropane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Dibromomethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Dichlorobromomethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
cis-1,3-Dichloropropene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Toluene	ND		2.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
trans-1,3-Dichloropropene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,1,2-Trichloroethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Tetrachloroethene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,3-Dichloropropane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Chlorodibromomethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Ethylene Dibromide	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Chlorobenzene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Ethylbenzene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,1,1,2-Tetrachloroethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,1,2,2-Tetrachloroethane	ND		2.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
m-Xylene & p-Xylene	ND		2.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
o-Xylene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Styrene	ND		2.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Bromoform	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Isopropylbenzene	ND		2.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Bromobenzene	ND		2.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
N-Propylbenzene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,2,3-Trichloropropane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
2-Chlorotoluene	ND		2.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,3,5-Trimethylbenzene	ND		5.3		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
4-Chlorotoluene	ND		2.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
tert-Butylbenzene	ND		2.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,2,4-Trimethylbenzene	ND		2.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
sec-Butylbenzene	ND		2.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,3-Dichlorobenzene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP1-052611-3.5-4.0

Lab Sample ID: 580-26451-22

Date Collected: 05/26/11 07:10

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 79.9

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		2.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,4-Dichlorobenzene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
n-Butylbenzene	ND		2.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,2-Dichlorobenzene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,2-Dibromo-3-Chloropropane	ND		2.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,2,4-Trichlorobenzene	ND		2.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
1,2,3-Trichlorobenzene	ND		2.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Hexachlorobutadiene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Naphthalene	ND		5.3		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Methyl tert-butyl ether	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Carbon disulfide	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Acetone	ND		16		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
4-Methyl-2-pentanone	ND		5.3		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
2-Butanone	ND		5.3		ug/Kg	*	06/09/11 09:59	06/09/11 21:49	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	102		80 - 120				06/09/11 09:59	06/09/11 21:49	1
Toluene-d8 (Surr)	96		80 - 120				06/09/11 09:59	06/09/11 21:49	1
Ethylbenzene-d10	117		70 - 120				06/09/11 09:59	06/09/11 21:49	1
4-Bromofluorobenzene (Surr)	103		70 - 120				06/09/11 09:59	06/09/11 21:49	1
Trifluorotoluene (Surr)	94		65 - 140				06/09/11 09:59	06/09/11 21:49	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
alpha-BHC	ND		1.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
beta-BHC	ND		1.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
delta-BHC	ND		1.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
gamma-BHC (Lindane)	ND		1.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
4,4'-DDD	6.4		2.3		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
4,4'-DDE	22		2.3		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
4,4'-DDT	5.5	^	2.3		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
Dieldrin	ND		2.3		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
Endosulfan I	ND		1.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
Endosulfan II	ND	^	2.3		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
Endosulfan sulfate	ND	^	2.3		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
Endrin	ND		2.3		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
Endrin aldehyde	ND	^	2.3		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
Heptachlor	ND		1.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
Heptachlor epoxide	ND		1.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
Methoxychlor	ND	^	12		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
Endrin ketone	ND		2.3		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
Toxaphene	ND	^	120		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
alpha-Chlordane	1.7		1.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
gamma-Chlordane	1.9		1.2		ug/Kg	*	06/03/11 09:27	06/16/11 21:43	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	74		49 - 123				06/03/11 09:27	06/16/11 21:43	1
DCB Decachlorobiphenyl	36	X ^ I	40 - 158				06/03/11 09:27	06/16/11 21:43	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP1-052611-3.5-4.0

Lab Sample ID: 580-26451-22

Date Collected: 05/26/11 07:10

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 79.9

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.1		2.8		mg/Kg	*	06/10/11 13:06	06/10/11 17:41	1
Lead	36		1.4		mg/Kg	*	06/10/11 13:06	06/10/11 17:41	1
Antimony	ND		2.8		mg/Kg	*	06/10/11 13:06	06/10/11 17:41	1
Cadmium	ND		0.46		mg/Kg	*	06/10/11 13:06	06/10/11 17:41	1
Copper	23		0.92		mg/Kg	*	06/10/11 13:06	06/10/11 17:41	1
Manganese	420		0.92		mg/Kg	*	06/10/11 13:06	06/10/11 17:41	1
Zinc	82		9.2		mg/Kg	*	06/10/11 13:06	06/13/11 20:44	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.086		0.018		mg/Kg	*	06/13/11 09:00	06/13/11 12:27	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	80		0.10		%			06/03/11 09:31	1
Percent Moisture	20		0.10		%			06/03/11 09:31	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP2-052611-1.0-1.5

Lab Sample ID: 580-26451-23

Date Collected: 05/26/11 08:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 92.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Chloromethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Vinyl chloride	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Bromomethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Chloroethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Trichlorofluoromethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,1-Dichloroethene	ND		5.5		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Methylene Chloride	ND		16		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
trans-1,2-Dichloroethene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,1-Dichloroethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
2,2-Dichloropropane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
cis-1,2-Dichloroethene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Chlorobromomethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Chloroform	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,1,1-Trichloroethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Carbon tetrachloride	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,1-Dichloropropene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Benzene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,2-Dichloroethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Trichloroethene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,2-Dichloropropane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Dibromomethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Dichlorobromomethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
cis-1,3-Dichloropropene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Toluene	ND		2.2		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
trans-1,3-Dichloropropene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,1,2-Trichloroethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Tetrachloroethene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,3-Dichloropropane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Chlorodibromomethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Ethylene Dibromide	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Chlorobenzene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Ethylbenzene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,1,1,2-Tetrachloroethane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,1,2,2-Tetrachloroethane	ND		2.2		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
m-Xylene & p-Xylene	ND		2.2		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
o-Xylene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Styrene	ND		2.2		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Bromoform	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Isopropylbenzene	ND		2.2		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Bromobenzene	ND		2.2		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
N-Propylbenzene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,2,3-Trichloropropane	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
2-Chlorotoluene	ND		2.2		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,3,5-Trimethylbenzene	ND		5.5		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
4-Chlorotoluene	ND		2.2		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
tert-Butylbenzene	ND		2.2		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,2,4-Trimethylbenzene	ND		2.2		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
sec-Butylbenzene	ND		2.2		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,3-Dichlorobenzene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP2-052611-1.0-1.5

Lab Sample ID: 580-26451-23

Date Collected: 05/26/11 08:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 92.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		2.2		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,4-Dichlorobenzene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
n-Butylbenzene	ND		2.2		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,2-Dichlorobenzene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,2-Dibromo-3-Chloropropane	ND		2.2		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,2,4-Trichlorobenzene	ND		2.2		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
1,2,3-Trichlorobenzene	ND		2.2		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Hexachlorobutadiene	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Naphthalene	ND		5.5		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Methyl tert-butyl ether	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Carbon disulfide	ND		1.1		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Acetone	ND		16		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
4-Methyl-2-pentanone	ND		5.5		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
2-Butanone	ND		5.5		ug/Kg	*	06/09/11 09:59	06/09/11 22:13	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	101		80 - 120				06/09/11 09:59	06/09/11 22:13	1
Toluene-d8 (Surr)	98		80 - 120				06/09/11 09:59	06/09/11 22:13	1
Ethylbenzene-d10	125	X	70 - 120				06/09/11 09:59	06/09/11 22:13	1
4-Bromofluorobenzene (Surr)	107		70 - 120				06/09/11 09:59	06/09/11 22:13	1
Trifluorotoluene (Surr)	86		65 - 140				06/09/11 09:59	06/09/11 22:13	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
alpha-BHC	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
beta-BHC	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
delta-BHC	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
4,4'-DDD	ND		2.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
4,4'-DDE	13		2.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
4,4'-DDT	26	^	2.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
Dieldrin	4.0		2.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
Endosulfan I	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
Endosulfan II	ND	^	2.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
Endosulfan sulfate	ND	^	2.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
Endrin	ND		2.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
Endrin aldehyde	ND	^	2.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
Heptachlor	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
Heptachlor epoxide	ND		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
Methoxychlor	ND	^	11		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
Endrin ketone	ND		2.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
Toxaphene	ND	^	110		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
alpha-Chlordane	2.8		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
gamma-Chlordane	1.9		1.1		ug/Kg	*	06/03/11 09:27	06/16/11 22:02	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	90		49 - 123				06/03/11 09:27	06/16/11 22:02	1
DCB Decachlorobiphenyl	48	^	40 - 158				06/03/11 09:27	06/16/11 22:02	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP2-052611-1.0-1.5

Lab Sample ID: 580-26451-23

Date Collected: 05/26/11 08:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 92.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.1		2.7		mg/Kg	☼	06/10/11 13:06	06/10/11 17:45	1
Lead	110		1.3		mg/Kg	☼	06/10/11 13:06	06/10/11 17:45	1
Antimony	ND		2.7		mg/Kg	☼	06/10/11 13:06	06/10/11 17:45	1
Cadmium	1.1		0.45		mg/Kg	☼	06/10/11 13:06	06/10/11 17:45	1
Copper	39		0.90		mg/Kg	☼	06/10/11 13:06	06/10/11 17:45	1
Manganese	460		0.90		mg/Kg	☼	06/10/11 13:06	06/10/11 17:45	1
Zinc	350		9.0		mg/Kg	☼	06/10/11 13:06	06/13/11 20:47	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.13		0.015		mg/Kg	☼	06/13/11 09:00	06/13/11 12:28	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92		0.10		%			06/03/11 09:31	1
Percent Moisture	7.9		0.10		%			06/03/11 09:31	1



Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP2-052611-2.0-2.5

Lab Sample ID: 580-26451-24

Date Collected: 05/26/11 08:25

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 82.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Chloromethane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Vinyl chloride	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Bromomethane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Chloroethane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Trichlorofluoromethane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,1-Dichloroethene	ND	H	5.7		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Methylene Chloride	ND	H	17		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
trans-1,2-Dichloroethene	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,1-Dichloroethane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
2,2-Dichloropropane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
cis-1,2-Dichloroethene	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Chlorobromomethane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Chloroform	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,1,1-Trichloroethane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Carbon tetrachloride	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,1-Dichloropropene	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Benzene	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,2-Dichloroethane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Trichloroethene	2.0	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,2-Dichloropropane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Dibromomethane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Dichlorobromomethane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
cis-1,3-Dichloropropene	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Toluene	4.2	H	2.3		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
trans-1,3-Dichloropropene	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,1,2-Trichloroethane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Tetrachloroethene	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,3-Dichloropropane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Chlorodibromomethane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Ethylene Dibromide	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Chlorobenzene	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Ethylbenzene	2.4	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,1,1,2-Tetrachloroethane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,1,2,2-Tetrachloroethane	ND	H	2.3		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
m-Xylene & p-Xylene	11	H	2.3		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
o-Xylene	4.0	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Styrene	ND	H	2.3		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Bromoform	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Isopropylbenzene	ND	H	2.3		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Bromobenzene	ND	H	2.3		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
N-Propylbenzene	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,2,3-Trichloropropane	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
2-Chlorotoluene	ND	H	2.3		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,3,5-Trimethylbenzene	ND	H	5.7		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
4-Chlorotoluene	ND	H	2.3		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
tert-Butylbenzene	ND	H	2.3		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,2,4-Trimethylbenzene	ND	H	2.3		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
sec-Butylbenzene	ND	H	2.3		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,3-Dichlorobenzene	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP2-052611-2.0-2.5

Lab Sample ID: 580-26451-24

Date Collected: 05/26/11 08:25

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 82.4

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND	H	2.3		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,4-Dichlorobenzene	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
n-Butylbenzene	ND	H	2.3		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,2-Dichlorobenzene	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,2-Dibromo-3-Chloropropane	ND	H	2.3		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,2,4-Trichlorobenzene	ND	H	2.3		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
1,2,3-Trichlorobenzene	ND	H	2.3		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Hexachlorobutadiene	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Naphthalene	ND	H	5.7		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Methyl tert-butyl ether	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Carbon disulfide	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Acetone	ND	H	17		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
4-Methyl-2-pentanone	ND	H	5.7		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
2-Butanone	ND	H	5.7		ug/Kg	☼	06/09/11 09:59	06/10/11 00:37	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	100		80 - 120				06/09/11 09:59	06/10/11 00:37	1
Toluene-d8 (Surr)	95		80 - 120				06/09/11 09:59	06/10/11 00:37	1
Ethylbenzene-d10	108		70 - 120				06/09/11 09:59	06/10/11 00:37	1
4-Bromofluorobenzene (Surr)	97		70 - 120				06/09/11 09:59	06/10/11 00:37	1
Trifluorotoluene (Surr)	92		65 - 140				06/09/11 09:59	06/10/11 00:37	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
alpha-BHC	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
beta-BHC	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
delta-BHC	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
gamma-BHC (Lindane)	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
4,4'-DDD	ND		2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
4,4'-DDE	5.6		2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
4,4'-DDT	4.5	^	2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
Dieldrin	ND		2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
Endosulfan I	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
Endosulfan II	ND		2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
Endosulfan sulfate	ND	^	2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
Endrin	ND		2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
Endrin aldehyde	ND	^	2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
Heptachlor	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
Heptachlor epoxide	ND	^	1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
Methoxychlor	ND	^	12		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
Endrin ketone	ND	^	2.4		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
Toxaphene	ND	^	120		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
alpha-Chlordane	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
gamma-Chlordane	ND		1.2		ug/Kg	☼	06/03/11 09:27	06/16/11 23:20	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	71		49 - 123				06/03/11 09:27	06/16/11 23:20	1
DCB Decachlorobiphenyl	30	X ^ I	40 - 158				06/03/11 09:27	06/16/11 23:20	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP2-052611-2.0-2.5

Lab Sample ID: 580-26451-24

Date Collected: 05/26/11 08:25

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 82.4

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.3		mg/Kg	☼	06/10/11 13:06	06/10/11 17:49	1
Lead	84		1.7		mg/Kg	☼	06/10/11 13:06	06/10/11 17:49	1
Antimony	ND		3.3		mg/Kg	☼	06/10/11 13:06	06/10/11 17:49	1
Cadmium	ND		0.55		mg/Kg	☼	06/10/11 13:06	06/10/11 17:49	1
Copper	24		1.1		mg/Kg	☼	06/10/11 13:06	06/10/11 17:49	1
Manganese	530		1.1		mg/Kg	☼	06/10/11 13:06	06/10/11 17:49	1
Zinc	200		11		mg/Kg	☼	06/10/11 13:06	06/13/11 20:50	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.19		0.018		mg/Kg	☼	06/13/11 09:00	06/13/11 12:30	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82		0.10		%			06/03/11 09:31	1
Percent Moisture	18		0.10		%			06/03/11 09:31	1



Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP3-052611-0.0-0.5

Lab Sample ID: 580-26451-26

Date Collected: 05/26/11 09:45

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 92.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Chloromethane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Vinyl chloride	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Bromomethane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Chloroethane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Trichlorofluoromethane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
1,1-Dichloroethene	ND	H	5.6		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Methylene Chloride	ND	H	17		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
trans-1,2-Dichloroethene	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
1,1-Dichloroethane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
2,2-Dichloropropane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
cis-1,2-Dichloroethene	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Chlorobromomethane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Chloroform	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
1,1,1-Trichloroethane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Carbon tetrachloride	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
1,1-Dichloropropene	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Benzene	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
1,2-Dichloroethane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Trichloroethene	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
1,2-Dichloropropane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Dibromomethane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Dichlorobromomethane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
cis-1,3-Dichloropropene	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Toluene	ND	H	2.2		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
trans-1,3-Dichloropropene	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
1,1,2-Trichloroethane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Tetrachloroethene	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
1,3-Dichloropropane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Chlorodibromomethane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Ethylene Dibromide	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Chlorobenzene	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Ethylbenzene	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
1,1,1,2-Tetrachloroethane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
1,1,2,2-Tetrachloroethane	ND	H	2.2		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
m-Xylene & p-Xylene	ND	H	2.2		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
o-Xylene	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Styrene	ND	H	2.2		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Bromoform	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Isopropylbenzene	ND	H	2.2		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
Bromobenzene	ND	H	2.2		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
N-Propylbenzene	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
1,2,3-Trichloropropane	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
2-Chlorotoluene	ND	H	2.2		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
1,3,5-Trimethylbenzene	ND	H	5.6		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
4-Chlorotoluene	ND	H	2.2		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
tert-Butylbenzene	ND	H	2.2		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
1,2,4-Trimethylbenzene	ND	H	2.2		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
sec-Butylbenzene	ND	H	2.2		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1
1,3-Dichlorobenzene	ND	H	1.1		ug/Kg	*	06/09/11 09:59	06/10/11 01:01	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP3-052611-0.0-0.5

Lab Sample ID: 580-26451-26

Date Collected: 05/26/11 09:45

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 92.8

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND	H	2.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:01	1
1,4-Dichlorobenzene	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 01:01	1
n-Butylbenzene	ND	H	2.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:01	1
1,2-Dichlorobenzene	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 01:01	1
1,2-Dibromo-3-Chloropropane	ND	H	2.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:01	1
1,2,4-Trichlorobenzene	ND	H	2.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:01	1
1,2,3-Trichlorobenzene	ND	H	2.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:01	1
Hexachlorobutadiene	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 01:01	1
Naphthalene	ND	H	5.6		ug/Kg	☼	06/09/11 09:59	06/10/11 01:01	1
Methyl tert-butyl ether	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 01:01	1
Carbon disulfide	ND	H	1.1		ug/Kg	☼	06/09/11 09:59	06/10/11 01:01	1
Acetone	ND	H	17		ug/Kg	☼	06/09/11 09:59	06/10/11 01:01	1
4-Methyl-2-pentanone	ND	H	5.6		ug/Kg	☼	06/09/11 09:59	06/10/11 01:01	1
2-Butanone	ND	H	5.6		ug/Kg	☼	06/09/11 09:59	06/10/11 01:01	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	103		80 - 120				06/09/11 09:59	06/10/11 01:01	1
Toluene-d8 (Surr)	99		80 - 120				06/09/11 09:59	06/10/11 01:01	1
Ethylbenzene-d10	123	X	70 - 120				06/09/11 09:59	06/10/11 01:01	1
4-Bromofluorobenzene (Surr)	114		70 - 120				06/09/11 09:59	06/10/11 01:01	1
Trifluorotoluene (Surr)	84		65 - 140				06/09/11 09:59	06/10/11 01:01	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.0		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
alpha-BHC	ND		1.0		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
beta-BHC	ND		1.0		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
delta-BHC	ND		1.0		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
4,4'-DDD	3.0		2.1		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
4,4'-DDE	4.4		2.1		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
4,4'-DDT	3.1		2.1		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
Dieldrin	3.0		2.1		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
Endosulfan I	ND		1.0		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
Endosulfan II	ND		2.1		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
Endosulfan sulfate	ND		2.1		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
Endrin	ND		2.1		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
Endrin aldehyde	ND		2.1		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
Heptachlor	ND		1.0		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
Heptachlor epoxide	ND		1.0		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
Methoxychlor	ND		10		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
Endrin ketone	ND		2.1		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
Toxaphene	ND		100		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
alpha-Chlordane	3.2		1.0		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
gamma-Chlordane	3.8		1.0		ug/Kg	☼	06/07/11 09:42	06/15/11 10:42	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	64		49 - 123				06/07/11 09:42	06/15/11 10:42	1
DCB Decachlorobiphenyl	47		40 - 158				06/07/11 09:42	06/15/11 10:42	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP3-052611-0.0-0.5

Lab Sample ID: 580-26451-26

Date Collected: 05/26/11 09:45

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 92.8

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.3		2.5		mg/Kg	☼	06/10/11 13:06	06/10/11 17:53	1
Lead	42		1.3		mg/Kg	☼	06/10/11 13:06	06/10/11 17:53	1
Antimony	ND		2.5		mg/Kg	☼	06/10/11 13:06	06/10/11 17:53	1
Cadmium	0.76		0.42		mg/Kg	☼	06/10/11 13:06	06/10/11 17:53	1
Copper	25		0.84		mg/Kg	☼	06/10/11 13:06	06/10/11 17:53	1
Manganese	400		0.84		mg/Kg	☼	06/10/11 13:06	06/10/11 17:53	1
Zinc	150		8.4		mg/Kg	☼	06/10/11 13:06	06/13/11 20:53	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.054		0.018		mg/Kg	☼	06/13/11 09:00	06/13/11 12:32	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93		0.10		%			06/03/11 10:22	1
Percent Moisture	7.2		0.10		%			06/03/11 10:22	1



Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP3-052611-3.5-4.0

Lab Sample ID: 580-26451-28

Date Collected: 05/26/11 09:55

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 88.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Chloromethane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Vinyl chloride	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Bromomethane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Chloroethane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Trichlorofluoromethane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
1,1-Dichloroethene	ND		4.7		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Methylene Chloride	ND		14		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
trans-1,2-Dichloroethene	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
1,1-Dichloroethane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
2,2-Dichloropropane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
cis-1,2-Dichloroethene	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Chlorobromomethane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Chloroform	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
1,1,1-Trichloroethane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Carbon tetrachloride	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
1,1-Dichloropropene	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Benzene	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
1,2-Dichloroethane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Trichloroethene	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
1,2-Dichloropropane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Dibromomethane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Dichlorobromomethane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
cis-1,3-Dichloropropene	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Toluene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
trans-1,3-Dichloropropene	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
1,1,2-Trichloroethane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Tetrachloroethene	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
1,3-Dichloropropane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Chlorodibromomethane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Ethylene Dibromide	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Chlorobenzene	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Ethylbenzene	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
1,1,1,2-Tetrachloroethane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
1,1,2,2-Tetrachloroethane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
m-Xylene & p-Xylene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
o-Xylene	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Styrene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Bromoform	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Isopropylbenzene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
Bromobenzene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
N-Propylbenzene	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
1,2,3-Trichloropropane	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
2-Chlorotoluene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
1,3,5-Trimethylbenzene	ND		4.7		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
4-Chlorotoluene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
tert-Butylbenzene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
1,2,4-Trimethylbenzene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
sec-Butylbenzene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1
1,3-Dichlorobenzene	ND		0.93		ug/Kg	☼	06/09/11 09:59	06/09/11 22:37	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP3-052611-3.5-4.0

Lab Sample ID: 580-26451-28

Date Collected: 05/26/11 09:55

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 88.1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 22:37	1
1,4-Dichlorobenzene	ND		0.93		ug/Kg	*	06/09/11 09:59	06/09/11 22:37	1
n-Butylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 22:37	1
1,2-Dichlorobenzene	ND		0.93		ug/Kg	*	06/09/11 09:59	06/09/11 22:37	1
1,2-Dibromo-3-Chloropropane	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 22:37	1
1,2,4-Trichlorobenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 22:37	1
1,2,3-Trichlorobenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 22:37	1
Hexachlorobutadiene	ND		0.93		ug/Kg	*	06/09/11 09:59	06/09/11 22:37	1
Naphthalene	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 22:37	1
Methyl tert-butyl ether	ND		0.93		ug/Kg	*	06/09/11 09:59	06/09/11 22:37	1
Carbon disulfide	ND		0.93		ug/Kg	*	06/09/11 09:59	06/09/11 22:37	1
Acetone	ND		14		ug/Kg	*	06/09/11 09:59	06/09/11 22:37	1
4-Methyl-2-pentanone	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 22:37	1
2-Butanone	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 22:37	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	102		80 - 120				06/09/11 09:59	06/09/11 22:37	1
Toluene-d8 (Surr)	98		80 - 120				06/09/11 09:59	06/09/11 22:37	1
Ethylbenzene-d10	107		70 - 120				06/09/11 09:59	06/09/11 22:37	1
4-Bromofluorobenzene (Surr)	99		70 - 120				06/09/11 09:59	06/09/11 22:37	1
Trifluorotoluene (Surr)	87		65 - 140				06/09/11 09:59	06/09/11 22:37	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
alpha-BHC	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
beta-BHC	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
delta-BHC	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
4,4'-DDD	6.5		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
4,4'-DDE	4.2		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
4,4'-DDT	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
Dieldrin	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
Endosulfan I	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
Endosulfan II	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
Endosulfan sulfate	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
Endrin	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
Endrin aldehyde	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
Heptachlor	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
Heptachlor epoxide	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
Methoxychlor	ND		11		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
Endrin ketone	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
Toxaphene	ND		110		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
alpha-Chlordane	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
gamma-Chlordane	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 11:41	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	32	X	49 - 123				06/07/11 09:42	06/15/11 11:41	1
DCB Decachlorobiphenyl	30	X	40 - 158				06/07/11 09:42	06/15/11 11:41	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP3-052611-3.5-4.0

Lab Sample ID: 580-26451-28

Date Collected: 05/26/11 09:55

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 88.1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.8		mg/Kg	☼	06/10/11 13:06	06/10/11 17:58	1
Lead	170		1.4		mg/Kg	☼	06/10/11 13:06	06/10/11 17:58	1
Antimony	ND		2.8		mg/Kg	☼	06/10/11 13:06	06/10/11 17:58	1
Cadmium	1.1		0.47		mg/Kg	☼	06/10/11 13:06	06/10/11 17:58	1
Copper	100		0.94		mg/Kg	☼	06/10/11 13:06	06/10/11 17:58	1
Manganese	360		0.94		mg/Kg	☼	06/10/11 13:06	06/10/11 17:58	1
Zinc	210		9.4		mg/Kg	☼	06/10/11 13:06	06/13/11 20:56	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.053		0.015		mg/Kg	☼	06/13/11 09:00	06/13/11 12:33	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88		0.10		%			06/03/11 10:22	1
Percent Moisture	12		0.10		%			06/03/11 10:22	1



Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: D-TP3-052611-4.5

Lab Sample ID: 580-26451-29

Date Collected: 05/26/11 10:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 80.5

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
alpha-BHC	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
beta-BHC	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
delta-BHC	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
gamma-BHC (Lindane)	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
4,4'-DDD	ND		2.4		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
4,4'-DDE	4.8		2.4		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
4,4'-DDT	ND		2.4		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
Dieldrin	ND		2.4		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
Endosulfan I	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
Endosulfan II	ND		2.4		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
Endosulfan sulfate	ND		2.4		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
Endrin	ND		2.4		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
Endrin aldehyde	ND		2.4		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
Heptachlor	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
Heptachlor epoxide	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
Methoxychlor	ND		12		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
Endrin ketone	ND		2.4		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
Toxaphene	ND		120		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
alpha-Chlordane	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
gamma-Chlordane	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:00	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	55		49 - 123				06/07/11 09:42	06/15/11 12:00	1
DCB Decachlorobiphenyl	28	X	40 - 158				06/07/11 09:42	06/15/11 12:00	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.9		mg/Kg	☼	06/10/11 13:06	06/10/11 18:02	1
Lead	13		1.5		mg/Kg	☼	06/10/11 13:06	06/10/11 18:02	1
Antimony	ND		2.9		mg/Kg	☼	06/10/11 13:06	06/10/11 18:02	1
Cadmium	ND		0.49		mg/Kg	☼	06/10/11 13:06	06/10/11 18:02	1
Copper	24		0.98		mg/Kg	☼	06/10/11 13:06	06/10/11 18:02	1
Manganese	330		0.98		mg/Kg	☼	06/10/11 13:06	06/10/11 18:02	1
Zinc	260		9.8		mg/Kg	☼	06/10/11 13:06	06/13/11 21:00	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.041		0.020		mg/Kg	☼	06/13/11 09:00	06/13/11 12:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	80		0.10		%			06/03/11 10:22	1
Percent Moisture	20		0.10		%			06/03/11 10:22	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: D-TP3.2-052611-4.5

Lab Sample ID: 580-26451-30

Date Collected: 05/26/11 10:25

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 82.2

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
alpha-BHC	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
beta-BHC	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
delta-BHC	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
4,4'-DDD	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
4,4'-DDE	2.6		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
4,4'-DDT	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
Dieldrin	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
Endosulfan I	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
Endosulfan II	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
Endosulfan sulfate	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
Endrin	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
Endrin aldehyde	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
Heptachlor	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
Heptachlor epoxide	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
Methoxychlor	ND		11		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
Endrin ketone	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
Toxaphene	ND		110		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
alpha-Chlordane	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
gamma-Chlordane	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 12:20	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	55		49 - 123				06/07/11 09:42	06/15/11 12:20	1
DCB Decachlorobiphenyl	26	X	40 - 158				06/07/11 09:42	06/15/11 12:20	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.6		mg/Kg	☼	06/10/11 13:06	06/10/11 18:06	1
Lead	13		1.8		mg/Kg	☼	06/10/11 13:06	06/10/11 18:06	1
Antimony	ND		3.6		mg/Kg	☼	06/10/11 13:06	06/10/11 18:06	1
Cadmium	ND		0.61		mg/Kg	☼	06/10/11 13:06	06/10/11 18:06	1
Copper	21		1.2		mg/Kg	☼	06/10/11 13:06	06/10/11 18:06	1
Manganese	310		1.2		mg/Kg	☼	06/10/11 13:06	06/10/11 18:06	1
Zinc	250		12		mg/Kg	☼	06/10/11 13:06	06/13/11 21:03	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.034		0.019		mg/Kg	☼	06/13/11 09:00	06/13/11 12:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82		0.10		%			06/03/11 10:22	1
Percent Moisture	18		0.10		%			06/03/11 10:22	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: C-TP1-052611-5.0

Lab Sample ID: 580-26451-32

Date Collected: 05/26/11 11:05

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 78.5

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
alpha-BHC	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
beta-BHC	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
delta-BHC	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
gamma-BHC (Lindane)	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
4,4'-DDD	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
4,4'-DDE	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
4,4'-DDT	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
Dieldrin	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
Endosulfan I	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
Endosulfan II	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
Endosulfan sulfate	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
Endrin	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
Endrin aldehyde	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
Heptachlor	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
Heptachlor epoxide	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
Methoxychlor	ND		12		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
Endrin ketone	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
Toxaphene	ND		120		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
alpha-Chlordane	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
gamma-Chlordane	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:39	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	59		49 - 123				06/07/11 09:42	06/15/11 12:39	1
DCB Decachlorobiphenyl	29	X	40 - 158				06/07/11 09:42	06/15/11 12:39	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.5		mg/Kg	☼	06/10/11 13:06	06/10/11 18:10	1
Lead	5.8		1.7		mg/Kg	☼	06/10/11 13:06	06/10/11 18:10	1
Antimony	ND		3.5		mg/Kg	☼	06/10/11 13:06	06/10/11 18:10	1
Cadmium	ND		0.58		mg/Kg	☼	06/10/11 13:06	06/10/11 18:10	1
Copper	29		1.2		mg/Kg	☼	06/10/11 13:06	06/10/11 18:10	1
Manganese	280		1.2		mg/Kg	☼	06/10/11 13:06	06/10/11 18:10	1
Zinc	69		12		mg/Kg	☼	06/10/11 13:06	06/13/11 21:06	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.088		0.021		mg/Kg	☼	06/13/11 09:00	06/13/11 12:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	78		0.10		%			06/03/11 10:22	1
Percent Moisture	22		0.10		%			06/03/11 10:22	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: C-TP2-052611-8.0

Lab Sample ID: 580-26451-33

Date Collected: 05/26/11 11:30

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 79.2

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
alpha-BHC	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
beta-BHC	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
delta-BHC	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
gamma-BHC (Lindane)	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
4,4'-DDD	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
4,4'-DDE	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
4,4'-DDT	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
Dieldrin	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
Endosulfan I	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
Endosulfan II	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
Endosulfan sulfate	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
Endrin	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
Endrin aldehyde	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
Heptachlor	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
Heptachlor epoxide	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
Methoxychlor	ND		12		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
Endrin ketone	ND		2.5		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
Toxaphene	ND		120		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
alpha-Chlordane	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
gamma-Chlordane	ND		1.2		ug/Kg	☼	06/07/11 09:42	06/15/11 12:58	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	57		49 - 123				06/07/11 09:42	06/15/11 12:58	1
DCB Decachlorobiphenyl	28	X	40 - 158				06/07/11 09:42	06/15/11 12:58	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.9		mg/Kg	☼	06/10/11 13:06	06/10/11 18:14	1
Lead	41		1.4		mg/Kg	☼	06/10/11 13:06	06/10/11 18:14	1
Antimony	ND		2.9		mg/Kg	☼	06/10/11 13:06	06/10/11 18:14	1
Cadmium	0.95		0.48		mg/Kg	☼	06/10/11 13:06	06/10/11 18:14	1
Copper	25		0.96		mg/Kg	☼	06/10/11 13:06	06/10/11 18:14	1
Manganese	240		0.96		mg/Kg	☼	06/10/11 13:06	06/10/11 18:14	1
Zinc	610		19		mg/Kg	☼	06/10/11 13:06	06/13/11 21:09	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.090		0.019		mg/Kg	☼	06/13/11 09:00	06/13/11 12:40	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79		0.10		%			06/03/11 10:22	1
Percent Moisture	21		0.10		%			06/03/11 10:22	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: C-TP3-052611-4.5

Lab Sample ID: 580-26451-34

Date Collected: 05/26/11 13:45

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 82.9

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
alpha-BHC	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
beta-BHC	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
delta-BHC	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
4,4'-DDD	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
4,4'-DDE	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
4,4'-DDT	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
Dieldrin	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
Endosulfan I	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
Endosulfan II	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
Endosulfan sulfate	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
Endrin	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
Endrin aldehyde	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
Heptachlor	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
Heptachlor epoxide	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
Methoxychlor	ND		11		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
Endrin ketone	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
Toxaphene	ND		110		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
alpha-Chlordane	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
gamma-Chlordane	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 14:38	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	59		49 - 123				06/07/11 09:42	06/15/11 14:38	1
DCB Decachlorobiphenyl	33	X	40 - 158				06/07/11 09:42	06/15/11 14:38	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.1		mg/Kg	☼	06/10/11 13:06	06/10/11 18:26	1
Lead	5.2		1.5		mg/Kg	☼	06/10/11 13:06	06/10/11 18:26	1
Antimony	ND		3.1		mg/Kg	☼	06/10/11 13:06	06/10/11 18:26	1
Cadmium	ND		0.51		mg/Kg	☼	06/10/11 13:06	06/10/11 18:26	1
Copper	23		1.0		mg/Kg	☼	06/10/11 13:06	06/10/11 18:26	1
Manganese	340		1.0		mg/Kg	☼	06/10/11 13:06	06/10/11 18:26	1
Zinc	58		2.1		mg/Kg	☼	06/10/11 13:06	06/13/11 21:18	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.050		0.018		mg/Kg	☼	06/13/11 09:00	06/13/11 12:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83		0.10		%			06/03/11 10:22	1
Percent Moisture	17		0.10		%			06/03/11 10:22	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: C-TP3.2-052611-4.5

Lab Sample ID: 580-26451-35

Date Collected: 05/26/11 13:50

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 83.3

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
alpha-BHC	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
beta-BHC	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
delta-BHC	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
4,4'-DDD	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
4,4'-DDE	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
4,4'-DDT	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
Dieldrin	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
Endosulfan I	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
Endosulfan II	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
Endosulfan sulfate	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
Endrin	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
Endrin aldehyde	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
Heptachlor	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
Heptachlor epoxide	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
Methoxychlor	ND		11		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
Endrin ketone	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
Toxaphene	ND		110		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
alpha-Chlordane	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
gamma-Chlordane	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 14:58	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	64		49 - 123				06/07/11 09:42	06/15/11 14:58	1
DCB Decachlorobiphenyl	27	X	40 - 158				06/07/11 09:42	06/15/11 14:58	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.1		mg/Kg	*	06/10/11 13:06	06/10/11 18:30	1
Lead	4.5		1.5		mg/Kg	*	06/10/11 13:06	06/10/11 18:30	1
Antimony	ND		3.1		mg/Kg	*	06/10/11 13:06	06/10/11 18:30	1
Cadmium	ND		0.51		mg/Kg	*	06/10/11 13:06	06/10/11 18:30	1
Copper	24		1.0		mg/Kg	*	06/10/11 13:06	06/10/11 18:30	1
Manganese	320		1.0		mg/Kg	*	06/10/11 13:06	06/10/11 18:30	1
Zinc	58		2.0		mg/Kg	*	06/10/11 13:06	06/13/11 21:21	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.062		0.019		mg/Kg	*	06/13/11 09:00	06/13/11 12:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83		0.10		%			06/03/11 10:22	1
Percent Moisture	17		0.10		%			06/03/11 10:22	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: B-TP1-052611-6.5

Lab Sample ID: 580-26451-36

Date Collected: 05/26/11 13:05

Matrix: Solid

Date Received: 05/31/11 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Chloromethane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Vinyl chloride	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Bromomethane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Chloroethane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Trichlorofluoromethane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,1-Dichloroethene	ND		4.4		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Methylene Chloride	ND		13		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
trans-1,2-Dichloroethene	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,1-Dichloroethane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
2,2-Dichloropropane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
cis-1,2-Dichloroethene	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Chlorobromomethane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Chloroform	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,1,1-Trichloroethane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Carbon tetrachloride	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,1-Dichloropropene	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Benzene	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,2-Dichloroethane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Trichloroethene	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,2-Dichloropropane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Dibromomethane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Dichlorobromomethane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
cis-1,3-Dichloropropene	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Toluene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
trans-1,3-Dichloropropene	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,1,2-Trichloroethane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Tetrachloroethene	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,3-Dichloropropane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Chlorodibromomethane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Ethylene Dibromide	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Chlorobenzene	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Ethylbenzene	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,1,1,2-Tetrachloroethane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,1,2,2-Tetrachloroethane	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
m-Xylene & p-Xylene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
o-Xylene	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Styrene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Bromoform	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Isopropylbenzene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Bromobenzene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
N-Propylbenzene	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,2,3-Trichloropropane	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
2-Chlorotoluene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,3,5-Trimethylbenzene	ND		4.4		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
4-Chlorotoluene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
tert-Butylbenzene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,2,4-Trimethylbenzene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
sec-Butylbenzene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,3-Dichlorobenzene	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: B-TP1-052611-6.5

Lab Sample ID: 580-26451-36

Date Collected: 05/26/11 13:05

Matrix: Solid

Date Received: 05/31/11 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,4-Dichlorobenzene	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
n-Butylbenzene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,2-Dichlorobenzene	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,2-Dibromo-3-Chloropropane	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,2,4-Trichlorobenzene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
1,2,3-Trichlorobenzene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Hexachlorobutadiene	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Naphthalene	ND		4.4		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Methyl tert-butyl ether	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Carbon disulfide	ND		0.88		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Acetone	ND		13		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
4-Methyl-2-pentanone	ND		4.4		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
2-Butanone	ND		4.4		ug/Kg		06/08/11 17:34	06/08/11 22:42	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	96		80 - 120				06/08/11 17:34	06/08/11 22:42	1
Toluene-d8 (Surr)	102		80 - 120				06/08/11 17:34	06/08/11 22:42	1
Ethylbenzene-d10	110		70 - 120				06/08/11 17:34	06/08/11 22:42	1
4-Bromofluorobenzene (Surr)	110		70 - 120				06/08/11 17:34	06/08/11 22:42	1
Trifluorotoluene (Surr)	117		65 - 140				06/08/11 17:34	06/08/11 22:42	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: B-TP1.2-052611-6.5

Lab Sample ID: 580-26451-37

Date Collected: 05/26/11 13:10

Matrix: Solid

Date Received: 05/31/11 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Chloromethane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Vinyl chloride	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Bromomethane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Chloroethane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Trichlorofluoromethane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,1-Dichloroethene	ND		4.6		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Methylene Chloride	ND		14		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
trans-1,2-Dichloroethene	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,1-Dichloroethane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
2,2-Dichloropropane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
cis-1,2-Dichloroethene	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Chlorobromomethane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Chloroform	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,1,1-Trichloroethane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Carbon tetrachloride	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,1-Dichloropropene	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Benzene	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,2-Dichloroethane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Trichloroethene	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,2-Dichloropropane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Dibromomethane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Dichlorobromomethane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
cis-1,3-Dichloropropene	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Toluene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
trans-1,3-Dichloropropene	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,1,2-Trichloroethane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Tetrachloroethene	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,3-Dichloropropane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Chlorodibromomethane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Ethylene Dibromide	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Chlorobenzene	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Ethylbenzene	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,1,1,2-Tetrachloroethane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,1,2,2-Tetrachloroethane	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
m-Xylene & p-Xylene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
o-Xylene	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Styrene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Bromoform	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Isopropylbenzene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Bromobenzene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
N-Propylbenzene	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,2,3-Trichloropropane	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
2-Chlorotoluene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,3,5-Trimethylbenzene	ND		4.6		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
4-Chlorotoluene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
tert-Butylbenzene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,2,4-Trimethylbenzene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
sec-Butylbenzene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,3-Dichlorobenzene	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1



Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: B-TP1.2-052611-6.5

Lab Sample ID: 580-26451-37

Date Collected: 05/26/11 13:10

Matrix: Solid

Date Received: 05/31/11 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,4-Dichlorobenzene	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
n-Butylbenzene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,2-Dichlorobenzene	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,2-Dibromo-3-Chloropropane	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,2,4-Trichlorobenzene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
1,2,3-Trichlorobenzene	ND		1.8		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Hexachlorobutadiene	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Naphthalene	ND		4.6		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Methyl tert-butyl ether	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Carbon disulfide	ND		0.91		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Acetone	ND		14		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
4-Methyl-2-pentanone	ND		4.6		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
2-Butanone	ND		4.6		ug/Kg		06/08/11 17:34	06/08/11 23:06	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	96		80 - 120				06/08/11 17:34	06/08/11 23:06	1
Toluene-d8 (Surr)	101		80 - 120				06/08/11 17:34	06/08/11 23:06	1
Ethylbenzene-d10	101		70 - 120				06/08/11 17:34	06/08/11 23:06	1
4-Bromofluorobenzene (Surr)	100		70 - 120				06/08/11 17:34	06/08/11 23:06	1
Trifluorotoluene (Surr)	115		65 - 140				06/08/11 17:34	06/08/11 23:06	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: B-TP1-052611-6.0

Lab Sample ID: 580-26451-39

Date Collected: 05/26/11 13:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 83.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Chloromethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Vinyl chloride	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Bromomethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Chloroethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Trichlorofluoromethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,1-Dichloroethene	ND	H	6.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Methylene Chloride	ND	H	19		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
trans-1,2-Dichloroethene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,1-Dichloroethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
2,2-Dichloropropane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
cis-1,2-Dichloroethene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Chlorobromomethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Chloroform	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,1,1-Trichloroethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Carbon tetrachloride	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,1-Dichloropropene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Benzene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,2-Dichloroethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Trichloroethene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,2-Dichloropropane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Dibromomethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Dichlorobromomethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
cis-1,3-Dichloropropene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Toluene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
trans-1,3-Dichloropropene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,1,2-Trichloroethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Tetrachloroethene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,3-Dichloropropane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Chlorodibromomethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Ethylene Dibromide	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Chlorobenzene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Ethylbenzene	1.2	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,1,1,2-Tetrachloroethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,1,2,2-Tetrachloroethane	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
m-Xylene & p-Xylene	4.9	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
o-Xylene	1.7	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Styrene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Bromoform	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Isopropylbenzene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Bromobenzene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
N-Propylbenzene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,2,3-Trichloropropane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
2-Chlorotoluene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,3,5-Trimethylbenzene	ND	H	6.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
4-Chlorotoluene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
tert-Butylbenzene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,2,4-Trimethylbenzene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
sec-Butylbenzene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,3-Dichlorobenzene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1



Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: B-TP1-052611-6.0

Lab Sample ID: 580-26451-39

Date Collected: 05/26/11 13:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 83.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,4-Dichlorobenzene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
n-Butylbenzene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,2-Dichlorobenzene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,2-Dibromo-3-Chloropropane	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,2,4-Trichlorobenzene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
1,2,3-Trichlorobenzene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Hexachlorobutadiene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Naphthalene	ND	H	6.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Methyl tert-butyl ether	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Carbon disulfide	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
Acetone	ND	H	19		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
4-Methyl-2-pentanone	ND	H	6.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1
2-Butanone	ND	H	6.2		ug/Kg	☼	06/09/11 09:59	06/10/11 01:26	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	100		80 - 120	06/09/11 09:59	06/10/11 01:26	1
Toluene-d8 (Surr)	99		80 - 120	06/09/11 09:59	06/10/11 01:26	1
Ethylbenzene-d10	111		70 - 120	06/09/11 09:59	06/10/11 01:26	1
4-Bromofluorobenzene (Surr)	101		70 - 120	06/09/11 09:59	06/10/11 01:26	1
Trifluorotoluene (Surr)	88		65 - 140	06/09/11 09:59	06/10/11 01:26	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83		0.10		%			06/03/11 10:22	1
Percent Moisture	17		0.10		%			06/03/11 10:22	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: B-TP2-052611-5.5

Lab Sample ID: 580-26451-41

Date Collected: 05/26/11 14:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 84.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Chloromethane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Vinyl chloride	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Bromomethane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Chloroethane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Trichlorofluoromethane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
1,1-Dichloroethene	ND		4.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Methylene Chloride	ND		14		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
trans-1,2-Dichloroethene	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
1,1-Dichloroethane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
2,2-Dichloropropane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
cis-1,2-Dichloroethene	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Chlorobromomethane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Chloroform	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
1,1,1-Trichloroethane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Carbon tetrachloride	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
1,1-Dichloropropene	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Benzene	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
1,2-Dichloroethane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Trichloroethene	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
1,2-Dichloropropane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Dibromomethane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Dichlorobromomethane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
cis-1,3-Dichloropropene	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Toluene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
trans-1,3-Dichloropropene	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
1,1,2-Trichloroethane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Tetrachloroethene	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
1,3-Dichloropropane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Chlorodibromomethane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Ethylene Dibromide	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Chlorobenzene	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Ethylbenzene	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
1,1,1,2-Tetrachloroethane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
1,1,2,2-Tetrachloroethane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
m-Xylene & p-Xylene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
o-Xylene	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Styrene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Bromoform	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Isopropylbenzene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
Bromobenzene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
N-Propylbenzene	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
1,2,3-Trichloropropane	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
2-Chlorotoluene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
1,3,5-Trimethylbenzene	ND		4.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
4-Chlorotoluene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
tert-Butylbenzene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
1,2,4-Trimethylbenzene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
sec-Butylbenzene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1
1,3-Dichlorobenzene	ND		0.96		ug/Kg	☼	06/09/11 09:59	06/09/11 23:01	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: B-TP2-052611-5.5

Lab Sample ID: 580-26451-41

Date Collected: 05/26/11 14:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 84.7

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:01	1
1,4-Dichlorobenzene	ND		0.96		ug/Kg	*	06/09/11 09:59	06/09/11 23:01	1
n-Butylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:01	1
1,2-Dichlorobenzene	ND		0.96		ug/Kg	*	06/09/11 09:59	06/09/11 23:01	1
1,2-Dibromo-3-Chloropropane	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:01	1
1,2,4-Trichlorobenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:01	1
1,2,3-Trichlorobenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:01	1
Hexachlorobutadiene	ND		0.96		ug/Kg	*	06/09/11 09:59	06/09/11 23:01	1
Naphthalene	ND		4.8		ug/Kg	*	06/09/11 09:59	06/09/11 23:01	1
Methyl tert-butyl ether	ND		0.96		ug/Kg	*	06/09/11 09:59	06/09/11 23:01	1
Carbon disulfide	ND		0.96		ug/Kg	*	06/09/11 09:59	06/09/11 23:01	1
Acetone	36		14		ug/Kg	*	06/09/11 09:59	06/09/11 23:01	1
4-Methyl-2-pentanone	ND		4.8		ug/Kg	*	06/09/11 09:59	06/09/11 23:01	1
2-Butanone	5.5		4.8		ug/Kg	*	06/09/11 09:59	06/09/11 23:01	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	107		80 - 120				06/09/11 09:59	06/09/11 23:01	1
Toluene-d8 (Surr)	95		80 - 120				06/09/11 09:59	06/09/11 23:01	1
Ethylbenzene-d10	100		70 - 120				06/09/11 09:59	06/09/11 23:01	1
4-Bromofluorobenzene (Surr)	92		70 - 120				06/09/11 09:59	06/09/11 23:01	1
Trifluorotoluene (Surr)	92		65 - 140				06/09/11 09:59	06/09/11 23:01	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
alpha-BHC	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
beta-BHC	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
delta-BHC	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
4,4'-DDD	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
4,4'-DDE	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
4,4'-DDT	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
Dieldrin	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
Endosulfan I	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
Endosulfan II	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
Endosulfan sulfate	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
Endrin	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
Endrin aldehyde	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
Heptachlor	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
Heptachlor epoxide	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
Methoxychlor	ND		11		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
Endrin ketone	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
Toxaphene	ND		110		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
alpha-Chlordane	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
gamma-Chlordane	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 15:17	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	75		49 - 123				06/07/11 09:42	06/15/11 15:17	1
DCB Decachlorobiphenyl	49		40 - 158				06/07/11 09:42	06/15/11 15:17	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: B-TP2-052611-5.5

Lab Sample ID: 580-26451-41

Date Collected: 05/26/11 14:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 84.7

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.9		mg/Kg	☼	06/10/11 13:06	06/10/11 18:34	1
Lead	4.6		1.4		mg/Kg	☼	06/10/11 13:06	06/10/11 18:34	1
Antimony	ND		2.9		mg/Kg	☼	06/10/11 13:06	06/10/11 18:34	1
Cadmium	ND		0.48		mg/Kg	☼	06/10/11 13:06	06/10/11 18:34	1
Copper	24		0.95		mg/Kg	☼	06/10/11 13:06	06/10/11 18:34	1
Manganese	210		0.95		mg/Kg	☼	06/10/11 13:06	06/10/11 18:34	1
Zinc	56		1.9		mg/Kg	☼	06/10/11 13:06	06/13/11 21:24	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.052		0.019		mg/Kg	☼	06/13/11 09:00	06/13/11 12:49	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85		0.10		%			06/03/11 10:22	1
Percent Moisture	15		0.10		%			06/03/11 10:22	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: B-TP3-052611-5.5

Lab Sample ID: 580-26451-43

Date Collected: 05/26/11 14:50

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 83.2

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Chloromethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Vinyl chloride	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Bromomethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Chloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Trichlorofluoromethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,1-Dichloroethene	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Methylene Chloride	ND		14		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
trans-1,2-Dichloroethene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,1-Dichloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
2,2-Dichloropropane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
cis-1,2-Dichloroethene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Chlorobromomethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Chloroform	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,1,1-Trichloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Carbon tetrachloride	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,1-Dichloropropene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Benzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,2-Dichloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Trichloroethene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,2-Dichloropropane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Dibromomethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Dichlorobromomethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
cis-1,3-Dichloropropene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Toluene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
trans-1,3-Dichloropropene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,1,2-Trichloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Tetrachloroethene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,3-Dichloropropane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Chlorodibromomethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Ethylene Dibromide	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Chlorobenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Ethylbenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,1,1,2-Tetrachloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,1,2,2-Tetrachloroethane	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
m-Xylene & p-Xylene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
o-Xylene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Styrene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Bromoform	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Isopropylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Bromobenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
N-Propylbenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,2,3-Trichloropropane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
2-Chlorotoluene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,3,5-Trimethylbenzene	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
4-Chlorotoluene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
tert-Butylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,2,4-Trimethylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
sec-Butylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,3-Dichlorobenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: B-TP3-052611-5.5

Lab Sample ID: 580-26451-43

Date Collected: 05/26/11 14:50

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 83.2

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,4-Dichlorobenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
n-Butylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,2-Dichlorobenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,2-Dibromo-3-Chloropropane	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,2,4-Trichlorobenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
1,2,3-Trichlorobenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Hexachlorobutadiene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Naphthalene	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Methyl tert-butyl ether	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Carbon disulfide	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Acetone	ND		14		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
4-Methyl-2-pentanone	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
2-Butanone	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 21:00	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	100		80 - 120				06/09/11 09:59	06/09/11 21:00	1
Toluene-d8 (Surr)	99		80 - 120				06/09/11 09:59	06/09/11 21:00	1
Ethylbenzene-d10	105		70 - 120				06/09/11 09:59	06/09/11 21:00	1
4-Bromofluorobenzene (Surr)	99		70 - 120				06/09/11 09:59	06/09/11 21:00	1
Trifluorotoluene (Surr)	90		65 - 140				06/09/11 09:59	06/09/11 21:00	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
alpha-BHC	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
beta-BHC	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
delta-BHC	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
gamma-BHC (Lindane)	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
4,4'-DDD	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
4,4'-DDE	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
4,4'-DDT	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
Dieldrin	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
Endosulfan I	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
Endosulfan II	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
Endosulfan sulfate	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
Endrin	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
Endrin aldehyde	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
Heptachlor	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
Heptachlor epoxide	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
Methoxychlor	ND		12		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
Endrin ketone	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
Toxaphene	ND		120		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
alpha-Chlordane	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
gamma-Chlordane	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:37	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	74		49 - 123				06/07/11 09:42	06/15/11 15:37	1
DCB Decachlorobiphenyl	47		40 - 158				06/07/11 09:42	06/15/11 15:37	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: B-TP3-052611-5.5

Lab Sample ID: 580-26451-43

Date Collected: 05/26/11 14:50

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 83.2

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.7		mg/Kg	☼	06/10/11 13:06	06/10/11 18:38	1
Lead	13		1.4		mg/Kg	☼	06/10/11 13:06	06/10/11 18:38	1
Antimony	ND		2.7		mg/Kg	☼	06/10/11 13:06	06/10/11 18:38	1
Cadmium	ND		0.45		mg/Kg	☼	06/10/11 13:06	06/10/11 18:38	1
Copper	20		0.90		mg/Kg	☼	06/10/11 13:06	06/10/11 18:38	1
Manganese	330		0.90		mg/Kg	☼	06/10/11 13:06	06/10/11 18:38	1
Zinc	69		1.8		mg/Kg	☼	06/10/11 13:06	06/13/11 21:27	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.053		0.018		mg/Kg	☼	06/13/11 09:00	06/13/11 12:50	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83		0.10		%			06/03/11 10:22	1
Percent Moisture	17		0.10		%			06/03/11 10:22	1



Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: G-WETSOIL-052611-0.0-0.5

Lab Sample ID: 580-26451-44

Date Collected: 05/26/11 15:30

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 77.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Chloromethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Vinyl chloride	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Bromomethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Chloroethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Trichlorofluoromethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
1,1-Dichloroethene	ND	H	6.4		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Methylene Chloride	ND	H	19		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
trans-1,2-Dichloroethene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
1,1-Dichloroethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
2,2-Dichloropropane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
cis-1,2-Dichloroethene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Chlorobromomethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Chloroform	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
1,1,1-Trichloroethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Carbon tetrachloride	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
1,1-Dichloropropene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Benzene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
1,2-Dichloroethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Trichloroethene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
1,2-Dichloropropane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Dibromomethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Dichlorobromomethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
cis-1,3-Dichloropropene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Toluene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
trans-1,3-Dichloropropene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
1,1,2-Trichloroethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Tetrachloroethene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
1,3-Dichloropropane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Chlorodibromomethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Ethylene Dibromide	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Chlorobenzene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Ethylbenzene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
1,1,1,2-Tetrachloroethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
1,1,2,2-Tetrachloroethane	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
m-Xylene & p-Xylene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
o-Xylene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Styrene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Bromoform	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Isopropylbenzene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
Bromobenzene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
N-Propylbenzene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
1,2,3-Trichloropropane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
2-Chlorotoluene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
1,3,5-Trimethylbenzene	ND	H	6.4		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
4-Chlorotoluene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
tert-Butylbenzene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
1,2,4-Trimethylbenzene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
sec-Butylbenzene	ND	H	2.5		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1
1,3-Dichlorobenzene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 01:50	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: G-WETSOIL-052611-0.0-0.5

Lab Sample ID: 580-26451-44

Date Collected: 05/26/11 15:30

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 77.1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND	H	2.5		ug/Kg	*	06/09/11 09:59	06/10/11 01:50	1
1,4-Dichlorobenzene	ND	H	1.3		ug/Kg	*	06/09/11 09:59	06/10/11 01:50	1
n-Butylbenzene	ND	H	2.5		ug/Kg	*	06/09/11 09:59	06/10/11 01:50	1
1,2-Dichlorobenzene	ND	H	1.3		ug/Kg	*	06/09/11 09:59	06/10/11 01:50	1
1,2-Dibromo-3-Chloropropane	ND	H	2.5		ug/Kg	*	06/09/11 09:59	06/10/11 01:50	1
1,2,4-Trichlorobenzene	ND	H	2.5		ug/Kg	*	06/09/11 09:59	06/10/11 01:50	1
1,2,3-Trichlorobenzene	ND	H	2.5		ug/Kg	*	06/09/11 09:59	06/10/11 01:50	1
Hexachlorobutadiene	ND	H	1.3		ug/Kg	*	06/09/11 09:59	06/10/11 01:50	1
Naphthalene	ND	H	6.4		ug/Kg	*	06/09/11 09:59	06/10/11 01:50	1
Methyl tert-butyl ether	ND	H	1.3		ug/Kg	*	06/09/11 09:59	06/10/11 01:50	1
Carbon disulfide	ND	H	1.3		ug/Kg	*	06/09/11 09:59	06/10/11 01:50	1
Acetone	ND	H	19		ug/Kg	*	06/09/11 09:59	06/10/11 01:50	1
4-Methyl-2-pentanone	ND	H	6.4		ug/Kg	*	06/09/11 09:59	06/10/11 01:50	1
2-Butanone	ND	H	6.4		ug/Kg	*	06/09/11 09:59	06/10/11 01:50	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	102		80 - 120				06/09/11 09:59	06/10/11 01:50	1
Toluene-d8 (Surr)	98		80 - 120				06/09/11 09:59	06/10/11 01:50	1
Ethylbenzene-d10	100		70 - 120				06/09/11 09:59	06/10/11 01:50	1
4-Bromofluorobenzene (Surr)	94		70 - 120				06/09/11 09:59	06/10/11 01:50	1
Trifluorotoluene (Surr)	92		65 - 140				06/09/11 09:59	06/10/11 01:50	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
alpha-BHC	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
beta-BHC	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
delta-BHC	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
gamma-BHC (Lindane)	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
4,4'-DDD	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
4,4'-DDE	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
4,4'-DDT	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
Dieldrin	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
Endosulfan I	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
Endosulfan II	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
Endosulfan sulfate	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
Endrin	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
Endrin aldehyde	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
Heptachlor	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
Heptachlor epoxide	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
Methoxychlor	ND		12		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
Endrin ketone	ND		2.4		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
Toxaphene	ND		120		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
alpha-Chlordane	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
gamma-Chlordane	ND		1.2		ug/Kg	*	06/07/11 09:42	06/15/11 15:56	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	79		49 - 123				06/07/11 09:42	06/15/11 15:56	1
DCB Decachlorobiphenyl	56		40 - 158				06/07/11 09:42	06/15/11 15:56	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: G-WETSOIL-052611-0.0-0.5

Lab Sample ID: 580-26451-44

Date Collected: 05/26/11 15:30

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 77.1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		120		mg/Kg	☼	06/06/11 15:03	06/07/11 14:34	1
Gasoline	ND		24		mg/Kg	☼	06/06/11 15:03	06/07/11 14:34	1
#2 Diesel (>C12-C24)	ND		60		mg/Kg	☼	06/06/11 15:03	06/07/11 14:34	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	104		50 - 150				06/06/11 15:03	06/07/11 14:34	1
4-Bromofluorobenzene (Surr)	98		50 - 150				06/06/11 15:03	06/07/11 14:34	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.4		mg/Kg	☼	06/10/11 13:06	06/10/11 18:43	1
Lead	3.5		1.2		mg/Kg	☼	06/10/11 13:06	06/10/11 18:43	1
Antimony	ND		2.4		mg/Kg	☼	06/10/11 13:06	06/10/11 18:43	1
Cadmium	ND		0.40		mg/Kg	☼	06/10/11 13:06	06/10/11 18:43	1
Copper	16		0.81		mg/Kg	☼	06/10/11 13:06	06/10/11 18:43	1
Manganese	210		0.81		mg/Kg	☼	06/10/11 13:06	06/10/11 18:43	1
Zinc	41		1.6		mg/Kg	☼	06/10/11 13:06	06/13/11 21:30	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.044		0.017		mg/Kg	☼	06/13/11 08:00	06/13/11 11:41	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	77		0.10		%			06/03/11 10:22	1
Percent Moisture	23		0.10		%			06/03/11 10:22	1



Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: G-WETSOIL-052611-1.0-2.0

Lab Sample ID: 580-26451-45

Date Collected: 05/26/11 15:35

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 63.9

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Chloromethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Vinyl chloride	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Bromomethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Chloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Trichlorofluoromethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,1-Dichloroethene	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Methylene Chloride	ND		14		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
trans-1,2-Dichloroethene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,1-Dichloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
2,2-Dichloropropane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
cis-1,2-Dichloroethene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Chlorobromomethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Chloroform	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,1,1-Trichloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Carbon tetrachloride	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,1-Dichloropropene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Benzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,2-Dichloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Trichloroethene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,2-Dichloropropane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Dibromomethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Dichlorobromomethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
cis-1,3-Dichloropropene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Toluene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
trans-1,3-Dichloropropene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,1,2-Trichloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Tetrachloroethene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,3-Dichloropropane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Chlorodibromomethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Ethylene Dibromide	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Chlorobenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Ethylbenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,1,1,2-Tetrachloroethane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,1,2,2-Tetrachloroethane	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
m-Xylene & p-Xylene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
o-Xylene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Styrene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Bromoform	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Isopropylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Bromobenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
N-Propylbenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,2,3-Trichloropropane	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
2-Chlorotoluene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,3,5-Trimethylbenzene	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
4-Chlorotoluene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
tert-Butylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,2,4-Trimethylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
sec-Butylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,3-Dichlorobenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: G-WETSOIL-052611-1.0-2.0

Lab Sample ID: 580-26451-45

Date Collected: 05/26/11 15:35

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 63.9

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,4-Dichlorobenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
n-Butylbenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,2-Dichlorobenzene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,2-Dibromo-3-Chloropropane	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,2,4-Trichlorobenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
1,2,3-Trichlorobenzene	ND		1.9		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Hexachlorobutadiene	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Naphthalene	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Methyl tert-butyl ether	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Carbon disulfide	ND		0.94		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Acetone	ND		14		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
4-Methyl-2-pentanone	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
2-Butanone	ND		4.7		ug/Kg	*	06/09/11 09:59	06/09/11 23:26	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	101		80 - 120				06/09/11 09:59	06/09/11 23:26	1
Toluene-d8 (Surr)	99		80 - 120				06/09/11 09:59	06/09/11 23:26	1
Ethylbenzene-d10	104		70 - 120				06/09/11 09:59	06/09/11 23:26	1
4-Bromofluorobenzene (Surr)	99		70 - 120				06/09/11 09:59	06/09/11 23:26	1
Trifluorotoluene (Surr)	87		65 - 140				06/09/11 09:59	06/09/11 23:26	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.6		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
alpha-BHC	ND		1.6		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
beta-BHC	ND		1.6		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
delta-BHC	ND		1.6		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
gamma-BHC (Lindane)	ND		1.6		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
4,4'-DDD	ND		3.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
4,4'-DDE	ND		3.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
4,4'-DDT	ND		3.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
Dieldrin	ND		3.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
Endosulfan I	ND		1.6		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
Endosulfan II	ND		3.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
Endosulfan sulfate	ND		3.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
Endrin	ND		3.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
Endrin aldehyde	ND		3.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
Heptachlor	ND		1.6		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
Heptachlor epoxide	ND		1.6		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
Methoxychlor	ND		16		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
Endrin ketone	ND		3.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
Toxaphene	ND		160		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
alpha-Chlordane	ND		1.6		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
gamma-Chlordane	ND		1.6		ug/Kg	*	06/07/11 09:42	06/15/11 16:16	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	51		49 - 123				06/07/11 09:42	06/15/11 16:16	1
DCB Decachlorobiphenyl	25	X	40 - 158				06/07/11 09:42	06/15/11 16:16	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: G-WETSOIL-052611-1.0-2.0

Lab Sample ID: 580-26451-45

Date Collected: 05/26/11 15:35

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 63.9

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		150		mg/Kg	☼	06/06/11 15:03	06/07/11 15:18	1
Gasoline	ND		30		mg/Kg	☼	06/06/11 15:03	06/07/11 15:18	1
#2 Diesel (>C12-C24)	ND		74		mg/Kg	☼	06/06/11 15:03	06/07/11 15:18	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	103		50 - 150				06/06/11 15:03	06/07/11 15:18	1
4-Bromofluorobenzene (Surr)	97		50 - 150				06/06/11 15:03	06/07/11 15:18	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		4.2		mg/Kg	☼	06/10/11 13:06	06/10/11 18:47	1
Lead	80		2.1		mg/Kg	☼	06/10/11 13:06	06/10/11 18:47	1
Antimony	ND		4.2		mg/Kg	☼	06/10/11 13:06	06/10/11 18:47	1
Cadmium	1.5		0.70		mg/Kg	☼	06/10/11 13:06	06/10/11 18:47	1
Copper	40		1.4		mg/Kg	☼	06/10/11 13:06	06/10/11 18:47	1
Manganese	470		1.4		mg/Kg	☼	06/10/11 13:06	06/10/11 18:47	1
Zinc	510		14		mg/Kg	☼	06/10/11 13:06	06/13/11 21:34	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.14		0.021		mg/Kg	☼	06/13/11 08:00	06/13/11 11:43	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	64		0.10		%			06/03/11 10:22	1
Percent Moisture	36		0.10		%			06/03/11 10:22	1



Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: E-WETSOIL-052611-0.0-0.5

Lab Sample ID: 580-26451-46

Date Collected: 05/26/11 16:00

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 51.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Chloromethane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Vinyl chloride	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Bromomethane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Chloroethane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Trichlorofluoromethane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,1-Dichloroethene	ND		9.4		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Methylene Chloride	ND		28		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
trans-1,2-Dichloroethene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,1-Dichloroethane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
2,2-Dichloropropane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
cis-1,2-Dichloroethene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Chlorobromomethane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Chloroform	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,1,1-Trichloroethane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Carbon tetrachloride	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,1-Dichloropropene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Benzene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,2-Dichloroethane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Trichloroethene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,2-Dichloropropane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Dibromomethane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Dichlorobromomethane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
cis-1,3-Dichloropropene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Toluene	ND		3.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
trans-1,3-Dichloropropene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,1,2-Trichloroethane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Tetrachloroethene	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,3-Dichloropropane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Chlorodibromomethane	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Ethylene Dibromide	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Chlorobenzene	ND *		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Ethylbenzene	ND *		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,1,1,2-Tetrachloroethane	ND *		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,1,2,2-Tetrachloroethane	ND *		3.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
m-Xylene & p-Xylene	ND *		3.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
o-Xylene	ND *		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Styrene	ND *		3.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Bromoform	ND *		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Isopropylbenzene	ND *		3.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Bromobenzene	ND *		3.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
N-Propylbenzene	ND *		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,2,3-Trichloropropane	ND *		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
2-Chlorotoluene	ND *		3.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,3,5-Trimethylbenzene	ND *		9.4		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
4-Chlorotoluene	ND *		3.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
tert-Butylbenzene	ND *		3.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,2,4-Trimethylbenzene	ND *		3.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
sec-Butylbenzene	ND *		3.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,3-Dichlorobenzene	ND *		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: E-WETSOIL-052611-0.0-0.5

Lab Sample ID: 580-26451-46

Date Collected: 05/26/11 16:00

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 51.4

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND	*	3.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,4-Dichlorobenzene	ND	*	1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
n-Butylbenzene	ND	*	3.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,2-Dichlorobenzene	ND	*	1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,2-Dibromo-3-Chloropropane	ND	*	3.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,2,4-Trichlorobenzene	ND	*	3.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
1,2,3-Trichlorobenzene	ND	*	3.8		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Hexachlorobutadiene	ND	*	1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Naphthalene	ND	*	9.4		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Methyl tert-butyl ether	ND		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Carbon disulfide	6.4		1.9		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Acetone	94		28		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
4-Methyl-2-pentanone	ND		9.4		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
2-Butanone	10		9.4		ug/Kg	☼	06/09/11 09:59	06/09/11 23:50	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	101		80 - 120				06/09/11 09:59	06/09/11 23:50	1
Toluene-d8 (Surr)	93		80 - 120				06/09/11 09:59	06/09/11 23:50	1
Ethylbenzene-d10	152	X*	70 - 120				06/09/11 09:59	06/09/11 23:50	1
4-Bromofluorobenzene (Surr)	115	*	70 - 120				06/09/11 09:59	06/09/11 23:50	1
Trifluorotoluene (Surr)	96		65 - 140				06/09/11 09:59	06/09/11 23:50	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.9		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
alpha-BHC	ND		1.9		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
beta-BHC	ND		1.9		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
delta-BHC	ND		1.9		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
gamma-BHC (Lindane)	ND		1.9		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
4,4'-DDD	ND		3.8		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
4,4'-DDE	ND		3.8		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
4,4'-DDT	ND		3.8		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
Dieldrin	ND		3.8		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
Endosulfan I	ND		1.9		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
Endosulfan II	ND		3.8		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
Endosulfan sulfate	ND		3.8		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
Endrin	ND		3.8		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
Endrin aldehyde	ND		3.8		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
Heptachlor	ND		1.9		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
Heptachlor epoxide	ND		1.9		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
Methoxychlor	ND		19		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
Endrin ketone	ND		3.8		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
Toxaphene	ND		190		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
alpha-Chlordane	ND		1.9		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
gamma-Chlordane	ND		1.9		ug/Kg	☼	06/07/11 09:42	06/15/11 16:35	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	20	X	49 - 123				06/07/11 09:42	06/15/11 16:35	1
DCB Decachlorobiphenyl	8	X	40 - 158				06/07/11 09:42	06/15/11 16:35	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: E-WETSOIL-052611-0.0-0.5

Lab Sample ID: 580-26451-46

Date Collected: 05/26/11 16:00

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 51.4

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		180		mg/Kg	☼	06/06/11 15:03	06/07/11 15:40	1
Gasoline	ND		36		mg/Kg	☼	06/06/11 15:03	06/07/11 15:40	1
#2 Diesel (>C12-C24)	ND		90		mg/Kg	☼	06/06/11 15:03	06/07/11 15:40	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	107		50 - 150				06/06/11 15:03	06/07/11 15:40	1
4-Bromofluorobenzene (Surr)	98		50 - 150				06/06/11 15:03	06/07/11 15:40	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.1		mg/Kg	☼	06/10/11 13:06	06/10/11 18:51	1
Lead	110		2.6		mg/Kg	☼	06/10/11 13:06	06/10/11 18:51	1
Antimony	ND		5.1		mg/Kg	☼	06/10/11 13:06	06/10/11 18:51	1
Cadmium	3.7		0.86		mg/Kg	☼	06/10/11 13:06	06/10/11 18:51	1
Copper	39		1.7		mg/Kg	☼	06/10/11 13:06	06/10/11 18:51	1
Manganese	190		1.7		mg/Kg	☼	06/10/11 13:06	06/10/11 18:51	1
Zinc	1700		34		mg/Kg	☼	06/10/11 13:06	06/13/11 21:37	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.14		0.029		mg/Kg	☼	06/13/11 08:00	06/13/11 11:44	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	51		0.10		%			06/03/11 10:48	1
Percent Moisture	49		0.10		%			06/03/11 10:48	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: E-WETSOIL-052611-0.5-1.0

Lab Sample ID: 580-26451-47

Date Collected: 05/26/11 16:05

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 87.2

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Chloromethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Vinyl chloride	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Bromomethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Chloroethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Trichlorofluoromethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
1,1-Dichloroethene	ND	H	6.0		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Methylene Chloride	ND	H	18		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
trans-1,2-Dichloroethene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
1,1-Dichloroethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
2,2-Dichloropropane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
cis-1,2-Dichloroethene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Chlorobromomethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Chloroform	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
1,1,1-Trichloroethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Carbon tetrachloride	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
1,1-Dichloropropene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Benzene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
1,2-Dichloroethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Trichloroethene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
1,2-Dichloropropane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Dibromomethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Dichlorobromomethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
cis-1,3-Dichloropropene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Toluene	ND	H	2.4		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
trans-1,3-Dichloropropene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
1,1,2-Trichloroethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Tetrachloroethene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
1,3-Dichloropropane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Chlorodibromomethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Ethylene Dibromide	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Chlorobenzene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Ethylbenzene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
1,1,1,2-Tetrachloroethane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
1,1,2,2-Tetrachloroethane	ND	H	2.4		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
m-Xylene & p-Xylene	ND	H	2.4		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
o-Xylene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Styrene	ND	H	2.4		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Bromoform	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Isopropylbenzene	ND	H	2.4		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
Bromobenzene	ND	H	2.4		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
N-Propylbenzene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
1,2,3-Trichloropropane	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
2-Chlorotoluene	ND	H	2.4		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
1,3,5-Trimethylbenzene	ND	H	6.0		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
4-Chlorotoluene	ND	H	2.4		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
tert-Butylbenzene	ND	H	2.4		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
1,2,4-Trimethylbenzene	ND	H	2.4		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
sec-Butylbenzene	ND	H	2.4		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1
1,3-Dichlorobenzene	ND	H	1.2		ug/Kg	☼	06/09/11 09:59	06/10/11 02:14	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: E-WETSOIL-052611-0.5-1.0

Lab Sample ID: 580-26451-47

Date Collected: 05/26/11 16:05

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 87.2

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND	H	2.4		ug/Kg	*	06/09/11 09:59	06/10/11 02:14	1
1,4-Dichlorobenzene	ND	H	1.2		ug/Kg	*	06/09/11 09:59	06/10/11 02:14	1
n-Butylbenzene	ND	H	2.4		ug/Kg	*	06/09/11 09:59	06/10/11 02:14	1
1,2-Dichlorobenzene	ND	H	1.2		ug/Kg	*	06/09/11 09:59	06/10/11 02:14	1
1,2-Dibromo-3-Chloropropane	ND	H	2.4		ug/Kg	*	06/09/11 09:59	06/10/11 02:14	1
1,2,4-Trichlorobenzene	ND	H	2.4		ug/Kg	*	06/09/11 09:59	06/10/11 02:14	1
1,2,3-Trichlorobenzene	ND	H	2.4		ug/Kg	*	06/09/11 09:59	06/10/11 02:14	1
Hexachlorobutadiene	ND	H	1.2		ug/Kg	*	06/09/11 09:59	06/10/11 02:14	1
Naphthalene	ND	H	6.0		ug/Kg	*	06/09/11 09:59	06/10/11 02:14	1
Methyl tert-butyl ether	ND	H	1.2		ug/Kg	*	06/09/11 09:59	06/10/11 02:14	1
Carbon disulfide	ND	H	1.2		ug/Kg	*	06/09/11 09:59	06/10/11 02:14	1
Acetone	ND	H	18		ug/Kg	*	06/09/11 09:59	06/10/11 02:14	1
4-Methyl-2-pentanone	ND	H	6.0		ug/Kg	*	06/09/11 09:59	06/10/11 02:14	1
2-Butanone	ND	H	6.0		ug/Kg	*	06/09/11 09:59	06/10/11 02:14	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	105		80 - 120				06/09/11 09:59	06/10/11 02:14	1
Toluene-d8 (Surr)	96		80 - 120				06/09/11 09:59	06/10/11 02:14	1
Ethylbenzene-d10	102		70 - 120				06/09/11 09:59	06/10/11 02:14	1
4-Bromofluorobenzene (Surr)	96		70 - 120				06/09/11 09:59	06/10/11 02:14	1
Trifluorotoluene (Surr)	88		65 - 140				06/09/11 09:59	06/10/11 02:14	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
alpha-BHC	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
beta-BHC	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
delta-BHC	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
4,4'-DDD	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
4,4'-DDE	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
4,4'-DDT	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
Dieldrin	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
Endosulfan I	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
Endosulfan II	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
Endosulfan sulfate	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
Endrin	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
Endrin aldehyde	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
Heptachlor	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
Heptachlor epoxide	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
Methoxychlor	ND		11		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
Endrin ketone	ND		2.2		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
Toxaphene	ND		110		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
alpha-Chlordane	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
gamma-Chlordane	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 16:54	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	72		49 - 123				06/07/11 09:42	06/15/11 16:54	1
DCB Decachlorobiphenyl	47		40 - 158				06/07/11 09:42	06/15/11 16:54	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: E-WETSOIL-052611-0.5-1.0

Lab Sample ID: 580-26451-47

Date Collected: 05/26/11 16:05

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 87.2

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		110		mg/Kg	☼	06/06/11 15:03	06/07/11 16:03	1
Gasoline	ND		22		mg/Kg	☼	06/06/11 15:03	06/07/11 16:03	1
#2 Diesel (>C12-C24)	ND		54		mg/Kg	☼	06/06/11 15:03	06/07/11 16:03	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	107		50 - 150				06/06/11 15:03	06/07/11 16:03	1
4-Bromofluorobenzene (Surr)	100		50 - 150				06/06/11 15:03	06/07/11 16:03	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.4		mg/Kg	☼	06/10/11 13:06	06/10/11 18:55	1
Lead	4.2		1.2		mg/Kg	☼	06/10/11 13:06	06/10/11 18:55	1
Antimony	ND		2.4		mg/Kg	☼	06/10/11 13:06	06/10/11 18:55	1
Cadmium	ND		0.40		mg/Kg	☼	06/10/11 13:06	06/10/11 18:55	1
Copper	17		0.80		mg/Kg	☼	06/10/11 13:06	06/10/11 18:55	1
Manganese	160		0.80		mg/Kg	☼	06/10/11 13:06	06/10/11 18:55	1
Zinc	310		16		mg/Kg	☼	06/10/11 13:06	06/13/11 21:40	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.043		0.015		mg/Kg	☼	06/13/11 08:00	06/13/11 11:50	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87		0.10		%			06/03/11 10:48	1
Percent Moisture	13		0.10		%			06/03/11 10:48	1



Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: E-WETSOIL-2-052611-0.5-1.0

Lab Sample ID: 580-26451-48

Date Collected: 05/26/11 16:47

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 87.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Chloromethane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Vinyl chloride	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Bromomethane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Chloroethane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Trichlorofluoromethane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
1,1-Dichloroethene	ND	H	4.5		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Methylene Chloride	ND	H	14		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
trans-1,2-Dichloroethene	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
1,1-Dichloroethane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
2,2-Dichloropropane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
cis-1,2-Dichloroethene	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Chlorobromomethane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Chloroform	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
1,1,1-Trichloroethane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Carbon tetrachloride	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
1,1-Dichloropropene	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Benzene	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
1,2-Dichloroethane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Trichloroethene	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
1,2-Dichloropropane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Dibromomethane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Dichlorobromomethane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
cis-1,3-Dichloropropene	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Toluene	ND	H	1.8		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
trans-1,3-Dichloropropene	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
1,1,2-Trichloroethane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Tetrachloroethene	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
1,3-Dichloropropane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Chlorodibromomethane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Ethylene Dibromide	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Chlorobenzene	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Ethylbenzene	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
1,1,1,2-Tetrachloroethane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
1,1,2,2-Tetrachloroethane	ND	H	1.8		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
m-Xylene & p-Xylene	ND	H	1.8		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
o-Xylene	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Styrene	ND	H	1.8		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Bromoform	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Isopropylbenzene	ND	H	1.8		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
Bromobenzene	ND	H	1.8		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
N-Propylbenzene	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
1,2,3-Trichloropropane	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
2-Chlorotoluene	ND	H	1.8		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
1,3,5-Trimethylbenzene	ND	H	4.5		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
4-Chlorotoluene	ND	H	1.8		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
tert-Butylbenzene	ND	H	1.8		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
1,2,4-Trimethylbenzene	ND	H	1.8		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
sec-Butylbenzene	ND	H	1.8		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1
1,3-Dichlorobenzene	ND	H	0.91		ug/Kg	*	06/09/11 09:59	06/10/11 00:14	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: E-WETSOIL-2-052611-0.5-1.0

Lab Sample ID: 580-26451-48

Date Collected: 05/26/11 16:47

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 87.3

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND	H	1.8		ug/Kg	☼	06/09/11 09:59	06/10/11 00:14	1
1,4-Dichlorobenzene	ND	H	0.91		ug/Kg	☼	06/09/11 09:59	06/10/11 00:14	1
n-Butylbenzene	ND	H	1.8		ug/Kg	☼	06/09/11 09:59	06/10/11 00:14	1
1,2-Dichlorobenzene	ND	H	0.91		ug/Kg	☼	06/09/11 09:59	06/10/11 00:14	1
1,2-Dibromo-3-Chloropropane	ND	H	1.8		ug/Kg	☼	06/09/11 09:59	06/10/11 00:14	1
1,2,4-Trichlorobenzene	ND	H	1.8		ug/Kg	☼	06/09/11 09:59	06/10/11 00:14	1
1,2,3-Trichlorobenzene	ND	H	1.8		ug/Kg	☼	06/09/11 09:59	06/10/11 00:14	1
Hexachlorobutadiene	ND	H	0.91		ug/Kg	☼	06/09/11 09:59	06/10/11 00:14	1
Naphthalene	ND	H	4.5		ug/Kg	☼	06/09/11 09:59	06/10/11 00:14	1
Methyl tert-butyl ether	ND	H	0.91		ug/Kg	☼	06/09/11 09:59	06/10/11 00:14	1
Carbon disulfide	1.0	H	0.91		ug/Kg	☼	06/09/11 09:59	06/10/11 00:14	1
Acetone	29	H	14		ug/Kg	☼	06/09/11 09:59	06/10/11 00:14	1
4-Methyl-2-pentanone	ND	H	4.5		ug/Kg	☼	06/09/11 09:59	06/10/11 00:14	1
2-Butanone	ND	H	4.5		ug/Kg	☼	06/09/11 09:59	06/10/11 00:14	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	103		80 - 120				06/09/11 09:59	06/10/11 00:14	1
Toluene-d8 (Surr)	93		80 - 120				06/09/11 09:59	06/10/11 00:14	1
Ethylbenzene-d10	97		70 - 120				06/09/11 09:59	06/10/11 00:14	1
4-Bromofluorobenzene (Surr)	89		70 - 120				06/09/11 09:59	06/10/11 00:14	1
Trifluorotoluene (Surr)	82		65 - 140				06/09/11 09:59	06/10/11 00:14	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
alpha-BHC	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
beta-BHC	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
delta-BHC	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
4,4'-DDD	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
4,4'-DDE	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
4,4'-DDT	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
Dieldrin	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
Endosulfan I	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
Endosulfan II	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
Endosulfan sulfate	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
Endrin	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
Endrin aldehyde	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
Heptachlor	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
Heptachlor epoxide	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
Methoxychlor	ND		11		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
Endrin ketone	ND		2.3		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
Toxaphene	ND		110		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
alpha-Chlordane	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
gamma-Chlordane	ND		1.1		ug/Kg	☼	06/07/11 09:42	06/15/11 17:14	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	75		49 - 123				06/07/11 09:42	06/15/11 17:14	1
DCB Decachlorobiphenyl	56		40 - 158				06/07/11 09:42	06/15/11 17:14	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: E-WETSOIL-2-052611-0.5-1.0

Lab Sample ID: 580-26451-48

Date Collected: 05/26/11 16:47

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 87.3

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		110		mg/Kg	☼	06/06/11 15:03	06/07/11 16:26	1
Gasoline	ND		22		mg/Kg	☼	06/06/11 15:03	06/07/11 16:26	1
#2 Diesel (>C12-C24)	ND		55		mg/Kg	☼	06/06/11 15:03	06/07/11 16:26	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	107		50 - 150				06/06/11 15:03	06/07/11 16:26	1
4-Bromofluorobenzene (Surr)	101		50 - 150				06/06/11 15:03	06/07/11 16:26	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.4		mg/Kg	☼	06/10/11 13:06	06/10/11 19:00	1
Lead	19		1.7		mg/Kg	☼	06/10/11 13:06	06/10/11 19:00	1
Antimony	ND		3.4		mg/Kg	☼	06/10/11 13:06	06/10/11 19:00	1
Cadmium	1.6		0.56		mg/Kg	☼	06/10/11 13:06	06/10/11 19:00	1
Copper	19		1.1		mg/Kg	☼	06/10/11 13:06	06/10/11 19:00	1
Manganese	250		1.1		mg/Kg	☼	06/10/11 13:06	06/10/11 19:00	1
Zinc	670		22		mg/Kg	☼	06/10/11 13:06	06/13/11 21:43	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.071		0.017		mg/Kg	☼	06/13/11 08:00	06/13/11 11:51	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87		0.10		%			06/03/11 10:48	1
Percent Moisture	13		0.10		%			06/03/11 10:48	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: E-WETSOIL-2-052611-1.0-2.0

Lab Sample ID: 580-26451-49

Date Collected: 05/26/11 16:55

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 82.2

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Chloromethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Vinyl chloride	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Bromomethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Chloroethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Trichlorofluoromethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
1,1-Dichloroethene	ND	H	6.5		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Methylene Chloride	ND	H	19		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
trans-1,2-Dichloroethene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
1,1-Dichloroethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
2,2-Dichloropropane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
cis-1,2-Dichloroethene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Chlorobromomethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Chloroform	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
1,1,1-Trichloroethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Carbon tetrachloride	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
1,1-Dichloropropene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Benzene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
1,2-Dichloroethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Trichloroethene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
1,2-Dichloropropane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Dibromomethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Dichlorobromomethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
cis-1,3-Dichloropropene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Toluene	ND	H	2.6		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
trans-1,3-Dichloropropene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
1,1,2-Trichloroethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Tetrachloroethene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
1,3-Dichloropropane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Chlorodibromomethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Ethylene Dibromide	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Chlorobenzene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Ethylbenzene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
1,1,1,2-Tetrachloroethane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
1,1,2,2-Tetrachloroethane	ND	H	2.6		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
m-Xylene & p-Xylene	ND	H	2.6		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
o-Xylene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Styrene	ND	H	2.6		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Bromoform	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Isopropylbenzene	ND	H	2.6		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
Bromobenzene	ND	H	2.6		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
N-Propylbenzene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
1,2,3-Trichloropropane	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
2-Chlorotoluene	ND	H	2.6		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
1,3,5-Trimethylbenzene	ND	H	6.5		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
4-Chlorotoluene	ND	H	2.6		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
tert-Butylbenzene	ND	H	2.6		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
1,2,4-Trimethylbenzene	ND	H	2.6		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
sec-Butylbenzene	ND	H	2.6		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1
1,3-Dichlorobenzene	ND	H	1.3		ug/Kg	☼	06/09/11 09:59	06/10/11 02:39	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: E-WETSOIL-2-052611-1.0-2.0

Lab Sample ID: 580-26451-49

Date Collected: 05/26/11 16:55

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 82.2

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND	H	2.6		ug/Kg	*	06/09/11 09:59	06/10/11 02:39	1
1,4-Dichlorobenzene	ND	H	1.3		ug/Kg	*	06/09/11 09:59	06/10/11 02:39	1
n-Butylbenzene	ND	H	2.6		ug/Kg	*	06/09/11 09:59	06/10/11 02:39	1
1,2-Dichlorobenzene	ND	H	1.3		ug/Kg	*	06/09/11 09:59	06/10/11 02:39	1
1,2-Dibromo-3-Chloropropane	ND	H	2.6		ug/Kg	*	06/09/11 09:59	06/10/11 02:39	1
1,2,4-Trichlorobenzene	ND	H	2.6		ug/Kg	*	06/09/11 09:59	06/10/11 02:39	1
1,2,3-Trichlorobenzene	ND	H	2.6		ug/Kg	*	06/09/11 09:59	06/10/11 02:39	1
Hexachlorobutadiene	ND	H	1.3		ug/Kg	*	06/09/11 09:59	06/10/11 02:39	1
Naphthalene	ND	H	6.5		ug/Kg	*	06/09/11 09:59	06/10/11 02:39	1
Methyl tert-butyl ether	ND	H	1.3		ug/Kg	*	06/09/11 09:59	06/10/11 02:39	1
Carbon disulfide	ND	H	1.3		ug/Kg	*	06/09/11 09:59	06/10/11 02:39	1
Acetone	38	H	19		ug/Kg	*	06/09/11 09:59	06/10/11 02:39	1
4-Methyl-2-pentanone	ND	H	6.5		ug/Kg	*	06/09/11 09:59	06/10/11 02:39	1
2-Butanone	ND	H	6.5		ug/Kg	*	06/09/11 09:59	06/10/11 02:39	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	102		80 - 120				06/09/11 09:59	06/10/11 02:39	1
Toluene-d8 (Surr)	97		80 - 120				06/09/11 09:59	06/10/11 02:39	1
Ethylbenzene-d10	102		70 - 120				06/09/11 09:59	06/10/11 02:39	1
4-Bromofluorobenzene (Surr)	96		70 - 120				06/09/11 09:59	06/10/11 02:39	1
Trifluorotoluene (Surr)	85		65 - 140				06/09/11 09:59	06/10/11 02:39	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
alpha-BHC	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
beta-BHC	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
delta-BHC	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
4,4'-DDD	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
4,4'-DDE	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
4,4'-DDT	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
Dieldrin	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
Endosulfan I	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
Endosulfan II	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
Endosulfan sulfate	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
Endrin	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
Endrin aldehyde	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
Heptachlor	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
Heptachlor epoxide	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
Methoxychlor	ND		11		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
Endrin ketone	ND		2.3		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
Toxaphene	ND		110		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
alpha-Chlordane	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
gamma-Chlordane	ND		1.1		ug/Kg	*	06/07/11 09:42	06/15/11 17:33	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	82		49 - 123				06/07/11 09:42	06/15/11 17:33	1
DCB Decachlorobiphenyl	62		40 - 158				06/07/11 09:42	06/15/11 17:33	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: E-WETSOIL-2-052611-1.0-2.0

Lab Sample ID: 580-26451-49

Date Collected: 05/26/11 16:55

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 82.2

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		120		mg/Kg	☼	06/06/11 15:03	06/07/11 16:47	1
Gasoline	ND		23		mg/Kg	☼	06/06/11 15:03	06/07/11 16:47	1
#2 Diesel (>C12-C24)	ND		58		mg/Kg	☼	06/06/11 15:03	06/07/11 16:47	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	106		50 - 150				06/06/11 15:03	06/07/11 16:47	1
4-Bromofluorobenzene (Surr)	95		50 - 150				06/06/11 15:03	06/07/11 16:47	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.0		mg/Kg	☼	06/10/11 13:06	06/10/11 19:04	1
Lead	4.4		1.5		mg/Kg	☼	06/10/11 13:06	06/10/11 19:04	1
Antimony	ND		3.0		mg/Kg	☼	06/10/11 13:06	06/10/11 19:04	1
Cadmium	1.8		0.50		mg/Kg	☼	06/10/11 13:06	06/10/11 19:04	1
Copper	20		0.99		mg/Kg	☼	06/10/11 13:06	06/10/11 19:04	1
Manganese	270		0.99		mg/Kg	☼	06/10/11 13:06	06/10/11 19:04	1
Zinc	870		20		mg/Kg	☼	06/10/11 13:06	06/13/11 21:46	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.059		0.018		mg/Kg	☼	06/13/11 08:00	06/13/11 11:53	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82		0.10		%			06/03/11 10:48	1
Percent Moisture	18		0.10		%			06/03/11 10:48	1



Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: TB

Lab Sample ID: 580-26451-50

Date Collected: 05/26/11 00:00

Matrix: Solid

Date Received: 05/31/11 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Chloromethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Vinyl chloride	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Bromomethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Chloroethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Trichlorofluoromethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,1-Dichloroethene	ND		5.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Methylene Chloride	ND		15		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
trans-1,2-Dichloroethene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,1-Dichloroethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
2,2-Dichloropropane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
cis-1,2-Dichloroethene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Chlorobromomethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Chloroform	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,1,1-Trichloroethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Carbon tetrachloride	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,1-Dichloropropene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Benzene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,2-Dichloroethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Trichloroethene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,2-Dichloropropane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Dibromomethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Dichlorobromomethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Toluene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
trans-1,3-Dichloropropene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,1,2-Trichloroethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Tetrachloroethene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,3-Dichloropropane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Chlorodibromomethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Ethylene Dibromide	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Chlorobenzene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Ethylbenzene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
o-Xylene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Styrene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Bromoform	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Isopropylbenzene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Bromobenzene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
N-Propylbenzene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,2,3-Trichloropropane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
2-Chlorotoluene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
4-Chlorotoluene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
tert-Butylbenzene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
sec-Butylbenzene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,3-Dichlorobenzene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: TB

Lab Sample ID: 580-26451-50

Date Collected: 05/26/11 00:00

Matrix: Solid

Date Received: 05/31/11 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
n-Butylbenzene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,2-Dichlorobenzene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
1,2,3-Trichlorobenzene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Hexachlorobutadiene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Naphthalene	ND		5.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Methyl tert-butyl ether	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Carbon disulfide	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Acetone	ND		15		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
4-Methyl-2-pentanone	ND		5.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
2-Butanone	ND		5.0		ug/Kg		06/09/11 09:59	06/09/11 20:36	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	104		80 - 120				06/09/11 09:59	06/09/11 20:36	1
Toluene-d8 (Surr)	97		80 - 120				06/09/11 09:59	06/09/11 20:36	1
Ethylbenzene-d10	96		70 - 120				06/09/11 09:59	06/09/11 20:36	1
4-Bromofluorobenzene (Surr)	93		70 - 120				06/09/11 09:59	06/09/11 20:36	1
Trifluorotoluene (Surr)	108		65 - 140				06/09/11 09:59	06/09/11 20:36	1

QC Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-87534/1-A
Matrix: Solid
Analysis Batch: 87535

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87534

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dichlorodifluoromethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Chloromethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Vinyl chloride	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Bromomethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Chloroethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Trichlorofluoromethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,1-Dichloroethene	ND		5.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Methylene Chloride	ND		15		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
trans-1,2-Dichloroethene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,1-Dichloroethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
2,2-Dichloropropane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
cis-1,2-Dichloroethene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Chlorobromomethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Chloroform	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,1,1-Trichloroethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Carbon tetrachloride	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,1-Dichloropropene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Benzene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,2-Dichloroethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Trichloroethene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,2-Dichloropropane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Dibromomethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Dichlorobromomethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Toluene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
trans-1,3-Dichloropropene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,1,2-Trichloroethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Tetrachloroethene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,3-Dichloropropane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Chlorodibromomethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Ethylene Dibromide	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Chlorobenzene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Ethylbenzene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
o-Xylene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Styrene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Bromoform	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Isopropylbenzene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Bromobenzene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
N-Propylbenzene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,2,3-Trichloropropane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
2-Chlorotoluene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
4-Chlorotoluene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
tert-Butylbenzene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
sec-Butylbenzene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-87534/1-A

Matrix: Solid

Analysis Batch: 87535

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 87534

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,3-Dichlorobenzene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
4-Isopropyltoluene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
n-Butylbenzene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,2-Dichlorobenzene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,2,3-Trichlorobenzene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Hexachlorobutadiene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Naphthalene	ND		5.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Methyl tert-butyl ether	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Carbon disulfide	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Acetone	ND		15		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
4-Methyl-2-pentanone	ND		5.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
2-Butanone	ND		5.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
Fluorobenzene (Surr)	100		80 - 120	06/08/11 17:34	06/08/11 17:51	1
Toluene-d8 (Surr)	104		80 - 120	06/08/11 17:34	06/08/11 17:51	1
Ethylbenzene-d10	105		70 - 120	06/08/11 17:34	06/08/11 17:51	1
4-Bromofluorobenzene (Surr)	108		70 - 120	06/08/11 17:34	06/08/11 17:51	1
Trifluorotoluene (Surr)	141	X	65 - 140	06/08/11 17:34	06/08/11 17:51	1

Lab Sample ID: LCS 580-87534/2-A

Matrix: Solid

Analysis Batch: 87535

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 87534

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
1,1-Dichloroethene	40.0	37.0		ug/Kg		93	65 - 135
Benzene	40.0	43.7		ug/Kg		109	75 - 125
Trichloroethene	40.0	44.5		ug/Kg		111	75 - 125
Toluene	40.0	44.6		ug/Kg		112	70 - 125
Chlorobenzene	40.0	45.8		ug/Kg		115	75 - 125

Surrogate	LCS LCS		Limits
	% Recovery	Qualifier	
Fluorobenzene (Surr)	99		80 - 120
Toluene-d8 (Surr)	101		80 - 120
Ethylbenzene-d10	110		70 - 120
4-Bromofluorobenzene (Surr)	103		70 - 120
Trifluorotoluene (Surr)	120		65 - 140

Lab Sample ID: LCSD 580-87534/3-A

Matrix: Solid

Analysis Batch: 87535

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 87534

Analyte	Spike Added	LCSD LCSD		Unit	D	% Rec	% Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
1,1-Dichloroethene	40.0	33.5		ug/Kg		84	65 - 135	10	30
Benzene	40.0	38.9		ug/Kg		97	75 - 125	12	30
Trichloroethene	40.0	39.4		ug/Kg		99	75 - 125	12	30

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-87534/3-A

Matrix: Solid

Analysis Batch: 87535

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 87534

Analyte	Spike	LCSD	LCSD	Unit	D	% Rec	% Rec.	RPD	RPD
	Added	Result	Qualifier						
Toluene	40.0	39.1		ug/Kg		98	70 - 125	13	30
Chlorobenzene	40.0	41.2		ug/Kg		103	75 - 125	11	30

Surrogate	LCSD	LCSD	Limits
	% Recovery	Qualifier	
Fluorobenzene (Surr)	99		80 - 120
Toluene-d8 (Surr)	102		80 - 120
Ethylbenzene-d10	106		70 - 120
4-Bromofluorobenzene (Surr)	101		70 - 120
Trifluorotoluene (Surr)	107		65 - 140

Lab Sample ID: MB 580-87581/1-A

Matrix: Solid

Analysis Batch: 87638

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 87581

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dichlorodifluoromethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Chloromethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Vinyl chloride	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Bromomethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Chloroethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Trichlorofluoromethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,1-Dichloroethene	ND		5.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Methylene Chloride	ND		15		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
trans-1,2-Dichloroethene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,1-Dichloroethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
2,2-Dichloropropane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
cis-1,2-Dichloroethene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Chlorobromomethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Chloroform	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,1,1-Trichloroethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Carbon tetrachloride	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,1-Dichloropropene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Benzene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,2-Dichloroethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Trichloroethene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,2-Dichloropropane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Dibromomethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Dichlorobromomethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Toluene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
trans-1,3-Dichloropropene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,1,2-Trichloroethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Tetrachloroethene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,3-Dichloropropane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Chlorodibromomethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Ethylene Dibromide	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Chlorobenzene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Ethylbenzene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-87581/1-A

Matrix: Solid

Analysis Batch: 87638

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 87581

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,2,2-Tetrachloroethane	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
o-Xylene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Styrene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Bromoform	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Isopropylbenzene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Bromobenzene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
N-Propylbenzene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,2,3-Trichloropropane	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
2-Chlorotoluene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
4-Chlorotoluene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
tert-Butylbenzene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
sec-Butylbenzene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,3-Dichlorobenzene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
4-Isopropyltoluene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
n-Butylbenzene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,2-Dichlorobenzene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
1,2,3-Trichlorobenzene	ND		2.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Hexachlorobutadiene	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Naphthalene	ND		5.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Methyl tert-butyl ether	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Carbon disulfide	ND		1.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
Acetone	ND		15		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
4-Methyl-2-pentanone	ND		5.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1
2-Butanone	ND		5.0		ug/Kg		06/09/11 09:59	06/09/11 19:24	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
Fluorobenzene (Surr)	103		80 - 120	06/09/11 09:59	06/09/11 19:24	1
Toluene-d8 (Surr)	98		80 - 120	06/09/11 09:59	06/09/11 19:24	1
Ethylbenzene-d10	111		70 - 120	06/09/11 09:59	06/09/11 19:24	1
4-Bromofluorobenzene (Surr)	100		70 - 120	06/09/11 09:59	06/09/11 19:24	1
Trifluorotoluene (Surr)	102		65 - 140	06/09/11 09:59	06/09/11 19:24	1

Lab Sample ID: LCS 580-87581/2-A

Matrix: Solid

Analysis Batch: 87638

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 87581

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	40.0	40.1		ug/Kg		100	75 - 125
Trichloroethene	40.0	39.1		ug/Kg		98	75 - 125
Toluene	40.0	39.0		ug/Kg		98	70 - 125
Chlorobenzene	40.0	39.4		ug/Kg		99	75 - 125

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-87581/2-A

Matrix: Solid

Analysis Batch: 87638

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 87581

Surrogate	LCS LCS		Limits
	% Recovery	Qualifier	
Fluorobenzene (Surr)	104		80 - 120
Toluene-d8 (Surr)	102		80 - 120
Ethylbenzene-d10	104		70 - 120
4-Bromofluorobenzene (Surr)	94		70 - 120
Trifluorotoluene (Surr)	108		65 - 140

Lab Sample ID: LCSD 580-87581/3-A

Matrix: Solid

Analysis Batch: 87638

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 87581

Analyte	Spike Added	LCSD LCSD		Unit	D	% Rec	% Rec.		RPD	Limit
		Result	Qualifier				Limits	RPD		
1,1-Dichloroethene	40.0	38.3		ug/Kg		96	65 - 135	4	30	
Benzene	40.0	40.7		ug/Kg		102	75 - 125	1	30	
Trichloroethene	40.0	39.1		ug/Kg		98	75 - 125	0	30	
Toluene	40.0	37.6		ug/Kg		94	70 - 125	4	30	
Chlorobenzene	40.0	38.6		ug/Kg		97	75 - 125	2	30	

Surrogate	LCSD LCSD		Limits
	% Recovery	Qualifier	
Fluorobenzene (Surr)	103		80 - 120
Toluene-d8 (Surr)	97		80 - 120
Ethylbenzene-d10	104		70 - 120
4-Bromofluorobenzene (Surr)	98		70 - 120
Trifluorotoluene (Surr)	97		65 - 140

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-87157/1-A

Matrix: Solid

Analysis Batch: 88098

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 87157

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aldrin	ND		1.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
alpha-BHC	ND		1.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
beta-BHC	ND		1.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
delta-BHC	ND		1.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
4,4'-DDD	ND		2.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
4,4'-DDE	ND		2.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
4,4'-DDT	ND	^	2.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
Dieldrin	ND		2.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
Endosulfan I	ND		1.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
Endosulfan II	ND		2.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
Endosulfan sulfate	ND		2.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
Endrin	ND		2.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
Endrin aldehyde	ND		2.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
Heptachlor	ND	^	1.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
Heptachlor epoxide	ND		1.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
Methoxychlor	ND		10		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
Endrin ketone	ND		2.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1

TestAmerica Seattle

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 580-87157/1-A

Matrix: Solid

Analysis Batch: 88098

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 87157

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Toxaphene	ND		100		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
alpha-Chlordane	ND		1.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1
gamma-Chlordane	ND		1.0		ug/Kg		06/03/11 09:27	06/16/11 14:39	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
Tetrachloro-m-xylene	97		49 - 123	06/03/11 09:27	06/16/11 14:39	1
DCB Decachlorobiphenyl	87	^	40 - 158	06/03/11 09:27	06/16/11 14:39	1

Lab Sample ID: LCS 580-87157/2-A

Matrix: Solid

Analysis Batch: 88098

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 87157

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Aldrin	20.0	20.1		ug/Kg		101	53 - 126	
alpha-BHC	20.0	18.9		ug/Kg		95	41 - 128	
beta-BHC	20.0	17.3		ug/Kg		87	48 - 121	
delta-BHC	20.0	15.9		ug/Kg		80	22 - 153	
gamma-BHC (Lindane)	20.0	20.4		ug/Kg		102	50 - 127	
4,4'-DDD	20.0	18.9		ug/Kg		95	44 - 141	
4,4'-DDE	20.0	18.8		ug/Kg		94	47 - 140	
4,4'-DDT	20.0	13.8	^	ug/Kg		69	34 - 159	
Dieldrin	20.0	19.1		ug/Kg		96	53 - 134	
Endosulfan I	20.0	18.7		ug/Kg		94	52 - 122	
Endosulfan II	20.0	17.6		ug/Kg		88	53 - 132	
Endosulfan sulfate	20.0	16.7		ug/Kg		84	42 - 128	
Endrin	20.0	19.0		ug/Kg		95	46 - 138	
Endrin aldehyde	20.0	17.4		ug/Kg		87	12 - 179	
Heptachlor	20.0	23.6	^	ug/Kg		118	50 - 130	
Heptachlor epoxide	20.0	18.8		ug/Kg		94	49 - 123	
Methoxychlor	20.0	16.7		ug/Kg		84	46 - 154	
Endrin ketone	20.0	18.1		ug/Kg		91	45 - 127	
alpha-Chlordane	20.0	18.2		ug/Kg		91	46 - 118	
gamma-Chlordane	20.0	18.4		ug/Kg		92	49 - 122	

Surrogate	LCS LCS		Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	91		49 - 123
DCB Decachlorobiphenyl	74	^	40 - 158

Lab Sample ID: MB 580-87349/1-A

Matrix: Solid

Analysis Batch: 87956

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 87349

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aldrin	ND		1.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
alpha-BHC	ND		1.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
beta-BHC	ND		1.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
delta-BHC	ND		1.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
4,4'-DDD	ND		2.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1

TestAmerica Seattle

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 580-87349/1-A

Matrix: Solid

Analysis Batch: 87956

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 87349

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
4,4'-DDE	ND		2.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
4,4'-DDT	ND		2.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
Dieldrin	ND		2.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
Endosulfan I	ND		1.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
Endosulfan II	ND		2.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
Endosulfan sulfate	ND		2.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
Endrin	ND		2.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
Endrin aldehyde	ND		2.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
Heptachlor	ND		1.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
Heptachlor epoxide	ND		1.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
Methoxychlor	ND		10		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
Endrin ketone	ND		2.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
Toxaphene	ND		100		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
alpha-Chlordane	ND		1.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1
gamma-Chlordane	ND		1.0		ug/Kg		06/07/11 09:42	06/15/11 10:04	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
Tetrachloro-m-xylene	87		49 - 123	06/07/11 09:42	06/15/11 10:04	1
DCB Decachlorobiphenyl	77		40 - 158	06/07/11 09:42	06/15/11 10:04	1

Lab Sample ID: LCS 580-87349/2-A

Matrix: Solid

Analysis Batch: 87956

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 87349

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
Aldrin	20.0	20.7		ug/Kg		104	53 - 126
alpha-BHC	20.0	20.2		ug/Kg		101	41 - 128
beta-BHC	20.0	20.1		ug/Kg		101	48 - 121
delta-BHC	20.0	18.8		ug/Kg		94	22 - 153
gamma-BHC (Lindane)	20.0	19.5		ug/Kg		98	50 - 127
4,4'-DDD	20.0	20.1		ug/Kg		101	44 - 141
4,4'-DDE	20.0	20.7		ug/Kg		104	47 - 140
4,4'-DDT	20.0	21.6		ug/Kg		108	34 - 159
Dieldrin	20.0	20.4		ug/Kg		102	53 - 134
Endosulfan I	20.0	20.0		ug/Kg		100	52 - 122
Endosulfan II	20.0	19.6		ug/Kg		98	53 - 132
Endosulfan sulfate	20.0	18.9		ug/Kg		95	42 - 128
Endrin	20.0	21.4		ug/Kg		107	46 - 138
Endrin aldehyde	20.0	20.0		ug/Kg		100	12 - 179
Heptachlor	20.0	22.3		ug/Kg		112	50 - 130
Heptachlor epoxide	20.0	20.2		ug/Kg		101	49 - 123
Methoxychlor	20.0	22.3		ug/Kg		112	46 - 154
Endrin ketone	20.0	19.6		ug/Kg		98	45 - 127
alpha-Chlordane	20.0	20.0		ug/Kg		100	46 - 118
gamma-Chlordane	20.0	19.9		ug/Kg		100	49 - 122

Surrogate	LCS LCS		Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	92		49 - 123
DCB Decachlorobiphenyl	82		40 - 158

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 580-26451-26 MS

Matrix: Solid

Analysis Batch: 87956

Client Sample ID: H-TP3-052611-0.0-0.5

Prep Type: Total/NA

Prep Batch: 87349

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Aldrin	ND		20.9	12.2		ug/Kg	*	59	53 - 126	
alpha-BHC	ND		20.9	13.7		ug/Kg	*	66	41 - 128	
beta-BHC	ND		20.9	12.1		ug/Kg	*	58	48 - 121	
delta-BHC	ND		20.9	11.6		ug/Kg	*	56	22 - 153	
gamma-BHC (Lindane)	ND		20.9	12.7		ug/Kg	*	61	50 - 127	
4,4'-DDD	3.0		20.9	16.4		ug/Kg	*	73	44 - 141	
4,4'-DDE	4.4		20.9	18.4		ug/Kg	*	73	47 - 140	
4,4'-DDT	3.1		20.9	18.8		ug/Kg	*	66	34 - 159	
Dieldrin	3.0		20.9	16.8		ug/Kg	*	61	53 - 134	
Endosulfan I	ND		20.9	14.5		ug/Kg	*	70	52 - 122	
Endosulfan II	ND		20.9	13.1		ug/Kg	*	63	53 - 132	
Endosulfan sulfate	ND		20.9	12.7		ug/Kg	*	61	42 - 128	
Endrin	ND		20.9	16.2		ug/Kg	*	78	46 - 138	
Endrin aldehyde	ND		20.9	12.1		ug/Kg	*	58	12 - 179	
Heptachlor	ND		20.9	15.0		ug/Kg	*	72	50 - 130	
Heptachlor epoxide	ND		20.9	14.8		ug/Kg	*	70	49 - 123	
Methoxychlor	ND		20.9	17.8		ug/Kg	*	86	46 - 154	
Endrin ketone	ND		20.9	14.4		ug/Kg	*	69	45 - 127	
alpha-Chlordane	3.2		20.9	16.3		ug/Kg	*	71	46 - 118	
gamma-Chlordane	3.8		20.9	17.1		ug/Kg	*	76	49 - 122	
		MS MS								
Surrogate	% Recovery	Qualifier	Limits							
Tetrachloro-m-xylene	60		49 - 123							
DCB Decachlorobiphenyl	50		40 - 158							

Lab Sample ID: 580-26451-26 MSD

Matrix: Solid

Analysis Batch: 87956

Client Sample ID: H-TP3-052611-0.0-0.5

Prep Type: Total/NA

Prep Batch: 87349

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Aldrin	ND		21.3	12.6		ug/Kg	*	59	53 - 126	8	30	
alpha-BHC	ND		21.3	13.9		ug/Kg	*	66	41 - 128	5	30	
beta-BHC	ND		21.3	12.5		ug/Kg	*	59	48 - 121	4	30	
delta-BHC	ND		21.3	12.0		ug/Kg	*	57	22 - 153	2	30	
gamma-BHC (Lindane)	ND		21.3	13.0		ug/Kg	*	61	50 - 127	17	30	
4,4'-DDD	3.0		21.3	17.5	F	ug/Kg	*	68	44 - 141	35	30	
4,4'-DDE	4.4		21.3	18.6		ug/Kg	*	67	47 - 140	19	30	
4,4'-DDT	3.1		21.3	19.5		ug/Kg	*	77	34 - 159	20	30	
Dieldrin	3.0		21.3	17.5		ug/Kg	*	68	53 - 134	9	30	
Endosulfan I	ND		21.3	15.0	F	ug/Kg	*	71	52 - 122	57	30	
Endosulfan II	ND		21.3	14.3		ug/Kg	*	67	53 - 132	20	30	
Endosulfan sulfate	ND		21.3	13.7		ug/Kg	*	65	42 - 128	10	30	
Endrin	ND		21.3	16.8		ug/Kg	*	79	46 - 138	12	30	
Endrin aldehyde	ND		21.3	13.1		ug/Kg	*	62	12 - 179	24	30	
Heptachlor	ND		21.3	15.3		ug/Kg	*	72	50 - 130	16	30	
Heptachlor epoxide	ND		21.3	15.1		ug/Kg	*	67	49 - 123	28	30	
Methoxychlor	ND		21.3	18.8		ug/Kg	*	89	46 - 154	11	30	
Endrin ketone	ND		21.3	15.8		ug/Kg	*	74	45 - 127	9	30	
alpha-Chlordane	3.2		21.3	17.1	F	ug/Kg	*	65	46 - 118	54	30	

TestAmerica Seattle

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 580-26451-26 MSD

Matrix: Solid

Analysis Batch: 87956

Client Sample ID: H-TP3-052611-0.0-0.5

Prep Type: Total/NA

Prep Batch: 87349

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits	Limit	
gamma-Chlordane	3.8		21.3	17.7	F	ug/Kg	☼	65	49 - 122	45	30
MSD MSD											
Surrogate	% Recovery	Qualifier	Limits								
Tetrachloro-m-xylene	58		49 - 123								
DCB Decachlorobiphenyl	51		40 - 158								

Lab Sample ID: MB 580-88316/1-A

Matrix: Solid

Analysis Batch: 88444

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 88316

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aldrin	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
alpha-BHC	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
beta-BHC	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
delta-BHC	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
4,4'-DDD	ND		2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
4,4'-DDE	ND		2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
4,4'-DDT	ND	^	2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
Dieldrin	ND		2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
Endosulfan I	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
Endosulfan II	ND		2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
Endosulfan sulfate	ND		2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
Endrin	ND		2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
Endrin aldehyde	ND		2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
Heptachlor	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
Heptachlor epoxide	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
Methoxychlor	ND		10		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
Endrin ketone	ND		2.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
alpha-Chlordane	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
gamma-Chlordane	ND		1.0		ug/Kg		06/20/11 09:58	06/21/11 17:33	1
MB MB									
Surrogate	% Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Tetrachloro-m-xylene	105		49 - 123			06/20/11 09:58	06/21/11 17:33	1	
DCB Decachlorobiphenyl	110		40 - 158			06/20/11 09:58	06/21/11 17:33	1	

Lab Sample ID: MB 580-88316/1-A

Matrix: Solid

Analysis Batch: 88541

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 88316

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Toxaphene	ND		100		ug/Kg		06/20/11 09:58	06/22/11 12:27	1
MB MB									
Surrogate	% Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Tetrachloro-m-xylene	110		49 - 123			06/20/11 09:58	06/22/11 12:27	1	
DCB Decachlorobiphenyl	99		40 - 158			06/20/11 09:58	06/22/11 12:27	1	

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-88316/2-A
Matrix: Solid
Analysis Batch: 88444

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88316

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
Aldrin	20.0	20.3		ug/Kg		102	53 - 126
alpha-BHC	20.0	19.9		ug/Kg		100	41 - 128
beta-BHC	20.0	19.7		ug/Kg		99	48 - 121
delta-BHC	20.0	19.9		ug/Kg		100	22 - 153
gamma-BHC (Lindane)	20.0	19.4		ug/Kg		97	50 - 127
4,4'-DDD	20.0	24.2		ug/Kg		121	44 - 141
4,4'-DDE	20.0	21.2		ug/Kg		106	47 - 140
4,4'-DDT	20.0	13.4	^	ug/Kg		67	34 - 159
Dieldrin	20.0	20.9		ug/Kg		105	53 - 134
Endosulfan I	20.0	20.3		ug/Kg		102	52 - 122
Endosulfan II	20.0	20.7		ug/Kg		104	53 - 132
Endosulfan sulfate	20.0	20.3		ug/Kg		102	42 - 128
Endrin	20.0	21.7		ug/Kg		109	46 - 138
Endrin aldehyde	20.0	21.2		ug/Kg		106	12 - 179
Heptachlor	20.0	20.7		ug/Kg		104	50 - 130
Heptachlor epoxide	20.0	20.7		ug/Kg		104	49 - 123
Methoxychlor	20.0	15.5		ug/Kg		78	46 - 154
Endrin ketone	20.0	20.7		ug/Kg		104	45 - 127
alpha-Chlordane	20.0	20.3		ug/Kg		102	46 - 118
gamma-Chlordane	20.0	20.4		ug/Kg		102	49 - 122

Surrogate	LCS		Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	103		49 - 123
DCB Decachlorobiphenyl	111		40 - 158

Lab Sample ID: LCS 580-88316/2-A
Matrix: Solid
Analysis Batch: 88541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88316

Surrogate	LCS		Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	113		49 - 123
DCB Decachlorobiphenyl	105		40 - 158

Lab Sample ID: 580-26451-1 MS
Matrix: Solid
Analysis Batch: 88444

Client Sample ID: G-TP1-052511-0.0-0.5
Prep Type: Total/NA
Prep Batch: 88316

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	% Rec	% Rec. Limits
				Result	Qualifier				
Aldrin	ND	H	21.8	18.7	H	ug/Kg	☼	85	53 - 126
alpha-BHC	ND	H	21.8	20.8	H	ug/Kg	☼	95	41 - 128
beta-BHC	ND	H	21.8	19.3	H	ug/Kg	☼	88	48 - 121
delta-BHC	ND	H	21.8	19.8	H	ug/Kg	☼	90	22 - 153
gamma-BHC (Lindane)	ND	H	21.8	19.4	H	ug/Kg	☼	89	50 - 127
4,4'-DDD	ND	H	21.8	26.7	H	ug/Kg	☼	123	44 - 141
4,4'-DDE	7.3	H	21.8	29.6	H	ug/Kg	☼	102	47 - 140
4,4'-DDT	6.2	H ^	21.8	17.8	H ^	ug/Kg	☼	53	34 - 159
Dieldrin	ND	H	21.8	20.8	H	ug/Kg	☼	95	53 - 134
Endosulfan I	ND	H	21.8	20.4	H	ug/Kg	☼	93	52 - 122
Endosulfan II	ND	H	21.8	20.7	H	ug/Kg	☼	95	53 - 132

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 580-26451-1 MS

Matrix: Solid

Analysis Batch: 88444

Client Sample ID: G-TP1-052511-0.0-0.5

Prep Type: Total/NA

Prep Batch: 88316

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Endosulfan sulfate	ND	H	21.8	19.2	H	ug/Kg	☼	88	42 - 128	
Endrin	6.6	H	21.8	26.7	H	ug/Kg	☼	92	46 - 138	
Endrin aldehyde	ND	H	21.8	21.4	H	ug/Kg	☼	98	12 - 179	
Heptachlor	ND	H	21.8	19.6	H	ug/Kg	☼	90	50 - 130	
Heptachlor epoxide	ND	H	21.8	27.7	H F	ug/Kg	☼	127	49 - 123	
Methoxychlor	ND	H	21.8	17.0	H	ug/Kg	☼	78	46 - 154	
Endrin ketone	ND	H	21.8	20.8	H	ug/Kg	☼	96	45 - 127	
alpha-Chlordane	ND	H	21.8	19.5	H	ug/Kg	☼	89	46 - 118	
gamma-Chlordane	1.8	H	21.8	21.7	H	ug/Kg	☼	91	49 - 122	

Surrogate	MS	MS	Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	93		49 - 123
DCB Decachlorobiphenyl	83		40 - 158

Lab Sample ID: 580-26451-1 MS

Matrix: Solid

Analysis Batch: 88541

Client Sample ID: G-TP1-052511-0.0-0.5

Prep Type: Total/NA

Prep Batch: 88316

Surrogate	MS	MS	Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	104		49 - 123
DCB Decachlorobiphenyl	61		40 - 158

Lab Sample ID: 580-26451-1 MSD

Matrix: Solid

Analysis Batch: 88444

Client Sample ID: G-TP1-052511-0.0-0.5

Prep Type: Total/NA

Prep Batch: 88316

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Aldrin	ND	H	22.1	20.2	H	ug/Kg	☼	92	53 - 126	8	30	
alpha-BHC	ND	H	22.1	21.3	H	ug/Kg	☼	97	41 - 128	2	30	
beta-BHC	ND	H	22.1	20.5	H	ug/Kg	☼	93	48 - 121	6	30	
delta-BHC	ND	H	22.1	21.3	H	ug/Kg	☼	97	22 - 153	8	30	
gamma-BHC (Lindane)	ND	H	22.1	20.2	H	ug/Kg	☼	92	50 - 127	4	30	
4,4'-DDD	ND	H	22.1	29.5	H	ug/Kg	☼	134	44 - 141	10	30	
4,4'-DDE	7.3	H	22.1	35.0	H	ug/Kg	☼	125	47 - 140	17	30	
4,4'-DDT	6.2	H ^	22.1	19.4	H ^	ug/Kg	☼	60	34 - 159	8	30	
Dieldrin	ND	H	22.1	22.7	H	ug/Kg	☼	103	53 - 134	8	30	
Endosulfan I	ND	H	22.1	21.6	H	ug/Kg	☼	98	52 - 122	6	30	
Endosulfan II	ND	H	22.1	21.7	H	ug/Kg	☼	98	53 - 132	4	30	
Endosulfan sulfate	ND	H	22.1	20.8	H	ug/Kg	☼	94	42 - 128	8	30	
Endrin	6.6	H	22.1	30.4	H	ug/Kg	☼	108	46 - 138	13	30	
Endrin aldehyde	ND	H	22.1	22.9	H	ug/Kg	☼	104	12 - 179	7	30	
Heptachlor	ND	H	22.1	20.6	H	ug/Kg	☼	93	50 - 130	5	30	
Heptachlor epoxide	ND	H	22.1	30.4	H F	ug/Kg	☼	138	49 - 123	9	30	
Methoxychlor	ND	H	22.1	17.9	H	ug/Kg	☼	81	46 - 154	5	30	
Endrin ketone	ND	H	22.1	22.2	H	ug/Kg	☼	101	45 - 127	6	30	
alpha-Chlordane	ND	H	22.1	20.7	H	ug/Kg	☼	94	46 - 118	6	30	
gamma-Chlordane	1.8	H	22.1	23.6	H	ug/Kg	☼	99	49 - 122	8	30	

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 580-26451-1 MSD
Matrix: Solid
Analysis Batch: 88444

Client Sample ID: G-TP1-052511-0.0-0.5
Prep Type: Total/NA
Prep Batch: 88316

Surrogate	MSD MSD		Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	93		49 - 123
DCB Decachlorobiphenyl	89		40 - 158

Lab Sample ID: 580-26451-1 MSD
Matrix: Solid
Analysis Batch: 88541

Client Sample ID: G-TP1-052511-0.0-0.5
Prep Type: Total/NA
Prep Batch: 88316

Surrogate	MSD MSD		Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	110		49 - 123
DCB Decachlorobiphenyl	70		40 - 158

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Lab Sample ID: MB 580-87296/1-A
Matrix: Solid
Analysis Batch: 87378

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87296

Analyte	MB MB		RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Motor Oil	ND		100		mg/Kg		06/06/11 15:03	06/07/11 13:49	1
Gasoline	ND		20		mg/Kg		06/06/11 15:03	06/07/11 13:49	1
#2 Diesel (>C12-C24)	ND		50		mg/Kg		06/06/11 15:03	06/07/11 13:49	1
Surrogate	MB MB		Limits				Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier							
o-Terphenyl	105		50 - 150				06/06/11 15:03	06/07/11 13:49	1
4-Bromofluorobenzene (Surr)	101		50 - 150				06/06/11 15:03	06/07/11 13:49	1

Lab Sample ID: 580-26451-44 DU
Matrix: Solid
Analysis Batch: 87378

Client Sample ID: G-WETSOIL-052611-0.0-0.5
Prep Type: Total/NA
Prep Batch: 87296

Analyte	Sample Sample		DU DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Motor Oil	ND		ND		mg/Kg	☼	NC	35
Gasoline	ND		ND		mg/Kg	☼	NC	35
#2 Diesel (>C12-C24)	ND		ND		mg/Kg	☼	NC	35
Surrogate	DU DU		Limits					
	% Recovery	Qualifier						
o-Terphenyl	106		50 - 150					
4-Bromofluorobenzene (Surr)	99		50 - 150					

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-87692/24-A
Matrix: Solid
Analysis Batch: 87876

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87692

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0		mg/Kg		06/10/11 13:06	06/10/11 16:59	1
Lead	ND		1.5		mg/Kg		06/10/11 13:06	06/10/11 16:59	1

TestAmerica Seattle

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 580-87692/24-A
Matrix: Solid
Analysis Batch: 87876

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87692

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	ND		3.0		mg/Kg		06/10/11 13:06	06/10/11 16:59	1
Cadmium	ND		0.50		mg/Kg		06/10/11 13:06	06/10/11 16:59	1
Copper	ND		1.0		mg/Kg		06/10/11 13:06	06/10/11 16:59	1
Manganese	ND		1.0		mg/Kg		06/10/11 13:06	06/10/11 16:59	1
Zinc	ND		2.0		mg/Kg		06/10/11 13:06	06/10/11 16:59	1

Lab Sample ID: MB 580-87692/24-A
Matrix: Solid
Analysis Batch: 87938

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87692

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Copper	ND		1.0		mg/Kg		06/10/11 13:06	06/14/11 15:16	1
Zinc	ND		2.0		mg/Kg		06/10/11 13:06	06/14/11 15:16	1

Lab Sample ID: LCS 580-87692/25-A
Matrix: Solid
Analysis Batch: 87876

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87692

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Arsenic	200	197		mg/Kg		98	80 - 120	
Lead	50.0	50.3		mg/Kg		101	80 - 120	
Antimony	150	141		mg/Kg		94	80 - 120	
Cadmium	5.00	5.02		mg/Kg		100	80 - 120	
Copper	25.0	24.1		mg/Kg		96	80 - 120	
Manganese	50.0	51.1		mg/Kg		102	80 - 120	
Zinc	50.0	48.4		mg/Kg		97	80 - 120	

Lab Sample ID: LCS 580-87692/25-A
Matrix: Solid
Analysis Batch: 87875

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87692

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Copper	25.0	25.1		mg/Kg		100	80 - 120	
Zinc	50.0	52.6		mg/Kg		105	80 - 120	

Lab Sample ID: LCS 580-87692/25-A
Matrix: Solid
Analysis Batch: 87938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87692

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Copper	25.0	25.6		mg/Kg		103	80 - 120	
Zinc	50.0	51.0		mg/Kg		102	80 - 120	

Lab Sample ID: LCSD 580-87692/26-A
Matrix: Solid
Analysis Batch: 87876

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87692

Analyte	Spike Added	LCSD LCSD		Unit	D	% Rec	% Rec.		RPD	
		Result	Qualifier				Limits	RPD	Limit	
Arsenic	200	192		mg/Kg		96	80 - 120	3	20	
Lead	50.0	49.3		mg/Kg		99	80 - 120	2	20	
Antimony	150	139		mg/Kg		92	80 - 120	2	20	

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCSD 580-87692/26-A
Matrix: Solid
Analysis Batch: 87876

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87692

Analyte	Spike Added	LCSD	LCSD	Unit	D	% Rec	% Rec.		RPD	Limit
		Result	Qualifier				Limits	RPD		
Cadmium	5.00	4.88		mg/Kg		98	80 - 120	3		20
Copper	25.0	24.4		mg/Kg		98	80 - 120	1		20
Manganese	50.0	51.3		mg/Kg		103	80 - 120	0		20
Zinc	50.0	48.5		mg/Kg		97	80 - 120	0		20

Lab Sample ID: LCSD 580-87692/26-A
Matrix: Solid
Analysis Batch: 87875

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87692

Analyte	Spike Added	LCSD	LCSD	Unit	D	% Rec	% Rec.		RPD	Limit
		Result	Qualifier				Limits	RPD		
Copper	25.0	24.2		mg/Kg		97	80 - 120	4		20
Zinc	50.0	50.4		mg/Kg		101	80 - 120	4		20

Lab Sample ID: LCSD 580-87692/26-A
Matrix: Solid
Analysis Batch: 87938

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87692

Analyte	Spike Added	LCSD	LCSD	Unit	D	% Rec	% Rec.		RPD	Limit
		Result	Qualifier				Limits	RPD		
Copper	25.0	25.3		mg/Kg		101	80 - 120	1		20
Zinc	50.0	50.5		mg/Kg		101	80 - 120	1		20

Lab Sample ID: 580-26451-21 MS
Matrix: Solid
Analysis Batch: 87876

Client Sample ID: H-TP1-052611-0.0-0.5
Prep Type: Total/NA
Prep Batch: 87692

Analyte	Sample Result	Sample Qualifier	Spike Added	MS	MS	Unit	D	% Rec	% Rec.	
				Result	Qualifier				Limits	RPD
Arsenic	ND		162	129	F	mg/Kg	☼	79	80 - 120	
Lead	72		40.5	120		mg/Kg	☼	117	80 - 120	
Antimony	3.3		121	70.7	F	mg/Kg	☼	56	80 - 120	
Cadmium	1.0		4.05	4.35		mg/Kg	☼	82	80 - 120	
Manganese	440		40.5	553	4	mg/Kg	☼	282	80 - 120	

Lab Sample ID: 580-26451-21 MS
Matrix: Solid
Analysis Batch: 87875

Client Sample ID: H-TP1-052611-0.0-0.5
Prep Type: Total/NA
Prep Batch: 87692

Analyte	Sample Result	Sample Qualifier	Spike Added	MS	MS	Unit	D	% Rec	% Rec.	
				Result	Qualifier				Limits	RPD
Copper	360		20.2	369	4	mg/Kg	☼	34	80 - 120	
Zinc	270		40.5	300	4	mg/Kg	☼	80	80 - 120	

Lab Sample ID: 580-26451-21 MS
Matrix: Solid
Analysis Batch: 87938

Client Sample ID: H-TP1-052611-0.0-0.5
Prep Type: Total/NA
Prep Batch: 87692

Analyte	Sample Result	Sample Qualifier	Spike Added	MS	MS	Unit	D	% Rec	% Rec.	
				Result	Qualifier				Limits	RPD
Copper	360		20.2	378	4	mg/Kg	☼	97	80 - 120	
Zinc	260		40.5	299	4	mg/Kg	☼	101	80 - 120	

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 580-26451-21 MSD
Matrix: Solid
Analysis Batch: 87876

Client Sample ID: H-TP1-052611-0.0-0.5
Prep Type: Total/NA
Prep Batch: 87692

Analyte	Sample	Sample	Spike	MSD		Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Arsenic	ND		208	164	F	mg/Kg	☼	78	80 - 120	24	20	
Lead	72		51.9	139	F	mg/Kg	☼	129	80 - 120	15	20	
Antimony	3.3		156	93.4	F	mg/Kg	☼	58	80 - 120	28	20	
Cadmium	1.0		5.19	4.87	F	mg/Kg	☼	74	80 - 120	11	20	
Manganese	440		51.9	557	4	mg/Kg	☼	227	80 - 120	1	20	

Lab Sample ID: 580-26451-21 MSD
Matrix: Solid
Analysis Batch: 87875

Client Sample ID: H-TP1-052611-0.0-0.5
Prep Type: Total/NA
Prep Batch: 87692

Analyte	Sample	Sample	Spike	MSD		Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Copper	360		26.0	778	4 F	mg/Kg	☼	1604	80 - 120	71	20	
Zinc	270		51.9	319	4	mg/Kg	☼	99	80 - 120	6	20	

Lab Sample ID: 580-26451-21 MSD
Matrix: Solid
Analysis Batch: 87938

Client Sample ID: H-TP1-052611-0.0-0.5
Prep Type: Total/NA
Prep Batch: 87692

Analyte	Sample	Sample	Spike	MSD		Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Copper	360		26.0	809	4 F	mg/Kg	☼	1737	80 - 120	73	20	
Zinc	260		51.9	322	4	mg/Kg	☼	123	80 - 120	7	20	

Lab Sample ID: 580-26451-21 DU
Matrix: Solid
Analysis Batch: 87876

Client Sample ID: H-TP1-052611-0.0-0.5
Prep Type: Total/NA
Prep Batch: 87692

Analyte	Sample	Sample	Spike	DU		Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Arsenic	ND		208	2.46		mg/Kg	☼			NC	20	
Lead	72		51.9	100	F	mg/Kg	☼			32	20	
Antimony	3.3		156	4.28		mg/Kg	☼			27	20	
Cadmium	1.0		5.19	1.83	F	mg/Kg	☼			57	20	
Manganese	440		51.9	490		mg/Kg	☼			11	20	

Lab Sample ID: 580-26451-21 DU
Matrix: Solid
Analysis Batch: 87875

Client Sample ID: H-TP1-052611-0.0-0.5
Prep Type: Total/NA
Prep Batch: 87692

Analyte	Sample	Sample	Spike	DU		Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Copper	360		26.0	446	F	mg/Kg	☼			21	20	
Zinc	270		51.9	276		mg/Kg	☼			3	20	

Lab Sample ID: 580-26451-21 DU
Matrix: Solid
Analysis Batch: 87938

Client Sample ID: H-TP1-052611-0.0-0.5
Prep Type: Total/NA
Prep Batch: 87692

Analyte	Sample	Sample	Spike	DU		Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Copper	360		26.0	443	F	mg/Kg	☼			21	20	
Zinc	260		51.9	265		mg/Kg	☼			3	20	

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 580-87759/21-A
Matrix: Solid
Analysis Batch: 87941

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87759

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0		mg/Kg		06/13/11 11:07	06/13/11 17:19	1
Lead	ND		1.5		mg/Kg		06/13/11 11:07	06/13/11 17:19	1
Antimony	ND		3.0		mg/Kg		06/13/11 11:07	06/13/11 17:19	1
Cadmium	ND		0.50		mg/Kg		06/13/11 11:07	06/13/11 17:19	1
Copper	ND		1.0		mg/Kg		06/13/11 11:07	06/13/11 17:19	1
Manganese	ND		1.0		mg/Kg		06/13/11 11:07	06/13/11 17:19	1
Zinc	ND		2.0		mg/Kg		06/13/11 11:07	06/13/11 17:19	1

Lab Sample ID: LCS 580-87759/22-A
Matrix: Solid
Analysis Batch: 87941

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87759

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Arsenic	200	194		mg/Kg		97	80 - 120	
Lead	50.0	51.1		mg/Kg		102	80 - 120	
Antimony	150	136		mg/Kg		91	80 - 120	
Cadmium	5.00	4.79		mg/Kg		96	80 - 120	
Copper	25.0	24.2		mg/Kg		97	80 - 120	
Manganese	50.0	53.1		mg/Kg		106	80 - 120	
Zinc	50.0	49.6		mg/Kg		99	80 - 120	

Lab Sample ID: LCSD 580-87759/23-A
Matrix: Solid
Analysis Batch: 87941

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87759

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	
							Limits	RPD	Limit	
Arsenic	200	196		mg/Kg		98	80 - 120	1	20	
Lead	50.0	51.6		mg/Kg		103	80 - 120	1	20	
Antimony	150	138		mg/Kg		92	80 - 120	1	20	
Cadmium	5.00	4.83		mg/Kg		97	80 - 120	1	20	
Copper	25.0	24.1		mg/Kg		96	80 - 120	0	20	
Manganese	50.0	52.9		mg/Kg		106	80 - 120	0	20	
Zinc	50.0	49.9		mg/Kg		100	80 - 120	1	20	

Lab Sample ID: LCSSRM 580-87759/24-A
Matrix: Solid
Analysis Batch: 87941

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87759

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Arsenic	109	120		mg/Kg		110	71.1 - 128.9	
Lead	152	180		mg/Kg		118	75.3 - 125.1	
Antimony	121	113		mg/Kg		93	21.0 - 251.6	
Cadmium	110	117		mg/Kg		107	73.2 - 126.8	
Copper	84.7	79.5		mg/Kg		94	73.2 - 126.8	
Manganese	443	524		mg/Kg		118	75.8 - 124.5	

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCSSRM 580-87759/24-A
Matrix: Solid
Analysis Batch: 87941

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87759

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Zinc	299	329		mg/Kg		110	72.2 - 127.8	

Lab Sample ID: MB 580-87883/17-A
Matrix: Solid
Analysis Batch: 87977

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87883

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0		mg/Kg		06/14/11 10:32	06/14/11 18:00	1
Lead	ND		1.5		mg/Kg		06/14/11 10:32	06/14/11 18:00	1
Antimony	ND		3.0		mg/Kg		06/14/11 10:32	06/14/11 18:00	1
Cadmium	ND		0.50		mg/Kg		06/14/11 10:32	06/14/11 18:00	1
Copper	ND		1.0		mg/Kg		06/14/11 10:32	06/14/11 18:00	1
Manganese	ND		1.0		mg/Kg		06/14/11 10:32	06/14/11 18:00	1
Zinc	ND		2.0		mg/Kg		06/14/11 10:32	06/14/11 18:00	1

Lab Sample ID: LCS 580-87883/18-A
Matrix: Solid
Analysis Batch: 87977

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Arsenic	200	189		mg/Kg		95	80 - 120	
Lead	50.0	49.1		mg/Kg		98	80 - 120	
Antimony	150	141		mg/Kg		94	80 - 120	
Cadmium	5.00	4.69		mg/Kg		94	80 - 120	
Copper	25.0	23.8		mg/Kg		95	80 - 120	
Manganese	50.0	48.4		mg/Kg		97	80 - 120	
Zinc	50.0	45.8		mg/Kg		92	80 - 120	

Lab Sample ID: LCSD 580-87883/19-A
Matrix: Solid
Analysis Batch: 87977

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87883

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	
							Limits	RPD	Limit	
Arsenic	200	189		mg/Kg		95	80 - 120	0	20	
Lead	50.0	48.9		mg/Kg		98	80 - 120	1	20	
Antimony	150	142		mg/Kg		95	80 - 120	1	20	
Cadmium	5.00	4.71		mg/Kg		94	80 - 120	0	20	
Copper	25.0	24.0		mg/Kg		96	80 - 120	1	20	
Manganese	50.0	49.0		mg/Kg		98	80 - 120	1	20	
Zinc	50.0	46.0		mg/Kg		92	80 - 120	0	20	

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-87690/22-A
Matrix: Solid
Analysis Batch: 87796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87690

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.017		mg/Kg		06/13/11 09:30	06/13/11 12:55	1

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 580-87690/23-A
Matrix: Solid
Analysis Batch: 87796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87690

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	RPD
Mercury	0.167	0.178		mg/Kg		106	80 - 120	

Lab Sample ID: LCSD 580-87690/24-A
Matrix: Solid
Analysis Batch: 87796

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87690

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD	Limit
		Result	Qualifier				Limits	RPD		
Mercury	0.167	0.179		mg/Kg		107	80 - 120	1	20	

Lab Sample ID: MB 580-87703/22-A
Matrix: Solid
Analysis Batch: 87796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87703

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.017		mg/Kg		06/13/11 09:00	06/13/11 12:03	1

Lab Sample ID: LCS 580-87703/23-A
Matrix: Solid
Analysis Batch: 87796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87703

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	RPD
Mercury	0.167	0.179		mg/Kg		107	80 - 120	

Lab Sample ID: LCSD 580-87703/24-A
Matrix: Solid
Analysis Batch: 87796

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87703

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD	Limit
		Result	Qualifier				Limits	RPD		
Mercury	0.167	0.182		mg/Kg		109	80 - 120	1	20	

Lab Sample ID: 580-26451-14 MS
Matrix: Solid
Analysis Batch: 87796

Client Sample ID: M-TP2-052511-0.0-0.5
Prep Type: Total/NA
Prep Batch: 87703

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	% Rec	% Rec.	
				Result	Qualifier				Limits	RPD
Mercury	0.26		0.177	0.432		mg/Kg	✱	99	80 - 120	

Lab Sample ID: 580-26451-14 MSD
Matrix: Solid
Analysis Batch: 87796

Client Sample ID: M-TP2-052511-0.0-0.5
Prep Type: Total/NA
Prep Batch: 87703

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	% Rec	% Rec.		RPD	Limit
				Result	Qualifier				Limits	RPD		
Mercury	0.26		0.169	0.423		mg/Kg	✱	98	80 - 120	2	20	

Lab Sample ID: 580-26451-14 DU
Matrix: Solid
Analysis Batch: 87796

Client Sample ID: M-TP2-052511-0.0-0.5
Prep Type: Total/NA
Prep Batch: 87703

Analyte	Sample Result	Sample Qualifier	Spike Added	DU		Unit	D	% Rec	% Rec.		RPD	Limit
				Result	Qualifier				Limits	RPD		
Mercury	0.26			0.390	F	mg/Kg	✱			41	20	

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: MB 580-87711/21-A
Matrix: Solid
Analysis Batch: 87796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87711

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.017		mg/Kg		06/13/11 08:00	06/13/11 11:08	1

Lab Sample ID: LCS 580-87711/22-A
Matrix: Solid
Analysis Batch: 87796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87711

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits

Lab Sample ID: LCSD 580-87711/23-A
Matrix: Solid
Analysis Batch: 87796

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87711

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit

Method: Moisture - Percent Moisture

Lab Sample ID: 580-26451-1 DU
Matrix: Solid
Analysis Batch: 87169

Client Sample ID: G-TP1-052511-0.0-0.5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	13		12		%		8	20

Lab Sample ID: 580-26451-46 DU
Matrix: Solid
Analysis Batch: 87170

Client Sample ID: E-WETSOIL-052611-0.0-0.5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	49		48		%		2	20

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: G-TP1-052511-0.0-0.5

Lab Sample ID: 580-26451-1

Date Collected: 05/25/11 07:40

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 86.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			88316	06/20/11 09:58	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88444	06/21/11 18:31	MAM	TAL SEA
Total/NA	Analysis	8081A		1	88541	06/22/11 13:25	CM	TAL SEA
Total/NA	Prep	7471A			87690	06/13/11 09:30	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 13:25	FCW	TAL SEA
Total/NA	Prep	3050B			87759	06/13/11 11:07	ZF	TAL SEA
Total/NA	Analysis	6010B		1	87941	06/13/11 19:02	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Client Sample ID: G-TP1-052511-2.0-2.5

Lab Sample ID: 580-26451-2

Date Collected: 05/25/11 07:45

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 87.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			88316	06/20/11 09:58	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88444	06/21/11 19:29	MAM	TAL SEA
Total/NA	Analysis	8081A		1	88541	06/22/11 14:24	CM	TAL SEA
Total/NA	Prep	7471A			87690	06/13/11 09:30	ZF	TAL SEA
Total/NA	Analysis	7471A		20	87796	06/13/11 13:54	FCW	TAL SEA
Total/NA	Prep	3050B			87759	06/13/11 11:07	ZF	TAL SEA
Total/NA	Analysis	6010B		1	87941	06/13/11 19:07	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Client Sample ID: G-TP2-052511-0.0-0.5

Lab Sample ID: 580-26451-3

Date Collected: 05/25/11 08:30

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 80.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			88316	06/20/11 09:58	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88444	06/21/11 19:49	MAM	TAL SEA
Total/NA	Analysis	8081A		1	88541	06/22/11 14:43	CM	TAL SEA
Total/NA	Prep	7471A			87690	06/13/11 09:30	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 13:29	FCW	TAL SEA
Total/NA	Prep	3050B			87759	06/13/11 11:07	ZF	TAL SEA
Total/NA	Analysis	6010B		1	87938	06/14/11 16:04	SP	TAL SEA
Total/NA	Analysis	6010B		1	87941	06/13/11 19:22	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Client Sample ID: G-TP2-052511-2.0-2.5

Lab Sample ID: 580-26451-4

Date Collected: 05/25/11 08:35

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 88.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			88316	06/20/11 09:58	KKW	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: G-TP2-052511-2.0-2.5

Lab Sample ID: 580-26451-4

Date Collected: 05/25/11 08:35

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 88.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8081A		1	88444	06/21/11 20:08	MAM	TAL SEA
Total/NA	Analysis	8081A		1	88541	06/22/11 15:02	CM	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Client Sample ID: G-TP3-052511-0.0-0.5

Lab Sample ID: 580-26451-5

Date Collected: 05/25/11 08:50

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 89.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			88316	06/20/11 09:58	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88444	06/21/11 20:28	MAM	TAL SEA
Total/NA	Analysis	8081A		1	88541	06/22/11 15:22	CM	TAL SEA
Total/NA	Prep	7471A			87690	06/13/11 09:30	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 13:31	FCW	TAL SEA
Total/NA	Prep	3050B			87759	06/13/11 11:07	ZF	TAL SEA
Total/NA	Analysis	6010B		10	87938	06/14/11 16:09	SP	TAL SEA
Total/NA	Analysis	6010B		1	87941	06/13/11 19:26	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Client Sample ID: G-TP3-052511-2.0-2.5

Lab Sample ID: 580-26451-6

Date Collected: 05/25/11 08:55

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 80.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			87690	06/13/11 09:30	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 13:33	FCW	TAL SEA
Total/NA	Prep	3050B			87759	06/13/11 11:07	ZF	TAL SEA
Total/NA	Analysis	6010B		10	87938	06/14/11 16:13	SP	TAL SEA
Total/NA	Analysis	6010B		1	87941	06/13/11 19:31	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Client Sample ID: G-TP3-052511-3.5-4.0

Lab Sample ID: 580-26451-7

Date Collected: 05/25/11 09:00

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 85.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87157	06/03/11 09:27	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88098	06/16/11 17:11	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: E-TP1-052511-4.5

Lab Sample ID: 580-26451-8

Date Collected: 05/25/11 10:05

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 90.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			87690	06/13/11 09:30	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 13:35	FCW	TAL SEA
Total/NA	Prep	3050B			87759	06/13/11 11:07	ZF	TAL SEA
Total/NA	Analysis	6010B		20	87938	06/14/11 16:17	SP	TAL SEA
Total/NA	Analysis	6010B		1	87941	06/13/11 19:36	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Client Sample ID: E-TP2-052511-3.0

Lab Sample ID: 580-26451-9

Date Collected: 05/25/11 10:25

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 88.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			87690	06/13/11 09:30	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 13:40	FCW	TAL SEA
Total/NA	Prep	3050B			87759	06/13/11 11:07	ZF	TAL SEA
Total/NA	Analysis	6010B		20	87938	06/14/11 16:21	SP	TAL SEA
Total/NA	Analysis	6010B		1	87941	06/13/11 19:41	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Client Sample ID: M-TP1-052511-0.0-0.5

Lab Sample ID: 580-26451-10

Date Collected: 05/25/11 12:50

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 87.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87157	06/03/11 09:27	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88098	06/16/11 17:30	MAM	TAL SEA
Total/NA	Prep	7471A			87690	06/13/11 09:30	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 13:42	FCW	TAL SEA
Total/NA	Prep	3050B			87759	06/13/11 11:07	ZF	TAL SEA
Total/NA	Analysis	6010B		5	87938	06/14/11 16:25	SP	TAL SEA
Total/NA	Analysis	6010B		1	87941	06/13/11 19:45	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Client Sample ID: M-TP1-052511-3.0-3.5

Lab Sample ID: 580-26451-11

Date Collected: 05/25/11 12:55

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 79.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87157	06/03/11 09:27	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88098	06/16/11 17:49	MAM	TAL SEA
Total/NA	Prep	7471A			87690	06/13/11 09:30	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 13:44	FCW	TAL SEA
Total/NA	Prep	3050B			87883	06/14/11 10:32	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87977	06/14/11 19:23	SP	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: M-TP1-052511-3.0-3.5

Lab Sample ID: 580-26451-11

Date Collected: 05/25/11 12:55

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 79.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	6010B		10	87977	06/14/11 19:29	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Client Sample ID: M-TP1.2-052511-0.0-0.5

Lab Sample ID: 580-26451-12

Date Collected: 05/25/11 13:00

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 88.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87157	06/03/11 09:27	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88098	06/16/11 19:07	MAM	TAL SEA
Total/NA	Prep	7471A			87690	06/13/11 09:30	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 13:45	FCW	TAL SEA
Total/NA	Prep	3050B			87883	06/14/11 10:32	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87977	06/14/11 19:35	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Client Sample ID: M-TP2-052511-0.0-0.5

Lab Sample ID: 580-26451-14

Date Collected: 05/25/11 14:15

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 93.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87157	06/03/11 09:27	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88098	06/16/11 19:27	MAM	TAL SEA
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:08	FCW	TAL SEA
Total/NA	Prep	3050B			87883	06/14/11 10:32	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87977	06/14/11 19:48	SP	TAL SEA
Total/NA	Analysis	6010B		10	87977	06/14/11 19:54	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Client Sample ID: M-TP2-052511-3.5-4.0

Lab Sample ID: 580-26451-15

Date Collected: 05/25/11 14:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 77.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87157	06/03/11 09:27	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88098	06/16/11 19:46	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: D-TP1-052511-4.5

Lab Sample ID: 580-26451-16

Date Collected: 05/25/11 15:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 76.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87157	06/03/11 09:27	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88098	06/16/11 20:06	MAM	TAL SEA
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:16	FCW	TAL SEA
Total/NA	Prep	3050B			87883	06/14/11 10:32	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87977	06/14/11 20:21	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Client Sample ID: D-TP1-052511-5.5

Lab Sample ID: 580-26451-17

Date Collected: 05/25/11 15:45

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 55.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87157	06/03/11 09:27	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88098	06/16/11 20:25	MAM	TAL SEA
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:18	FCW	TAL SEA
Total/NA	Prep	3050B			87883	06/14/11 10:32	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87977	06/14/11 20:34	SP	TAL SEA
Total/NA	Analysis	6010B		10	87977	06/14/11 20:40	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Client Sample ID: J-TP3-052511-0.5-1.0

Lab Sample ID: 580-26451-18

Date Collected: 05/25/11 16:40

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 94.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87157	06/03/11 09:27	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88098	06/16/11 20:44	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Client Sample ID: J-TP3-052511-1.5-2.0

Lab Sample ID: 580-26451-19

Date Collected: 05/25/11 16:45

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 89.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:19	FCW	TAL SEA
Total/NA	Prep	3050B			87883	06/14/11 10:32	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87977	06/14/11 20:47	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: J-TP3-052511-3.5-4.0

Lab Sample ID: 580-26451-20

Date Collected: 05/25/11 16:50

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 61.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87157	06/03/11 09:27	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88098	06/16/11 21:04	MAM	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Client Sample ID: H-TP1-052611-0.0-0.5

Lab Sample ID: 580-26451-21

Date Collected: 05/26/11 07:05

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 92.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87581	06/09/11 09:59	SK	TAL SEA
Total/NA	Analysis	8260B		1	87638	06/09/11 21:24	SK	TAL SEA
Total/NA	Prep	3550B			87157	06/03/11 09:27	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88098	06/16/11 21:23	MAM	TAL SEA
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:25	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		10	87875	06/13/11 20:22	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 17:14	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Client Sample ID: H-TP1-052611-3.5-4.0

Lab Sample ID: 580-26451-22

Date Collected: 05/26/11 07:10

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 79.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87581	06/09/11 09:59	SK	TAL SEA
Total/NA	Analysis	8260B		1	87638	06/09/11 21:49	SK	TAL SEA
Total/NA	Prep	3550B			87157	06/03/11 09:27	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88098	06/16/11 21:43	MAM	TAL SEA
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:27	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		5	87875	06/13/11 20:44	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 17:41	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Client Sample ID: H-TP2-052611-1.0-1.5

Lab Sample ID: 580-26451-23

Date Collected: 05/26/11 08:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 92.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87581	06/09/11 09:59	SK	TAL SEA
Total/NA	Analysis	8260B		1	87638	06/09/11 22:13	SK	TAL SEA
Total/NA	Prep	3550B			87157	06/03/11 09:27	KKW	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP2-052611-1.0-1.5

Lab Sample ID: 580-26451-23

Date Collected: 05/26/11 08:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 92.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8081A		1	88098	06/16/11 22:02	MAM	TAL SEA
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:28	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		5	87875	06/13/11 20:47	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 17:45	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Client Sample ID: H-TP2-052611-2.0-2.5

Lab Sample ID: 580-26451-24

Date Collected: 05/26/11 08:25

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 82.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87581	06/09/11 09:59	SK	TAL SEA
Total/NA	Analysis	8260B		1	87638	06/10/11 00:37	SK	TAL SEA
Total/NA	Prep	3550B			87157	06/03/11 09:27	KKW	TAL SEA
Total/NA	Analysis	8081A		1	88098	06/16/11 23:20	MAM	TAL SEA
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:30	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		5	87875	06/13/11 20:50	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 17:49	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87158	06/03/11 09:31	KKW	TAL SEA

Client Sample ID: H-TP3-052611-0.0-0.5

Lab Sample ID: 580-26451-26

Date Collected: 05/26/11 09:45

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 92.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87581	06/09/11 09:59	SK	TAL SEA
Total/NA	Analysis	8260B		1	87638	06/10/11 01:01	SK	TAL SEA
Total/NA	Prep	3550B			87349	06/07/11 09:42	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 10:42	CM	TAL SEA
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:32	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		5	87875	06/13/11 20:53	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 17:53	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: H-TP3-052611-3.5-4.0

Lab Sample ID: 580-26451-28

Date Collected: 05/26/11 09:55

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 88.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87581	06/09/11 09:59	SK	TAL SEA
Total/NA	Analysis	8260B		1	87638	06/09/11 22:37	SK	TAL SEA
Total/NA	Prep	3550B			87349	06/07/11 09:42	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 11:41	CM	TAL SEA
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:33	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		5	87875	06/13/11 20:56	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 17:58	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Client Sample ID: D-TP3-052611-4.5

Lab Sample ID: 580-26451-29

Date Collected: 05/26/11 10:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 80.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87349	06/07/11 09:42	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 12:00	CM	TAL SEA
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:35	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		5	87875	06/13/11 21:00	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 18:02	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Client Sample ID: D-TP3.2-052611-4.5

Lab Sample ID: 580-26451-30

Date Collected: 05/26/11 10:25

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 82.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87349	06/07/11 09:42	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 12:20	CM	TAL SEA
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:37	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		5	87875	06/13/11 21:03	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 18:06	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: C-TP1-052611-5.0

Lab Sample ID: 580-26451-32

Date Collected: 05/26/11 11:05

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 78.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87349	06/07/11 09:42	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 12:39	CM	TAL SEA
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:38	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		5	87875	06/13/11 21:06	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 18:10	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Client Sample ID: C-TP2-052611-8.0

Lab Sample ID: 580-26451-33

Date Collected: 05/26/11 11:30

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 79.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87349	06/07/11 09:42	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 12:58	CM	TAL SEA
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:40	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		10	87875	06/13/11 21:09	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 18:14	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Client Sample ID: C-TP3-052611-4.5

Lab Sample ID: 580-26451-34

Date Collected: 05/26/11 13:45

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 82.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87349	06/07/11 09:42	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 14:38	CM	TAL SEA
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:45	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87875	06/13/11 21:18	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 18:26	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Client Sample ID: C-TP3.2-052611-4.5

Lab Sample ID: 580-26451-35

Date Collected: 05/26/11 13:50

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 83.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87349	06/07/11 09:42	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 14:58	CM	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: C-TP3.2-052611-4.5

Lab Sample ID: 580-26451-35

Date Collected: 05/26/11 13:50

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 83.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:47	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87875	06/13/11 21:21	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 18:30	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Client Sample ID: B-TP1-052611-6.5

Lab Sample ID: 580-26451-36

Date Collected: 05/26/11 13:05

Matrix: Solid

Date Received: 05/31/11 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87534	06/08/11 17:34	SK	TAL SEA
Total/NA	Analysis	8260B		1	87535	06/08/11 22:42	SK	TAL SEA

Client Sample ID: B-TP1.2-052611-6.5

Lab Sample ID: 580-26451-37

Date Collected: 05/26/11 13:10

Matrix: Solid

Date Received: 05/31/11 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87534	06/08/11 17:34	SK	TAL SEA
Total/NA	Analysis	8260B		1	87535	06/08/11 23:06	SK	TAL SEA

Client Sample ID: B-TP1-052611-6.0

Lab Sample ID: 580-26451-39

Date Collected: 05/26/11 13:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 83.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87581	06/09/11 09:59	SK	TAL SEA
Total/NA	Analysis	8260B		1	87638	06/10/11 01:26	SK	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Client Sample ID: B-TP2-052611-5.5

Lab Sample ID: 580-26451-41

Date Collected: 05/26/11 14:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 84.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87581	06/09/11 09:59	SK	TAL SEA
Total/NA	Analysis	8260B		1	87638	06/09/11 23:01	SK	TAL SEA
Total/NA	Prep	3550B			87349	06/07/11 09:42	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 15:17	CM	TAL SEA
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:49	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87875	06/13/11 21:24	SP	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: B-TP2-052611-5.5

Lab Sample ID: 580-26451-41

Date Collected: 05/26/11 14:20

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 84.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	6010B		1	87876	06/10/11 18:34	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Client Sample ID: B-TP3-052611-5.5

Lab Sample ID: 580-26451-43

Date Collected: 05/26/11 14:50

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 83.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87581	06/09/11 09:59	SK	TAL SEA
Total/NA	Analysis	8260B		1	87638	06/09/11 21:00	SK	TAL SEA
Total/NA	Prep	3550B			87349	06/07/11 09:42	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 15:37	CM	TAL SEA
Total/NA	Prep	7471A			87703	06/13/11 09:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 12:50	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87875	06/13/11 21:27	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 18:38	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Client Sample ID: G-WETSOIL-052611-0.0-0.5

Lab Sample ID: 580-26451-44

Date Collected: 05/26/11 15:30

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 77.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87581	06/09/11 09:59	SK	TAL SEA
Total/NA	Analysis	8260B		1	87638	06/10/11 01:50	SK	TAL SEA
Total/NA	Prep	3550B			87296	06/06/11 15:03	KKW	TAL SEA
Total/NA	Analysis	NWTPH-HCID		1	87378	06/07/11 14:34	ES	TAL SEA
Total/NA	Prep	3550B			87349	06/07/11 09:42	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 15:56	CM	TAL SEA
Total/NA	Prep	7471A			87711	06/13/11 08:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 11:41	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87875	06/13/11 21:30	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 18:43	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Client Sample ID: G-WETSOIL-052611-1.0-2.0

Lab Sample ID: 580-26451-45

Date Collected: 05/26/11 15:35

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 63.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87581	06/09/11 09:59	SK	TAL SEA
Total/NA	Analysis	8260B		1	87638	06/09/11 23:26	SK	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: G-WETSOIL-052611-1.0-2.0

Lab Sample ID: 580-26451-45

Date Collected: 05/26/11 15:35

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 63.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87296	06/06/11 15:03	KKW	TAL SEA
Total/NA	Analysis	NWTPH-HCID		1	87378	06/07/11 15:18	ES	TAL SEA
Total/NA	Prep	3550B			87349	06/07/11 09:42	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 16:16	CM	TAL SEA
Total/NA	Prep	7471A			87711	06/13/11 08:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 11:43	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		5	87875	06/13/11 21:34	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 18:47	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87169	06/03/11 10:22	TR	TAL SEA

Client Sample ID: E-WETSOIL-052611-0.0-0.5

Lab Sample ID: 580-26451-46

Date Collected: 05/26/11 16:00

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 51.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87581	06/09/11 09:59	SK	TAL SEA
Total/NA	Analysis	8260B		1	87638	06/09/11 23:50	SK	TAL SEA
Total/NA	Prep	3550B			87296	06/06/11 15:03	KKW	TAL SEA
Total/NA	Analysis	NWTPH-HCID		1	87378	06/07/11 15:40	ES	TAL SEA
Total/NA	Prep	3550B			87349	06/07/11 09:42	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 16:35	CM	TAL SEA
Total/NA	Prep	7471A			87711	06/13/11 08:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 11:44	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		10	87875	06/13/11 21:37	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 18:51	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87170	06/03/11 10:48	TR	TAL SEA

Client Sample ID: E-WETSOIL-052611-0.5-1.0

Lab Sample ID: 580-26451-47

Date Collected: 05/26/11 16:05

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 87.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87581	06/09/11 09:59	SK	TAL SEA
Total/NA	Analysis	8260B		1	87638	06/10/11 02:14	SK	TAL SEA
Total/NA	Prep	3550B			87296	06/06/11 15:03	KKW	TAL SEA
Total/NA	Analysis	NWTPH-HCID		1	87378	06/07/11 16:03	ES	TAL SEA
Total/NA	Prep	3550B			87349	06/07/11 09:42	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 16:54	CM	TAL SEA
Total/NA	Prep	7471A			87711	06/13/11 08:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 11:50	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		10	87875	06/13/11 21:40	SP	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: E-WETSOIL-052611-0.5-1.0

Lab Sample ID: 580-26451-47

Date Collected: 05/26/11 16:05

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 87.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	6010B		1	87876	06/10/11 18:55	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87170	06/03/11 10:48	TR	TAL SEA

Client Sample ID: E-WETSOIL-2-052611-0.5-1.0

Lab Sample ID: 580-26451-48

Date Collected: 05/26/11 16:47

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 87.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87581	06/09/11 09:59	SK	TAL SEA
Total/NA	Analysis	8260B		1	87638	06/10/11 00:14	SK	TAL SEA
Total/NA	Prep	3550B			87296	06/06/11 15:03	KKW	TAL SEA
Total/NA	Analysis	NWTPH-HCID		1	87378	06/07/11 16:26	ES	TAL SEA
Total/NA	Prep	3550B			87349	06/07/11 09:42	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 17:14	CM	TAL SEA
Total/NA	Prep	7471A			87711	06/13/11 08:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 11:51	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		10	87875	06/13/11 21:43	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 19:00	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87170	06/03/11 10:48	TR	TAL SEA

Client Sample ID: E-WETSOIL-2-052611-1.0-2.0

Lab Sample ID: 580-26451-49

Date Collected: 05/26/11 16:55

Matrix: Solid

Date Received: 05/31/11 10:15

Percent Solids: 82.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87581	06/09/11 09:59	SK	TAL SEA
Total/NA	Analysis	8260B		1	87638	06/10/11 02:39	SK	TAL SEA
Total/NA	Prep	3550B			87296	06/06/11 15:03	KKW	TAL SEA
Total/NA	Analysis	NWTPH-HCID		1	87378	06/07/11 16:47	ES	TAL SEA
Total/NA	Prep	3550B			87349	06/07/11 09:42	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 17:33	CM	TAL SEA
Total/NA	Prep	7471A			87711	06/13/11 08:00	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 11:53	FCW	TAL SEA
Total/NA	Prep	3050B			87692	06/10/11 13:06	PAB	TAL SEA
Total/NA	Analysis	6010B		10	87875	06/13/11 21:46	SP	TAL SEA
Total/NA	Analysis	6010B		1	87876	06/10/11 19:04	SP	TAL SEA
Total/NA	Analysis	Moisture		1	87170	06/03/11 10:48	TR	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Client Sample ID: TB

Lab Sample ID: 580-26451-50

Date Collected: 05/26/11 00:00

Matrix: Solid

Date Received: 05/31/11 10:15

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared Or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Prep	5035			87581	06/09/11 09:59	SK	TAL SEA
Total/NA	Analysis	8260B		1	87638	06/09/11 20:36	SK	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

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Certification Summary

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022
TestAmerica Seattle	Alaska	TA-Port Heiden Mobile Lab	10	UST-093
TestAmerica Seattle	California	NELAC	9	1115CA
TestAmerica Seattle	Florida	NELAC	4	E871074
TestAmerica Seattle	L-A-B	DoD ELAP		L2236
TestAmerica Seattle	L-A-B	ISO/IEC 17025		L2236
TestAmerica Seattle	Louisiana	NELAC	6	05016
TestAmerica Seattle	Montana	MT DEQ UST	8	N/A
TestAmerica Seattle	Oregon	NELAC	10	WA100007
TestAmerica Seattle	USDA	USDA		P330-11-00222
TestAmerica Seattle	Washington	State Program	10	C553

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.



Sample Summary

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26451-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-26451-1	G-TP1-052511-0.0-0.5	Solid	05/25/11 07:40	05/31/11 10:15
580-26451-2	G-TP1-052511-2.0-2.5	Solid	05/25/11 07:45	05/31/11 10:15
580-26451-3	G-TP2-052511-0.0-0.5	Solid	05/25/11 08:30	05/31/11 10:15
580-26451-4	G-TP2-052511-2.0-2.5	Solid	05/25/11 08:35	05/31/11 10:15
580-26451-5	G-TP3-052511-0.0-0.5	Solid	05/25/11 08:50	05/31/11 10:15
580-26451-6	G-TP3-052511-2.0-2.5	Solid	05/25/11 08:55	05/31/11 10:15
580-26451-7	G-TP3-052511-3.5-4.0	Solid	05/25/11 09:00	05/31/11 10:15
580-26451-8	E-TP1-052511-4.5	Solid	05/25/11 10:05	05/31/11 10:15
580-26451-9	E-TP2-052511-3.0	Solid	05/25/11 10:25	05/31/11 10:15
580-26451-10	M-TP1-052511-0.0-0.5	Solid	05/25/11 12:50	05/31/11 10:15
580-26451-11	M-TP1-052511-3.0-3.5	Solid	05/25/11 12:55	05/31/11 10:15
580-26451-12	M-TP1.2-052511-0.0-0.5	Solid	05/25/11 13:00	05/31/11 10:15
580-26451-14	M-TP2-052511-0.0-0.5	Solid	05/25/11 14:15	05/31/11 10:15
580-26451-15	M-TP2-052511-3.5-4.0	Solid	05/25/11 14:20	05/31/11 10:15
580-26451-16	D-TP1-052511-4.5	Solid	05/25/11 15:20	05/31/11 10:15
580-26451-17	D-TP1-052511-5.5	Solid	05/25/11 15:45	05/31/11 10:15
580-26451-18	J-TP3-052511-0.5-1.0	Solid	05/25/11 16:40	05/31/11 10:15
580-26451-19	J-TP3-052511-1.5-2.0	Solid	05/25/11 16:45	05/31/11 10:15
580-26451-20	J-TP3-052511-3.5-4.0	Solid	05/25/11 16:50	05/31/11 10:15
580-26451-21	H-TP1-052611-0.0-0.5	Solid	05/26/11 07:05	05/31/11 10:15
580-26451-22	H-TP1-052611-3.5-4.0	Solid	05/26/11 07:10	05/31/11 10:15
580-26451-23	H-TP2-052611-1.0-1.5	Solid	05/26/11 08:20	05/31/11 10:15
580-26451-24	H-TP2-052611-2.0-2.5	Solid	05/26/11 08:25	05/31/11 10:15
580-26451-26	H-TP3-052611-0.0-0.5	Solid	05/26/11 09:45	05/31/11 10:15
580-26451-28	H-TP3-052611-3.5-4.0	Solid	05/26/11 09:55	05/31/11 10:15
580-26451-29	D-TP3-052611-4.5	Solid	05/26/11 10:20	05/31/11 10:15
580-26451-30	D-TP3.2-052611-4.5	Solid	05/26/11 10:25	05/31/11 10:15
580-26451-32	C-TP1-052611-5.0	Solid	05/26/11 11:05	05/31/11 10:15
580-26451-33	C-TP2-052611-8.0	Solid	05/26/11 11:30	05/31/11 10:15
580-26451-34	C-TP3-052611-4.5	Solid	05/26/11 13:45	05/31/11 10:15
580-26451-35	C-TP3.2-052611-4.5	Solid	05/26/11 13:50	05/31/11 10:15
580-26451-36	B-TP1-052611-6.5	Solid	05/26/11 13:05	05/31/11 10:15
580-26451-37	B-TP1.2-052611-6.5	Solid	05/26/11 13:10	05/31/11 10:15
580-26451-39	B-TP1-052611-6.0	Solid	05/26/11 13:20	05/31/11 10:15
580-26451-41	B-TP2-052611-5.5	Solid	05/26/11 14:20	05/31/11 10:15
580-26451-43	B-TP3-052611-5.5	Solid	05/26/11 14:50	05/31/11 10:15
580-26451-44	G-WETSOIL-052611-0.0-0.5	Solid	05/26/11 15:30	05/31/11 10:15
580-26451-45	G-WETSOIL-052611-1.0-2.0	Solid	05/26/11 15:35	05/31/11 10:15
580-26451-46	E-WETSOIL-052611-0.0-0.5	Solid	05/26/11 16:00	05/31/11 10:15
580-26451-47	E-WETSOIL-052611-0.5-1.0	Solid	05/26/11 16:05	05/31/11 10:15
580-26451-48	E-WETSOIL-2-052611-0.5-1.0	Solid	05/26/11 16:47	05/31/11 10:15
580-26451-49	E-WETSOIL-2-052611-1.0-2.0	Solid	05/26/11 16:55	05/31/11 10:15
580-26451-50	TB	Solid	05/26/11 00:00	05/31/11 10:15

Client: Furniture
 Client Contact: Brett Corp
 Date: 5-26-11
 Chain of Custody Number: 11253
 Address: 975 5th Ave NW
 Telephone Number (Area Code)/Fax Number: (425) 299-0800
 Lab Number: 26451
 Page: 1 of 5

City: Issaquah State: WA Zip Code: 98027
 Project Name and Location (State): 765-001 Yakima wpt
 Sampler: R. Hibbs
 Billing Contact: _____
 Analysis (Attach list if more space is needed): _____

Contract/Purchase Order/Quote No.: 765-001
 Matrix: _____ Containers & Preservatives: _____

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives							Special Instructions/ Conditions of Receipt			
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc2	NECH				
G-TP1-052511-0.0-0.5	5-25-11	0740				X											1
G-TP1-052511-2.0-2.5		0745															2
G-TP2-052511-0.0-0.5		0830															3
G-TP2-052511-2.0-2.5		0835															4
G-TP3-052511-0.0-0.5		0850															5
G-TP3-052511-2.0-2.5		0855															6
G-TP3-052511-3.5-4.0		0900															7
E-TP1-052511-4.5		1005															8
E-TP2-052511-3.0		1025															9
M-TP1-052511-0.0-0.5		1250															10
M-TP1-052511-3.0-3.5		1255															11
M-TP1.2-052511-0.0-0.5		1300															12

Cooler: Yes No. Cooler Temp: _____
 Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown
 Sample Disposal: Return To Client Disposal By Lab Archive For _____ Months
 (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): 24 Hours 48 Hours 5 Days 10 Days 15 Days Other _____
 QC Requirements (Specify): _____

1. Relinquished By Sign/Print <u>Ryan Hibbs</u>	Date <u>5-26-11</u>	Time <u>1900</u>	1. Received By Sign/Print	Date	Time
2. Relinquished By Sign/Print	Date	Time	2. Received By Sign/Print	Date	Time
3. Relinquished By Sign/Print	Date	Time	3. Received By Sign/Print	Date	Time

Comments: Hold samples until instructed which samples to analyze
 Metals to include: Antimony, Arsenic, Cadmium, Copper, Lead, Manganese, Mercury, and Zinc

Client: Forallon Client Contact: Brett Corp Date: 5-26-11 Chain of Custody Number: 11265
 Address: Telephone Number (Area Code)/Fax Number: (425) 295-0800 Lab Number: 26451 Page: 3 of 5

City: Issaquah State: WA Zip Code: 98027 Sampler: R. Hibbs Lab Contact: _____
 Project Name and Location (State): YSF Yukon WA Billing Contact: _____
 Analysis (Attach list if more space is needed): _____

Contract/Purchase Order/Quote No.: 765-001 Matrix: _____ Containers & Preservatives: _____
 Special Instructions/Conditions of Receipt: _____

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives										Special Instructions/Conditions of Receipt						
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Misc.	Other	Other	Other		Other	Other	Other			
H-TP2-052611-3.5-4.0	5-26-11	0830				X	3																Freeze mark 26 (No unit) 1760
H-TP3-052611-0.0-0.5		0945					1																26 Freeze mark 27 (No unit) 1710
H-TP3-052611-2.0-2.5		0950					3																Freeze mark 28 (No unit) 1710
H-TP2-052611-3.5-4.0		0955					3																Freeze mark 28 (No unit) 1710
D-TP3-052611-4.5		1030					1																27
D-TP3.2-052611-4.5		1035					1																Duplicate (Field)
C-TP1-052611-2.5		1100					1																31
C-TP1-052611-5.0		1105					1																32
C-TP2-052611-3.0		1130					1																33
C-TP3-052611-4.5		1345					1																31
C-TP3.2-052611-4.5		1350					1																Duplicate (Field)

Cooler: Yes No. Cooler Temp: _____ Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown Return To Client Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): 24 Hours 48 Hours 5 Days 10 Days 15 Days Other: _____ GC Requirements (Specify): _____

1. Relinquished By Sign/Print: <u>Rygan Hibbs</u> Date: <u>5-26-11</u> Time: <u>1900</u>	1. Received By Sign/Print: _____ Date: _____ Time: _____
2. Relinquished By Sign/Print: _____ Date: _____ Time: _____	2. Received By Sign/Print: _____ Date: _____ Time: _____
3. Relinquished By Sign/Print: _____ Date: _____ Time: _____	3. Received By Sign/Print: _____ Date: _____ Time: _____

Comments: See page 1

Client: Forcellone Client Contact: Brett Corp Date: 5-26-11 Chain of Custody Number: 11265
Address: _____ Telephone Number (Area Code/Fax Number): (425) 295-0800 Lab Number: 76451 Page 4 of 5

City: Issaquah State: WA Zip Code: 98027 Sampler: R. Hobbs Lab Contact: _____
Project Name and Location (State): YSF Yakima WA Billing Contact: _____
Contract/Purchase Order/Quote No.: 765-001

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives							Analysis (Attach list if more space is needed)	Special Instructions/Conditions of Receipt				
			Air	Aqueous	Sed.	Soil	Uncons.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Misc.			Organometallics/Residues	Metals (See Notes)	VOCs/ELVOCs	HCID
B-TP1-052611-0.5	5-26-11	1305				X									X	X	X		36
B-TP1-052611-6.5		1310													X	X	X		37 Infracted (Field)
B-TP1-052611-5.0		1315													X	X	X		38
B-TP1-052611-6.0		1320													X	X	X		39 RES ONLY
B-TP2-052611-4.5		1415													X	X	X		40
B-TP2-052611-5.5		1420													X	X	X		41
B-TP3-052611-4.5		1445													X	X	X		42
B-TP3-052611-6.5		1450													X	X	X		43
G-wetsoil-052611-0.0-0.5		1530													X	X	X		44
G-wetsoil-052611-1.0-2.0		1535													X	X	X		45
E-wetsoil-052611-0.0-0.5		1600													X	X	X		46
E-wetsoil-052611-0.5-1.0		1605													X	X	X		47

Cooler: Yes No Cooler Temp: _____ Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown
Sample Disposal: Return to Client Disposal By Lab Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): 24 Hours 48 Hours 5 Days 10 Days 15 Days Other _____ QC Requirements (Specify): _____

1. Relinquished By: <u>Roger Hobbs</u> Date: <u>5-26-11</u> Time: <u>1900</u>	1. Received By: _____ Date: _____ Time: _____
2. Relinquished By: _____ Date: _____ Time: _____	2. Received By: _____ Date: _____ Time: _____
3. Relinquished By: _____ Date: _____ Time: _____	3. Received By: _____ Date: _____ Time: _____

Comments: See page 1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Forrellon

TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel: 253-922-2310
Fax 253-922-5047
www.testamericainc.com

Rush

Short Hold

Chain of Custody Record

Client <i>Forrellon</i>		Client Contact <i>Brett Corp</i>		Date <i>5-26-11</i>	Chain of Custody Number <i>11287</i>
Address		Telephone Number (Area Code)/Fax Number <i>(425) 295-0800</i>		Lab Number <i>26451</i>	Page <i>5</i> of <i>5</i>

City <i>Issaquah, WA</i>	State <i>WA</i>	Zip Code <i>98027</i>	Sampler <i>R. Hibbs</i>	Lab Contact	Analysis (Attach list if more space is needed)	Special Instructions/Conditions of Receipt
Project Name and Location (State) <i>YSF Yuki River LWR</i>		Billing Contact				

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives										Special Instructions/Conditions of Receipt				
			Air	Aqueous	Sed.	Soil	Unpres.	HEB04	AM03	HCl	NaOH	ZnAc	NaOH	MeOH	MeOH	MeOH					
<i>E-wetair-2-032611-0.5-1.0</i>	<i>5-26-11</i>	<i>1647</i>			<i>X</i>		<i>4</i>														<i>ve</i>
<i>E-wetair-2-032611-1.0-2.0</i>	<i>5-26-11</i>	<i>1655</i>			<i>L</i>		<i>2</i>														<i>ve</i>

Cooler <input type="checkbox"/> Yes <input type="checkbox"/> No Cooler Temp: _____	Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown	Sample Disposal <input type="checkbox"/> Return to Client <input type="checkbox"/> Archive For _____ Months	<input type="checkbox"/> Disposal By Lab (A fee may be assessed if samples are retained longer than 1 month)
---	--	--	--

Turn Around Time Required (business days) <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 5 Days <input type="checkbox"/> 10 Days <input type="checkbox"/> 15 Days <input type="checkbox"/> Other _____	QC Requirements (Specify)
---	---------------------------

1. Relinquished By Sign/Print <i>Ryan Hibbs</i>	Date <i>5-26-11</i>	Time <i>1900</i>	1. Received By Sign/Print	Date	Time
2. Relinquished By Sign/Print	Date	Time	2. Received By Sign/Print	Date	Time
3. Relinquished By Sign/Print	Date	Time	3. Received By Sign/Print	Date	Time

Comments
See page 1

DISTRIBUTION: WHITE - Stays with the Samples; CANARY - Returned to Client with Report; PINK - Field Copy

TAL-0274-580 (0210)



Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-26451-1

Login Number: 26451

List Source: TestAmerica Seattle

List Number: 1

Creator: Kalicki, Samantha

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	Melted upon rec't. Samples in water.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	False	COC not present upon rec't. Rec'd via email.
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Refer to Job Narrative for details.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	Not needed.
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	No H2O VOA rec'd.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-26502-1
Client Project/Site: Yakima Steel
Revision: 1

For:
Farallon Consulting LLC
975 5th Avenue NW
Suite 100
Issaquah, Washington 98027

Attn: Jeff Kaspar

Pamela R. Johnson

Authorized for release by:
08/12/2011 03:27:02 PM
Pam Johnson
Project Manager I
pamr.johnson@testamericainc.com
Designee for
Kristine Allen
Project Manager I
kristine.allen@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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Case Narrative

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26502-1

Job ID: 580-26502-1

Laboratory: TestAmerica Seattle

Narrative

Receipt

All samples were received in good condition within temperature requirements.

GC/MS VOA

Method(s) 8260B: Trifluorotoluene (TFT) surrogate recovery for the following sample(s) was outside control limits: E-WetSed-1-053111 (580-26502-1). Evidence of matrix interference is present as similar depressed but in control TFT recoveries were seen in the other two samples in the work order; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.



Definitions/Glossary

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26502-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	Indicates the presence of an interference, recovery is not calculated.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit (Dioxin)
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or method detection limit if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26502-1

Client Sample ID: E-WetSed-1-053111

Lab Sample ID: 580-26502-1

Date Collected: 05/31/11 14:10

Matrix: Solid

Date Received: 06/01/11 09:45

Percent Solids: 45.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Chloromethane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Vinyl chloride	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Bromomethane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Chloroethane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Trichlorofluoromethane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,1-Dichloroethene	ND		14		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Methylene Chloride	ND		41		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
trans-1,2-Dichloroethene	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,1-Dichloroethane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
2,2-Dichloropropane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
cis-1,2-Dichloroethene	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Chlorobromomethane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Chloroform	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,1,1-Trichloroethane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Carbon tetrachloride	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,1-Dichloropropene	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Benzene	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,2-Dichloroethane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Trichloroethene	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,2-Dichloropropane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Dibromomethane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Dichlorobromomethane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
cis-1,3-Dichloropropene	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Toluene	ND		5.4		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
trans-1,3-Dichloropropene	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,1,2-Trichloroethane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Tetrachloroethene	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,3-Dichloropropane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Chlorodibromomethane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Ethylene Dibromide	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Chlorobenzene	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Ethylbenzene	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,1,1,2-Tetrachloroethane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,1,2,2-Tetrachloroethane	ND		5.4		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
m-Xylene & p-Xylene	ND		5.4		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
o-Xylene	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Styrene	ND		5.4		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Bromoform	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Isopropylbenzene	ND		5.4		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Bromobenzene	ND		5.4		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
N-Propylbenzene	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,2,3-Trichloropropane	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
2-Chlorotoluene	ND		5.4		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,3,5-Trimethylbenzene	ND		14		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
4-Chlorotoluene	ND		5.4		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
tert-Butylbenzene	ND		5.4		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,2,4-Trimethylbenzene	ND		5.4		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
sec-Butylbenzene	ND		5.4		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,3-Dichlorobenzene	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26502-1

Client Sample ID: E-WetSed-1-053111

Lab Sample ID: 580-26502-1

Date Collected: 05/31/11 14:10

Matrix: Solid

Date Received: 06/01/11 09:45

Percent Solids: 45.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		5.4		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,4-Dichlorobenzene	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
n-Butylbenzene	ND		5.4		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,2-Dichlorobenzene	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,2-Dibromo-3-Chloropropane	ND		5.4		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,2,4-Trichlorobenzene	ND		5.4		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
1,2,3-Trichlorobenzene	ND		5.4		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Hexachlorobutadiene	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Naphthalene	ND		14		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Methyl tert-butyl ether	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Carbon disulfide	ND		2.7		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
Acetone	82		41		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
4-Methyl-2-pentanone	ND		14		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1
2-Butanone	ND		14		ug/Kg	*	06/13/11 14:53	06/13/11 19:09	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	104		80 - 120	06/13/11 14:53	06/13/11 19:09	1
Toluene-d8 (Surr)	94		80 - 120	06/13/11 14:53	06/13/11 19:09	1
Ethylbenzene-d10	101		70 - 120	06/13/11 14:53	06/13/11 19:09	1
4-Bromofluorobenzene (Surr)	96		70 - 120	06/13/11 14:53	06/13/11 19:09	1
Trifluorotoluene (Surr)	59	X I	65 - 140	06/13/11 14:53	06/13/11 19:09	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	45		0.10		%			06/06/11 14:43	1
Percent Moisture	55		0.10		%			06/06/11 14:43	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26502-1

Client Sample ID: E-WetSed-2-053111

Lab Sample ID: 580-26502-2

Date Collected: 05/31/11 14:30

Matrix: Solid

Date Received: 06/01/11 09:45

Percent Solids: 43.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Chloromethane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Vinyl chloride	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Bromomethane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Chloroethane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Trichlorofluoromethane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
1,1-Dichloroethene	ND		13		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Methylene Chloride	ND		39		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
trans-1,2-Dichloroethene	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
1,1-Dichloroethane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
2,2-Dichloropropane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
cis-1,2-Dichloroethene	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Chlorobromomethane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Chloroform	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
1,1,1-Trichloroethane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Carbon tetrachloride	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
1,1-Dichloropropene	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Benzene	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
1,2-Dichloroethane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Trichloroethene	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
1,2-Dichloropropane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Dibromomethane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Dichlorobromomethane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
cis-1,3-Dichloropropene	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Toluene	ND		5.2		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
trans-1,3-Dichloropropene	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
1,1,2-Trichloroethane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Tetrachloroethene	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
1,3-Dichloropropane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Chlorodibromomethane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Ethylene Dibromide	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Chlorobenzene	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Ethylbenzene	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
1,1,1,2-Tetrachloroethane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
1,1,2,2-Tetrachloroethane	ND		5.2		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
m-Xylene & p-Xylene	ND		5.2		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
o-Xylene	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Styrene	ND		5.2		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Bromoform	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Isopropylbenzene	ND		5.2		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
Bromobenzene	ND		5.2		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
N-Propylbenzene	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
1,2,3-Trichloropropane	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
2-Chlorotoluene	ND		5.2		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
1,3,5-Trimethylbenzene	ND		13		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
4-Chlorotoluene	ND		5.2		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
tert-Butylbenzene	ND		5.2		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
1,2,4-Trimethylbenzene	ND		5.2		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
sec-Butylbenzene	ND		5.2		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1
1,3-Dichlorobenzene	ND		2.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:33	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26502-1

Client Sample ID: E-WetSed-2-053111

Lab Sample ID: 580-26502-2

Date Collected: 05/31/11 14:30

Matrix: Solid

Date Received: 06/01/11 09:45

Percent Solids: 43.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		5.2		ug/Kg	☼	06/13/11 14:53	06/13/11 19:33	1
1,4-Dichlorobenzene	ND		2.6		ug/Kg	☼	06/13/11 14:53	06/13/11 19:33	1
n-Butylbenzene	ND		5.2		ug/Kg	☼	06/13/11 14:53	06/13/11 19:33	1
1,2-Dichlorobenzene	ND		2.6		ug/Kg	☼	06/13/11 14:53	06/13/11 19:33	1
1,2-Dibromo-3-Chloropropane	ND		5.2		ug/Kg	☼	06/13/11 14:53	06/13/11 19:33	1
1,2,4-Trichlorobenzene	ND		5.2		ug/Kg	☼	06/13/11 14:53	06/13/11 19:33	1
1,2,3-Trichlorobenzene	ND		5.2		ug/Kg	☼	06/13/11 14:53	06/13/11 19:33	1
Hexachlorobutadiene	ND		2.6		ug/Kg	☼	06/13/11 14:53	06/13/11 19:33	1
Naphthalene	ND		13		ug/Kg	☼	06/13/11 14:53	06/13/11 19:33	1
Methyl tert-butyl ether	ND		2.6		ug/Kg	☼	06/13/11 14:53	06/13/11 19:33	1
Carbon disulfide	3.2		2.6		ug/Kg	☼	06/13/11 14:53	06/13/11 19:33	1
Acetone	ND		39		ug/Kg	☼	06/13/11 14:53	06/13/11 19:33	1
4-Methyl-2-pentanone	ND		13		ug/Kg	☼	06/13/11 14:53	06/13/11 19:33	1
2-Butanone	ND		13		ug/Kg	☼	06/13/11 14:53	06/13/11 19:33	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	104		80 - 120	06/13/11 14:53	06/13/11 19:33	1
Toluene-d8 (Surr)	95		80 - 120	06/13/11 14:53	06/13/11 19:33	1
Ethylbenzene-d10	99		70 - 120	06/13/11 14:53	06/13/11 19:33	1
4-Bromofluorobenzene (Surr)	93		70 - 120	06/13/11 14:53	06/13/11 19:33	1
Trifluorotoluene (Surr)	72		65 - 140	06/13/11 14:53	06/13/11 19:33	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	43		0.10		%			06/06/11 14:43	1
Percent Moisture	57		0.10		%			06/06/11 14:43	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26502-1

Client Sample ID: E-WetSed-3-053111

Lab Sample ID: 580-26502-3

Date Collected: 05/31/11 15:00

Matrix: Solid

Date Received: 06/01/11 09:45

Percent Solids: 40.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Chloromethane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Vinyl chloride	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Bromomethane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Chloroethane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Trichlorofluoromethane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
1,1-Dichloroethene	ND		17		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Methylene Chloride	ND		50		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
trans-1,2-Dichloroethene	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
1,1-Dichloroethane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
2,2-Dichloropropane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
cis-1,2-Dichloroethene	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Chlorobromomethane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Chloroform	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
1,1,1-Trichloroethane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Carbon tetrachloride	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
1,1-Dichloropropene	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Benzene	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
1,2-Dichloroethane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Trichloroethene	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
1,2-Dichloropropane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Dibromomethane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Dichlorobromomethane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
cis-1,3-Dichloropropene	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Toluene	ND		6.6		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
trans-1,3-Dichloropropene	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
1,1,2-Trichloroethane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Tetrachloroethene	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
1,3-Dichloropropane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Chlorodibromomethane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Ethylene Dibromide	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Chlorobenzene	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Ethylbenzene	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
1,1,1,2-Tetrachloroethane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
1,1,2,2-Tetrachloroethane	ND		6.6		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
m-Xylene & p-Xylene	ND		6.6		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
o-Xylene	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Styrene	ND		6.6		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Bromoform	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Isopropylbenzene	ND		6.6		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
Bromobenzene	ND		6.6		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
N-Propylbenzene	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
1,2,3-Trichloropropane	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
2-Chlorotoluene	ND		6.6		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
1,3,5-Trimethylbenzene	ND		17		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
4-Chlorotoluene	ND		6.6		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
tert-Butylbenzene	ND		6.6		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
1,2,4-Trimethylbenzene	ND		6.6		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
sec-Butylbenzene	ND		6.6		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1
1,3-Dichlorobenzene	ND		3.3		ug/Kg	☼	06/13/11 14:53	06/13/11 19:58	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26502-1

Client Sample ID: E-WetSed-3-053111

Lab Sample ID: 580-26502-3

Date Collected: 05/31/11 15:00

Matrix: Solid

Date Received: 06/01/11 09:45

Percent Solids: 40.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		6.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:58	1
1,4-Dichlorobenzene	ND		3.3		ug/Kg	*	06/13/11 14:53	06/13/11 19:58	1
n-Butylbenzene	ND		6.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:58	1
1,2-Dichlorobenzene	ND		3.3		ug/Kg	*	06/13/11 14:53	06/13/11 19:58	1
1,2-Dibromo-3-Chloropropane	ND		6.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:58	1
1,2,4-Trichlorobenzene	ND		6.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:58	1
1,2,3-Trichlorobenzene	ND		6.6		ug/Kg	*	06/13/11 14:53	06/13/11 19:58	1
Hexachlorobutadiene	ND		3.3		ug/Kg	*	06/13/11 14:53	06/13/11 19:58	1
Naphthalene	ND		17		ug/Kg	*	06/13/11 14:53	06/13/11 19:58	1
Methyl tert-butyl ether	ND		3.3		ug/Kg	*	06/13/11 14:53	06/13/11 19:58	1
Carbon disulfide	ND		3.3		ug/Kg	*	06/13/11 14:53	06/13/11 19:58	1
Acetone	110		50		ug/Kg	*	06/13/11 14:53	06/13/11 19:58	1
4-Methyl-2-pentanone	ND		17		ug/Kg	*	06/13/11 14:53	06/13/11 19:58	1
2-Butanone	25		17		ug/Kg	*	06/13/11 14:53	06/13/11 19:58	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	103		80 - 120	06/13/11 14:53	06/13/11 19:58	1
Toluene-d8 (Surr)	97		80 - 120	06/13/11 14:53	06/13/11 19:58	1
Ethylbenzene-d10	106		70 - 120	06/13/11 14:53	06/13/11 19:58	1
4-Bromofluorobenzene (Surr)	99		70 - 120	06/13/11 14:53	06/13/11 19:58	1
Trifluorotoluene (Surr)	66		65 - 140	06/13/11 14:53	06/13/11 19:58	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	40		0.10		%			06/06/11 14:43	1
Percent Moisture	60		0.10		%			06/06/11 14:43	1



QC Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26502-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-87809/1-A
Matrix: Solid
Analysis Batch: 87782

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87809

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dichlorodifluoromethane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Chloromethane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Vinyl chloride	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Bromomethane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Chloroethane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Trichlorofluoromethane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,1-Dichloroethene	ND		5.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Methylene Chloride	ND		15		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
trans-1,2-Dichloroethene	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,1-Dichloroethane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
2,2-Dichloropropane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
cis-1,2-Dichloroethene	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Chlorobromomethane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Chloroform	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,1,1-Trichloroethane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Carbon tetrachloride	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,1-Dichloropropene	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Benzene	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,2-Dichloroethane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Trichloroethene	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,2-Dichloropropane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Dibromomethane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Dichlorobromomethane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Toluene	ND		2.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
trans-1,3-Dichloropropene	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,1,2-Trichloroethane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Tetrachloroethene	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,3-Dichloropropane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Chlorodibromomethane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Ethylene Dibromide	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Chlorobenzene	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Ethylbenzene	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
o-Xylene	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Styrene	ND		2.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Bromoform	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Isopropylbenzene	ND		2.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Bromobenzene	ND		2.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
N-Propylbenzene	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,2,3-Trichloropropane	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
2-Chlorotoluene	ND		2.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
4-Chlorotoluene	ND		2.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
tert-Butylbenzene	ND		2.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
sec-Butylbenzene	ND		2.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26502-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-87809/1-A

Matrix: Solid

Analysis Batch: 87782

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 87809

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,3-Dichlorobenzene	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
4-Isopropyltoluene	ND		2.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
n-Butylbenzene	ND		2.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,2-Dichlorobenzene	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
1,2,3-Trichlorobenzene	ND		2.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Hexachlorobutadiene	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Naphthalene	ND		5.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Methyl tert-butyl ether	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Carbon disulfide	ND		1.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
Acetone	ND		15		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
4-Methyl-2-pentanone	ND		5.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1
2-Butanone	ND		5.0		ug/Kg		06/13/11 14:53	06/13/11 15:30	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
Fluorobenzene (Surr)	103		80 - 120	06/13/11 14:53	06/13/11 15:30	1
Toluene-d8 (Surr)	96		80 - 120	06/13/11 14:53	06/13/11 15:30	1
Ethylbenzene-d10	96		70 - 120	06/13/11 14:53	06/13/11 15:30	1
4-Bromofluorobenzene (Surr)	92		70 - 120	06/13/11 14:53	06/13/11 15:30	1
Trifluorotoluene (Surr)	106		65 - 140	06/13/11 14:53	06/13/11 15:30	1

Lab Sample ID: LCS 580-87809/2-A

Matrix: Solid

Analysis Batch: 87782

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 87809

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
1,1-Dichloroethene	40.0	44.2		ug/Kg		111	65 - 135
Benzene	40.0	39.6		ug/Kg		99	75 - 125
Trichloroethene	40.0	36.9		ug/Kg		92	75 - 125
Toluene	40.0	33.1		ug/Kg		83	70 - 125
Chlorobenzene	40.0	32.0		ug/Kg		80	75 - 125

Surrogate	LCS LCS		Limits
	% Recovery	Qualifier	
Fluorobenzene (Surr)	105		80 - 120
Toluene-d8 (Surr)	91		80 - 120
Ethylbenzene-d10	97		70 - 120
4-Bromofluorobenzene (Surr)	86		70 - 120
Trifluorotoluene (Surr)	90		65 - 140

Lab Sample ID: LCSD 580-87809/3-A

Matrix: Solid

Analysis Batch: 87782

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 87809

Analyte	Spike Added	LCSD LCSD		Unit	D	% Rec	% Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
1,1-Dichloroethene	40.0	37.2		ug/Kg		93	65 - 135	17	30
Benzene	40.0	37.3		ug/Kg		93	75 - 125	6	30
Trichloroethene	40.0	33.3		ug/Kg		83	75 - 125	10	30

TestAmerica Seattle

QC Sample Results

Client: Farallon Consulting LLC
 Project/Site: Yakima Steel

TestAmerica Job ID: 580-26502-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-87809/3-A

Matrix: Solid

Analysis Batch: 87782

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 87809

Analyte	Spike	LCSD	LCSD	Unit	D	% Rec	% Rec.	Limits	RPD	RPD
	Added	Result	Qualifier							
Toluene	40.0	33.4		ug/Kg		84	70 - 125	1	30	
Chlorobenzene	40.0	34.8		ug/Kg		87	75 - 125	8	30	

Surrogate	LCSD	LCSD	Limits
	% Recovery	Qualifier	
Fluorobenzene (Surr)	106		80 - 120
Toluene-d8 (Surr)	99		80 - 120
Ethylbenzene-d10	107		70 - 120
4-Bromofluorobenzene (Surr)	94		70 - 120
Trifluorotoluene (Surr)	85		65 - 140



Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26502-1

Client Sample ID: E-WetSed-1-053111

Lab Sample ID: 580-26502-1

Date Collected: 05/31/11 14:10

Matrix: Solid

Date Received: 06/01/11 09:45

Percent Solids: 45.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87809	06/13/11 14:53	SK	TAL SEA
Total/NA	Analysis	8260B		1	87782	06/13/11 19:09	SK	TAL SEA
Total/NA	Analysis	Moisture		1	87293	06/06/11 14:43	SP	TAL SEA

Client Sample ID: E-WetSed-2-053111

Lab Sample ID: 580-26502-2

Date Collected: 05/31/11 14:30

Matrix: Solid

Date Received: 06/01/11 09:45

Percent Solids: 43.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87809	06/13/11 14:53	SK	TAL SEA
Total/NA	Analysis	8260B		1	87782	06/13/11 19:33	SK	TAL SEA
Total/NA	Analysis	Moisture		1	87293	06/06/11 14:43	SP	TAL SEA

Client Sample ID: E-WetSed-3-053111

Lab Sample ID: 580-26502-3

Date Collected: 05/31/11 15:00

Matrix: Solid

Date Received: 06/01/11 09:45

Percent Solids: 40.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87809	06/13/11 14:53	SK	TAL SEA
Total/NA	Analysis	8260B		1	87782	06/13/11 19:58	SK	TAL SEA
Total/NA	Analysis	Moisture		1	87293	06/06/11 14:43	SP	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26502-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022
TestAmerica Seattle	Alaska	TA-Port Heiden Mobile Lab	10	UST-093
TestAmerica Seattle	California	NELAC	9	1115CA
TestAmerica Seattle	Florida	NELAC	4	E871074
TestAmerica Seattle	L-A-B	DoD ELAP		L2236
TestAmerica Seattle	L-A-B	ISO/IEC 17025		L2236
TestAmerica Seattle	Louisiana	NELAC	6	05016
TestAmerica Seattle	Montana	MT DEQ UST	8	N/A
TestAmerica Seattle	Oregon	NELAC	10	WA100007
TestAmerica Seattle	USDA	USDA		P330-11-00222
TestAmerica Seattle	Washington	State Program	10	C553

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.



Sample Summary

Client: Farallon Consulting LLC
Project/Site: Yakima Steel

TestAmerica Job ID: 580-26502-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-26502-1	E-WetSed-1-053111	Solid	05/31/11 14:10	06/01/11 09:45
580-26502-2	E-WetSed-2-053111	Solid	05/31/11 14:30	06/01/11 09:45
580-26502-3	E-WetSed-3-053111	Solid	05/31/11 15:00	06/01/11 09:45

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- 2
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- 10
- 11

Rush

Short Hold

Chain of Custody Record

Client: Furullon Client Contact: Brett Corp Date: 5-31-11 Chain of Custody Number: 11301
Address: Telephone Number (Area Code)/Fax Number: (425) 295-0800 Lab Number: 26502 Page 1 of 1

City: Issaquah State: WA Zip Code: 98027 Sampler: R. Hibbs Lab Contact: _____
Project Name and Location (State): YSE Yakima WA Billing Contact: _____
Analysis (Attach list if more space is needed)

Contract/Purchase Order/Quote No.: 765-001 Matrix: _____ Containers & Preservatives: _____

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives							Special Instructions/ Conditions of Receipt					
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Mech						
<u>E-wetted-1-053111</u>	<u>5-31-11</u>	<u>1710</u>			<u>X</u>														
<u>E-wetted-2-053111</u>	<u>I</u>	<u>1430</u>			<u>X</u>														
<u>E-wetted-3-053111</u>	<u>I</u>	<u>1500</u>			<u>X</u>														

Cooler/IB Dig/IR cor 0.3 and 0.3
Cooler Dsc 1g B/W @ Lab 0945
Wet/Packs Packing Bubbled
#1 W/O CS Submerged in water

Cooler Yes No Cooler Temp: _____ Possible Hazard Identification Non-Hazard Flammable Skin Irritant Poison B Unknown Return To Client Disposal By Lab Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days) 24 Hours 48 Hours 5 Days 10 Days 15 Days Other _____ QC Requirements (Specify)

1. Relinquished By Sign/Print <u>Ryan Hibbs</u> Ryan Hibbs	Date <u>5-31-11</u>	Time <u>1530</u>	1. Received By Sign/Print <u>Samanthya Kalicki</u>	Date <u>6/1/11</u>	Time <u>0945</u>
2. Relinquished By Sign/Print <u>Samanthya Kalicki</u>	Date <u>6/1/11</u>	Time <u>14:45</u>	2. Received By Sign/Print	Date	Time
3. Relinquished By Sign/Print	Date	Time	3. Received By Sign/Print	Date	Time

Comments: Call Brett Corp for analysis

Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-26502-1

Login Number: 26502

List Source: TestAmerica Seattle

List Number: 1

Creator: Kalicki, Samantha

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	Containers submerged in water.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	Not needed.
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	No H2O VOA rec'd.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-26520-1

Client Project/Site: YSF Yakima WA
Revision: 2

For:

Farallon Consulting LLC
975 5th Avenue NW
Suite 100
Issaquah, Washington 98027

Attn: Jeff Kaspar

Pamela R. Johnson

Authorized for release by:
08/12/2011 03:27:52 PM

Pam Johnson
Project Manager I
pamr.johnson@testamericainc.com

Designee for

Kristine Allen
Project Manager I
kristine.allen@testamericainc.com

LINKS

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www.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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Case Narrative

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Job ID: 580-26520-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative
580-26520-1

Comments

No additional comments.

Receipt

One unpreserved one liter amber received broken. This was from sample MW-3-06111.

Sample set MW-4-060111 without collection time on containers. Sample containers labeled per time found on COC for this sample.

All other samples were received in good condition within temperature requirements.

GC/MS VOA

No analytical or quality issues were noted.

GC VOA

Method(s) RSK-175: Due to the high concentration of Methane, the matrix spike / matrix spike duplicate (MS/MSD) for batch 205123 could not be evaluated for accuracy and precision for Methane. The associated laboratory control sample (LCS) met acceptance criteria.

No other analytical or quality issues were noted.

GC Semi VOA

Method(s) 8081A: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for batch 87465 exceeded control limits for the following analytes: Endrin ketone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No other analytical or quality issues were noted.

Metals

No analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.



Definitions/Glossary

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit (Dioxin)
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or method detection limit if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Client Sample ID: MW-2-060111

Lab Sample ID: 580-26520-1

Date Collected: 06/01/11 09:34

Matrix: Water

Date Received: 06/02/11 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.10		ug/L			06/11/11 01:34	1
Bromobenzene	ND		0.10		ug/L			06/11/11 01:34	1
Bromoform	ND		0.10		ug/L			06/11/11 01:34	1
Bromomethane	ND		0.10		ug/L			06/11/11 01:34	1
Carbon tetrachloride	ND		0.10		ug/L			06/11/11 01:34	1
Chlorobenzene	ND		0.10		ug/L			06/11/11 01:34	1
Chlorobromomethane	ND		0.10		ug/L			06/11/11 01:34	1
Chlorodibromomethane	ND		0.10		ug/L			06/11/11 01:34	1
Chloroethane	ND		0.25		ug/L			06/11/11 01:34	1
Chloroform	0.52		0.10		ug/L			06/11/11 01:34	1
Chloromethane	ND		0.10		ug/L			06/11/11 01:34	1
2-Chlorotoluene	ND		0.10		ug/L			06/11/11 01:34	1
4-Chlorotoluene	ND		0.20		ug/L			06/11/11 01:34	1
cis-1,2-Dichloroethene	8.9		0.10		ug/L			06/11/11 01:34	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 01:34	1
1,2-Dibromo-3-Chloropropane	ND		0.40		ug/L			06/11/11 01:34	1
1,2-Dibromoethane	ND		0.10		ug/L			06/11/11 01:34	1
Dibromomethane	ND		0.10		ug/L			06/11/11 01:34	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/11/11 01:34	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/11/11 01:34	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/11/11 01:34	1
Dichlorobromomethane	ND		0.10		ug/L			06/11/11 01:34	1
Dichlorodifluoromethane	ND		0.40		ug/L			06/11/11 01:34	1
1,2-Dichloroethane	ND		0.10		ug/L			06/11/11 01:34	1
1,1-Dichloroethane	ND		0.10		ug/L			06/11/11 01:34	1
1,1-Dichloroethene	ND		0.10		ug/L			06/11/11 01:34	1
1,3-Dichloropropane	ND		0.10		ug/L			06/11/11 01:34	1
2,2-Dichloropropane	ND		0.10		ug/L			06/11/11 01:34	1
1,2-Dichloropropane	ND		0.10		ug/L			06/11/11 01:34	1
1,1-Dichloropropene	ND		0.10		ug/L			06/11/11 01:34	1
Ethylbenzene	ND		0.10		ug/L			06/11/11 01:34	1
Hexachlorobutadiene	ND		0.20		ug/L			06/11/11 01:34	1
Isopropylbenzene	ND		0.10		ug/L			06/11/11 01:34	1
4-Isopropyltoluene	ND		0.20		ug/L			06/11/11 01:34	1
Methylene Chloride	ND		0.50		ug/L			06/11/11 01:34	1
Methyl tert-butyl ether	ND		0.10		ug/L			06/11/11 01:34	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/11/11 01:34	1
Naphthalene	ND		0.40		ug/L			06/11/11 01:34	1
n-Butylbenzene	ND		0.10		ug/L			06/11/11 01:34	1
N-Propylbenzene	ND		0.10		ug/L			06/11/11 01:34	1
o-Xylene	ND		0.10		ug/L			06/11/11 01:34	1
sec-Butylbenzene	ND		0.10		ug/L			06/11/11 01:34	1
Styrene	ND		0.10		ug/L			06/11/11 01:34	1
tert-Butylbenzene	ND		0.10		ug/L			06/11/11 01:34	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 01:34	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 01:34	1
Tetrachloroethene	1.6		0.10		ug/L			06/11/11 01:34	1
Toluene	ND		0.10		ug/L			06/11/11 01:34	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/11/11 01:34	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 01:34	1



Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Client Sample ID: MW-2-060111

Lab Sample ID: 580-26520-1

Date Collected: 06/01/11 09:34

Matrix: Water

Date Received: 06/02/11 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/11/11 01:34	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/11/11 01:34	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/11/11 01:34	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/11/11 01:34	1
Trichloroethene	1.5		0.10		ug/L			06/11/11 01:34	1
Trichlorofluoromethane	ND		0.10		ug/L			06/11/11 01:34	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/11/11 01:34	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/11/11 01:34	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/11/11 01:34	1
Vinyl chloride	0.025		0.020		ug/L			06/11/11 01:34	1
Acetone	ND		2.0		ug/L			06/11/11 01:34	1
2-Butanone	ND		2.0		ug/L			06/11/11 01:34	1
Carbon disulfide	ND		0.10		ug/L			06/11/11 01:34	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/11/11 01:34	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		75 - 120		06/11/11 01:34	1
Ethylbenzene-d10	98		75 - 125		06/11/11 01:34	1
Fluorobenzene (Surr)	100		70 - 130		06/11/11 01:34	1
Toluene-d8 (Surr)	98		75 - 125		06/11/11 01:34	1
Trifluorotoluene (Surr)	102		80 - 125		06/11/11 01:34	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		1.1		ug/L			06/07/11 18:20	1
Ethylene	ND		1.0		ug/L			06/07/11 18:20	1
Methane	ND		0.58		ug/L			06/07/11 18:20	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.010		ug/L		06/08/11 09:32	06/09/11 00:39	1
alpha-BHC	ND		0.010		ug/L		06/08/11 09:32	06/09/11 00:39	1
beta-BHC	ND		0.021		ug/L		06/08/11 09:32	06/09/11 00:39	1
delta-BHC	ND		0.010		ug/L		06/08/11 09:32	06/09/11 00:39	1
gamma-BHC (Lindane)	ND		0.010		ug/L		06/08/11 09:32	06/09/11 00:39	1
4,4'-DDD	ND		0.021		ug/L		06/08/11 09:32	06/09/11 00:39	1
4,4'-DDE	ND		0.021		ug/L		06/08/11 09:32	06/09/11 00:39	1
4,4'-DDT	ND		0.021		ug/L		06/08/11 09:32	06/09/11 00:39	1
Dieldrin	0.033		0.021		ug/L		06/08/11 09:32	06/09/11 00:39	1
Endosulfan I	ND		0.021		ug/L		06/08/11 09:32	06/09/11 00:39	1
Endosulfan II	ND		0.021		ug/L		06/08/11 09:32	06/09/11 00:39	1
Endosulfan sulfate	ND		0.021		ug/L		06/08/11 09:32	06/09/11 00:39	1
Endrin	ND		0.021		ug/L		06/08/11 09:32	06/09/11 00:39	1
Endrin aldehyde	ND		0.052		ug/L		06/08/11 09:32	06/09/11 00:39	1
Heptachlor	ND		0.010		ug/L		06/08/11 09:32	06/09/11 00:39	1
Heptachlor epoxide	ND		0.010		ug/L		06/08/11 09:32	06/09/11 00:39	1
Methoxychlor	ND		0.10		ug/L		06/08/11 09:32	06/09/11 00:39	1
Endrin ketone	ND *		0.021		ug/L		06/08/11 09:32	06/09/11 00:39	1
Toxaphene	ND		1.0		ug/L		06/08/11 09:32	06/09/11 00:39	1
alpha-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/09/11 00:39	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Client Sample ID: MW-2-060111

Lab Sample ID: 580-26520-1

Date Collected: 06/01/11 09:34

Matrix: Water

Date Received: 06/02/11 09:50

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/09/11 00:39	1
Surrogate									
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	78		18 - 181				06/08/11 09:32	06/09/11 00:39	1
DCB Decachlorobiphenyl	91		53 - 122				06/08/11 09:32	06/09/11 00:39	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		06/09/11 10:30	06/09/11 21:18	5
Lead	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:18	5
Antimony	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:18	5
Cadmium	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:18	5
Copper	ND		0.0050		mg/L		06/09/11 10:30	06/09/11 21:18	5
Manganese	0.18		0.0020		mg/L		06/09/11 10:30	06/09/11 21:18	5
Zinc	0.54		0.0070		mg/L		06/09/11 10:30	06/09/11 21:18	5

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:41	5
Antimony	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:41	5
Cadmium	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:41	5
Copper	ND		0.0050		mg/L		06/09/11 10:30	06/09/11 21:41	5
Lead	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:41	5
Manganese	0.19		0.0020		mg/L		06/09/11 10:30	06/09/11 21:41	5
Zinc	0.55		0.0070		mg/L		06/09/11 10:30	06/09/11 21:41	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 12:24	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 13:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20		0.90		mg/L			06/02/11 17:37	1
Nitrate as N	1.7		0.90		mg/L			06/02/11 17:37	1
Sulfate	39		1.2		mg/L			06/02/11 17:37	1
Total Organic Carbon	1.5		1.0		mg/L			06/13/11 13:41	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	97		5.0		mg/L			06/13/11 17:08	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Client Sample ID: MW-6-060111

Lab Sample ID: 580-26520-2

Date Collected: 06/01/11 10:52

Matrix: Water

Date Received: 06/02/11 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.10		ug/L			06/11/11 02:09	1
Bromobenzene	ND		0.10		ug/L			06/11/11 02:09	1
Bromoform	ND		0.10		ug/L			06/11/11 02:09	1
Bromomethane	ND		0.10		ug/L			06/11/11 02:09	1
Carbon tetrachloride	ND		0.10		ug/L			06/11/11 02:09	1
Chlorobenzene	ND		0.10		ug/L			06/11/11 02:09	1
Chlorobromomethane	ND		0.10		ug/L			06/11/11 02:09	1
Chlorodibromomethane	ND		0.10		ug/L			06/11/11 02:09	1
Chloroethane	ND		0.25		ug/L			06/11/11 02:09	1
Chloroform	ND		0.10		ug/L			06/11/11 02:09	1
Chloromethane	ND		0.10		ug/L			06/11/11 02:09	1
2-Chlorotoluene	ND		0.10		ug/L			06/11/11 02:09	1
4-Chlorotoluene	ND		0.20		ug/L			06/11/11 02:09	1
cis-1,2-Dichloroethene	6.6		0.10		ug/L			06/11/11 02:09	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 02:09	1
1,2-Dibromo-3-Chloropropane	ND		0.40		ug/L			06/11/11 02:09	1
1,2-Dibromoethane	ND		0.10		ug/L			06/11/11 02:09	1
Dibromomethane	ND		0.10		ug/L			06/11/11 02:09	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/11/11 02:09	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/11/11 02:09	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/11/11 02:09	1
Dichlorobromomethane	ND		0.10		ug/L			06/11/11 02:09	1
Dichlorodifluoromethane	ND		0.40		ug/L			06/11/11 02:09	1
1,2-Dichloroethane	ND		0.10		ug/L			06/11/11 02:09	1
1,1-Dichloroethane	ND		0.10		ug/L			06/11/11 02:09	1
1,1-Dichloroethene	ND		0.10		ug/L			06/11/11 02:09	1
1,3-Dichloropropane	ND		0.10		ug/L			06/11/11 02:09	1
2,2-Dichloropropane	ND		0.10		ug/L			06/11/11 02:09	1
1,2-Dichloropropane	ND		0.10		ug/L			06/11/11 02:09	1
1,1-Dichloropropene	ND		0.10		ug/L			06/11/11 02:09	1
Ethylbenzene	ND		0.10		ug/L			06/11/11 02:09	1
Hexachlorobutadiene	ND		0.20		ug/L			06/11/11 02:09	1
Isopropylbenzene	ND		0.10		ug/L			06/11/11 02:09	1
4-Isopropyltoluene	ND		0.20		ug/L			06/11/11 02:09	1
Methylene Chloride	ND		0.50		ug/L			06/11/11 02:09	1
Methyl tert-butyl ether	ND		0.10		ug/L			06/11/11 02:09	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/11/11 02:09	1
Naphthalene	ND		0.40		ug/L			06/11/11 02:09	1
n-Butylbenzene	ND		0.10		ug/L			06/11/11 02:09	1
N-Propylbenzene	ND		0.10		ug/L			06/11/11 02:09	1
o-Xylene	ND		0.10		ug/L			06/11/11 02:09	1
sec-Butylbenzene	ND		0.10		ug/L			06/11/11 02:09	1
Styrene	ND		0.10		ug/L			06/11/11 02:09	1
tert-Butylbenzene	ND		0.10		ug/L			06/11/11 02:09	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 02:09	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 02:09	1
Tetrachloroethene	ND		0.10		ug/L			06/11/11 02:09	1
Toluene	ND		0.10		ug/L			06/11/11 02:09	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/11/11 02:09	1
trans-1,3-Dichloropropene	0.53		0.10		ug/L			06/11/11 02:09	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Client Sample ID: MW-6-060111

Lab Sample ID: 580-26520-2

Date Collected: 06/01/11 10:52

Matrix: Water

Date Received: 06/02/11 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/11/11 02:09	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/11/11 02:09	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/11/11 02:09	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/11/11 02:09	1
Trichloroethene	ND		0.10		ug/L			06/11/11 02:09	1
Trichlorofluoromethane	ND		0.10		ug/L			06/11/11 02:09	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/11/11 02:09	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/11/11 02:09	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/11/11 02:09	1
Vinyl chloride	0.20		0.020		ug/L			06/11/11 02:09	1
Acetone	ND		2.0		ug/L			06/11/11 02:09	1
2-Butanone	ND		2.0		ug/L			06/11/11 02:09	1
Carbon disulfide	ND		0.10		ug/L			06/11/11 02:09	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/11/11 02:09	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		75 - 120		06/11/11 02:09	1
Ethylbenzene-d10	103		75 - 125		06/11/11 02:09	1
Fluorobenzene (Surr)	106		70 - 130		06/11/11 02:09	1
Toluene-d8 (Surr)	98		75 - 125		06/11/11 02:09	1
Trifluorotoluene (Surr)	112		80 - 125		06/11/11 02:09	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		1.1		ug/L			06/06/11 19:49	1
Ethylene	ND		1.0		ug/L			06/06/11 19:49	1
Methane	1.7		0.58		ug/L			06/06/11 19:49	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0097		ug/L		06/08/11 09:32	06/09/11 00:59	1
alpha-BHC	ND		0.0097		ug/L		06/08/11 09:32	06/09/11 00:59	1
beta-BHC	ND		0.019		ug/L		06/08/11 09:32	06/09/11 00:59	1
delta-BHC	ND		0.0097		ug/L		06/08/11 09:32	06/09/11 00:59	1
gamma-BHC (Lindane)	ND		0.0097		ug/L		06/08/11 09:32	06/09/11 00:59	1
4,4'-DDD	ND		0.019		ug/L		06/08/11 09:32	06/09/11 00:59	1
4,4'-DDE	ND		0.019		ug/L		06/08/11 09:32	06/09/11 00:59	1
4,4'-DDT	ND		0.019		ug/L		06/08/11 09:32	06/09/11 00:59	1
Dieldrin	ND		0.019		ug/L		06/08/11 09:32	06/09/11 00:59	1
Endosulfan I	ND		0.019		ug/L		06/08/11 09:32	06/09/11 00:59	1
Endosulfan II	ND		0.019		ug/L		06/08/11 09:32	06/09/11 00:59	1
Endosulfan sulfate	ND		0.019		ug/L		06/08/11 09:32	06/09/11 00:59	1
Endrin	ND		0.019		ug/L		06/08/11 09:32	06/09/11 00:59	1
Endrin aldehyde	ND		0.049		ug/L		06/08/11 09:32	06/09/11 00:59	1
Heptachlor	ND		0.0097		ug/L		06/08/11 09:32	06/09/11 00:59	1
Heptachlor epoxide	ND		0.0097		ug/L		06/08/11 09:32	06/09/11 00:59	1
Methoxychlor	ND		0.097		ug/L		06/08/11 09:32	06/09/11 00:59	1
Endrin ketone	ND	*	0.019		ug/L		06/08/11 09:32	06/09/11 00:59	1
Toxaphene	ND		0.97		ug/L		06/08/11 09:32	06/09/11 00:59	1
alpha-Chlordane	ND		0.0097		ug/L		06/08/11 09:32	06/09/11 00:59	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Client Sample ID: MW-6-060111

Lab Sample ID: 580-26520-2

Date Collected: 06/01/11 10:52

Matrix: Water

Date Received: 06/02/11 09:50

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-Chlordane	ND		0.0097		ug/L		06/08/11 09:32	06/09/11 00:59	1
Surrogate									
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	77		18 - 181				06/08/11 09:32	06/09/11 00:59	1
DCB Decachlorobiphenyl	89		53 - 122				06/08/11 09:32	06/09/11 00:59	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		06/09/11 10:30	06/09/11 21:24	5
Lead	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:24	5
Antimony	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:24	5
Cadmium	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:24	5
Copper	ND		0.0050		mg/L		06/09/11 10:30	06/09/11 21:24	5
Manganese	0.28		0.0020		mg/L		06/09/11 10:30	06/09/11 21:24	5
Zinc	ND		0.0070		mg/L		06/09/11 10:30	06/09/11 21:24	5

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:47	5
Antimony	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:47	5
Cadmium	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:47	5
Copper	ND		0.0050		mg/L		06/09/11 10:30	06/09/11 21:47	5
Lead	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:47	5
Manganese	0.28		0.0020		mg/L		06/09/11 10:30	06/09/11 21:47	5
Zinc	ND		0.0070		mg/L		06/09/11 10:30	06/09/11 21:47	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 12:30	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 13:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20		0.90		mg/L			06/02/11 17:53	1
Nitrate as N	ND		0.90		mg/L			06/02/11 17:53	1
Sulfate	120		6.0		mg/L			06/03/11 10:42	5
Total Organic Carbon	1.1		1.0		mg/L			06/13/11 13:41	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	72		5.0		mg/L			06/13/11 17:08	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Client Sample ID: MW-4-060111

Lab Sample ID: 580-26520-3

Date Collected: 06/01/11 13:17

Matrix: Water

Date Received: 06/02/11 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.10		ug/L			06/11/11 02:40	1
Bromobenzene	ND		0.10		ug/L			06/11/11 02:40	1
Bromoform	ND		0.10		ug/L			06/11/11 02:40	1
Bromomethane	ND		0.10		ug/L			06/11/11 02:40	1
Carbon tetrachloride	ND		0.10		ug/L			06/11/11 02:40	1
Chlorobenzene	ND		0.10		ug/L			06/11/11 02:40	1
Chlorobromomethane	ND		0.10		ug/L			06/11/11 02:40	1
Chlorodibromomethane	ND		0.10		ug/L			06/11/11 02:40	1
Chloroethane	ND		0.25		ug/L			06/11/11 02:40	1
Chloroform	1.7		0.10		ug/L			06/11/11 02:40	1
Chloromethane	ND		0.10		ug/L			06/11/11 02:40	1
2-Chlorotoluene	ND		0.10		ug/L			06/11/11 02:40	1
4-Chlorotoluene	ND		0.20		ug/L			06/11/11 02:40	1
cis-1,2-Dichloroethene	0.87		0.10		ug/L			06/11/11 02:40	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 02:40	1
1,2-Dibromo-3-Chloropropane	ND		0.40		ug/L			06/11/11 02:40	1
1,2-Dibromoethane	ND		0.10		ug/L			06/11/11 02:40	1
Dibromomethane	ND		0.10		ug/L			06/11/11 02:40	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/11/11 02:40	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/11/11 02:40	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/11/11 02:40	1
Dichlorobromomethane	0.14		0.10		ug/L			06/11/11 02:40	1
Dichlorodifluoromethane	ND		0.40		ug/L			06/11/11 02:40	1
1,2-Dichloroethane	ND		0.10		ug/L			06/11/11 02:40	1
1,1-Dichloroethane	ND		0.10		ug/L			06/11/11 02:40	1
1,1-Dichloroethene	ND		0.10		ug/L			06/11/11 02:40	1
1,3-Dichloropropane	ND		0.10		ug/L			06/11/11 02:40	1
2,2-Dichloropropane	ND		0.10		ug/L			06/11/11 02:40	1
1,2-Dichloropropane	ND		0.10		ug/L			06/11/11 02:40	1
1,1-Dichloropropene	ND		0.10		ug/L			06/11/11 02:40	1
Ethylbenzene	ND		0.10		ug/L			06/11/11 02:40	1
Hexachlorobutadiene	ND		0.20		ug/L			06/11/11 02:40	1
Isopropylbenzene	ND		0.10		ug/L			06/11/11 02:40	1
4-Isopropyltoluene	ND		0.20		ug/L			06/11/11 02:40	1
Methylene Chloride	ND		0.50		ug/L			06/11/11 02:40	1
Methyl tert-butyl ether	ND		0.10		ug/L			06/11/11 02:40	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/11/11 02:40	1
Naphthalene	ND		0.40		ug/L			06/11/11 02:40	1
n-Butylbenzene	ND		0.10		ug/L			06/11/11 02:40	1
N-Propylbenzene	ND		0.10		ug/L			06/11/11 02:40	1
o-Xylene	ND		0.10		ug/L			06/11/11 02:40	1
sec-Butylbenzene	ND		0.10		ug/L			06/11/11 02:40	1
Styrene	ND		0.10		ug/L			06/11/11 02:40	1
tert-Butylbenzene	ND		0.10		ug/L			06/11/11 02:40	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 02:40	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 02:40	1
Tetrachloroethene	2.2		0.10		ug/L			06/11/11 02:40	1
Toluene	ND		0.10		ug/L			06/11/11 02:40	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/11/11 02:40	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 02:40	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Client Sample ID: MW-4-060111

Lab Sample ID: 580-26520-3

Date Collected: 06/01/11 13:17

Matrix: Water

Date Received: 06/02/11 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/11/11 02:40	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/11/11 02:40	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/11/11 02:40	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/11/11 02:40	1
Trichloroethene	0.29		0.10		ug/L			06/11/11 02:40	1
Trichlorofluoromethane	ND		0.10		ug/L			06/11/11 02:40	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/11/11 02:40	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/11/11 02:40	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/11/11 02:40	1
Vinyl chloride	ND		0.020		ug/L			06/11/11 02:40	1
Acetone	ND		2.0		ug/L			06/11/11 02:40	1
2-Butanone	ND		2.0		ug/L			06/11/11 02:40	1
Carbon disulfide	ND		0.10		ug/L			06/11/11 02:40	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/11/11 02:40	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		75 - 120					06/11/11 02:40	1
Ethylbenzene-d10	104		75 - 125					06/11/11 02:40	1
Fluorobenzene (Surr)	100		70 - 130					06/11/11 02:40	1
Toluene-d8 (Surr)	104		75 - 125					06/11/11 02:40	1
Trifluorotoluene (Surr)	108		80 - 125					06/11/11 02:40	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0097		ug/L		06/08/11 09:32	06/09/11 01:18	1
alpha-BHC	ND		0.0097		ug/L		06/08/11 09:32	06/09/11 01:18	1
beta-BHC	ND		0.019		ug/L		06/08/11 09:32	06/09/11 01:18	1
delta-BHC	ND		0.0097		ug/L		06/08/11 09:32	06/09/11 01:18	1
gamma-BHC (Lindane)	ND		0.0097		ug/L		06/08/11 09:32	06/09/11 01:18	1
4,4'-DDD	ND		0.019		ug/L		06/08/11 09:32	06/09/11 01:18	1
4,4'-DDE	ND		0.019		ug/L		06/08/11 09:32	06/09/11 01:18	1
4,4'-DDT	ND		0.019		ug/L		06/08/11 09:32	06/09/11 01:18	1
Dieldrin	ND		0.019		ug/L		06/08/11 09:32	06/09/11 01:18	1
Endosulfan I	ND		0.019		ug/L		06/08/11 09:32	06/09/11 01:18	1
Endosulfan II	ND		0.019		ug/L		06/08/11 09:32	06/09/11 01:18	1
Endosulfan sulfate	ND		0.019		ug/L		06/08/11 09:32	06/09/11 01:18	1
Endrin	ND		0.019		ug/L		06/08/11 09:32	06/09/11 01:18	1
Endrin aldehyde	ND		0.049		ug/L		06/08/11 09:32	06/09/11 01:18	1
Heptachlor	ND		0.0097		ug/L		06/08/11 09:32	06/09/11 01:18	1
Heptachlor epoxide	ND		0.0097		ug/L		06/08/11 09:32	06/09/11 01:18	1
Methoxychlor	ND		0.097		ug/L		06/08/11 09:32	06/09/11 01:18	1
Endrin ketone	ND *		0.019		ug/L		06/08/11 09:32	06/09/11 01:18	1
Toxaphene	ND		0.97		ug/L		06/08/11 09:32	06/09/11 01:18	1
alpha-Chlordane	ND		0.0097		ug/L		06/08/11 09:32	06/09/11 01:18	1
gamma-Chlordane	ND		0.0097		ug/L		06/08/11 09:32	06/09/11 01:18	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	74		18 - 181				06/08/11 09:32	06/09/11 01:18	1
DCB Decachlorobiphenyl	86		53 - 122				06/08/11 09:32	06/09/11 01:18	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Client Sample ID: MW-4-060111

Lab Sample ID: 580-26520-3

Date Collected: 06/01/11 13:17

Matrix: Water

Date Received: 06/02/11 09:50

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:30	5
Lead	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:30	5
Antimony	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:30	5
Cadmium	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:30	5
Copper	ND		0.0050		mg/L		06/09/11 10:30	06/09/11 21:30	5
Manganese	0.011		0.0020		mg/L		06/09/11 10:30	06/09/11 21:30	5
Zinc	ND		0.0070		mg/L		06/09/11 10:30	06/09/11 21:30	5

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:53	5
Antimony	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:53	5
Cadmium	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:53	5
Copper	ND		0.0050		mg/L		06/09/11 10:30	06/09/11 21:53	5
Lead	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:53	5
Manganese	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:53	5
Zinc	ND		0.0070		mg/L		06/09/11 10:30	06/09/11 21:53	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 12:31	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 13:19	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Client Sample ID: MW-3-060111

Lab Sample ID: 580-26520-4

Date Collected: 06/01/11 14:18

Matrix: Water

Date Received: 06/02/11 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.10		ug/L			06/11/11 03:05	1
Bromobenzene	ND		0.10		ug/L			06/11/11 03:05	1
Bromoform	ND		0.10		ug/L			06/11/11 03:05	1
Bromomethane	ND		0.10		ug/L			06/11/11 03:05	1
Carbon tetrachloride	ND		0.10		ug/L			06/11/11 03:05	1
Chlorobenzene	ND		0.10		ug/L			06/11/11 03:05	1
Chlorobromomethane	ND		0.10		ug/L			06/11/11 03:05	1
Chlorodibromomethane	ND		0.10		ug/L			06/11/11 03:05	1
Chloroethane	ND		0.25		ug/L			06/11/11 03:05	1
Chloroform	1.9		0.10		ug/L			06/11/11 03:05	1
Chloromethane	ND		0.10		ug/L			06/11/11 03:05	1
2-Chlorotoluene	ND		0.10		ug/L			06/11/11 03:05	1
4-Chlorotoluene	ND		0.20		ug/L			06/11/11 03:05	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/11/11 03:05	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 03:05	1
1,2-Dibromo-3-Chloropropane	ND		0.40		ug/L			06/11/11 03:05	1
1,2-Dibromoethane	ND		0.10		ug/L			06/11/11 03:05	1
Dibromomethane	ND		0.10		ug/L			06/11/11 03:05	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/11/11 03:05	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/11/11 03:05	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/11/11 03:05	1
Dichlorobromomethane	0.15		0.10		ug/L			06/11/11 03:05	1
Dichlorodifluoromethane	ND		0.40		ug/L			06/11/11 03:05	1
1,2-Dichloroethane	ND		0.10		ug/L			06/11/11 03:05	1
1,1-Dichloroethane	ND		0.10		ug/L			06/11/11 03:05	1
1,1-Dichloroethene	ND		0.10		ug/L			06/11/11 03:05	1
1,3-Dichloropropane	ND		0.10		ug/L			06/11/11 03:05	1
2,2-Dichloropropane	ND		0.10		ug/L			06/11/11 03:05	1
1,2-Dichloropropane	ND		0.10		ug/L			06/11/11 03:05	1
1,1-Dichloropropene	ND		0.10		ug/L			06/11/11 03:05	1
Ethylbenzene	ND		0.10		ug/L			06/11/11 03:05	1
Hexachlorobutadiene	ND		0.20		ug/L			06/11/11 03:05	1
Isopropylbenzene	ND		0.10		ug/L			06/11/11 03:05	1
4-Isopropyltoluene	ND		0.20		ug/L			06/11/11 03:05	1
Methylene Chloride	ND		0.50		ug/L			06/11/11 03:05	1
Methyl tert-butyl ether	ND		0.10		ug/L			06/11/11 03:05	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/11/11 03:05	1
Naphthalene	ND		0.40		ug/L			06/11/11 03:05	1
n-Butylbenzene	ND		0.10		ug/L			06/11/11 03:05	1
N-Propylbenzene	ND		0.10		ug/L			06/11/11 03:05	1
o-Xylene	ND		0.10		ug/L			06/11/11 03:05	1
sec-Butylbenzene	ND		0.10		ug/L			06/11/11 03:05	1
Styrene	ND		0.10		ug/L			06/11/11 03:05	1
tert-Butylbenzene	ND		0.10		ug/L			06/11/11 03:05	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 03:05	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 03:05	1
Tetrachloroethene	3.2		0.10		ug/L			06/11/11 03:05	1
Toluene	ND		0.10		ug/L			06/11/11 03:05	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/11/11 03:05	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 03:05	1



Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Client Sample ID: MW-3-060111

Lab Sample ID: 580-26520-4

Date Collected: 06/01/11 14:18

Matrix: Water

Date Received: 06/02/11 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/11/11 03:05	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/11/11 03:05	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/11/11 03:05	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/11/11 03:05	1
Trichloroethene	0.23		0.10		ug/L			06/11/11 03:05	1
Trichlorofluoromethane	ND		0.10		ug/L			06/11/11 03:05	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/11/11 03:05	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/11/11 03:05	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/11/11 03:05	1
Vinyl chloride	ND		0.020		ug/L			06/11/11 03:05	1
Acetone	ND		2.0		ug/L			06/11/11 03:05	1
2-Butanone	ND		2.0		ug/L			06/11/11 03:05	1
Carbon disulfide	ND		0.10		ug/L			06/11/11 03:05	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/11/11 03:05	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		75 - 120					06/11/11 03:05	1
Ethylbenzene-d10	97		75 - 125					06/11/11 03:05	1
Fluorobenzene (Surr)	100		70 - 130					06/11/11 03:05	1
Toluene-d8 (Surr)	95		75 - 125					06/11/11 03:05	1
Trifluorotoluene (Surr)	100		80 - 125					06/11/11 03:05	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.010		ug/L		06/08/11 09:32	06/09/11 01:38	1
alpha-BHC	ND		0.010		ug/L		06/08/11 09:32	06/09/11 01:38	1
beta-BHC	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:38	1
delta-BHC	ND		0.010		ug/L		06/08/11 09:32	06/09/11 01:38	1
gamma-BHC (Lindane)	ND		0.010		ug/L		06/08/11 09:32	06/09/11 01:38	1
4,4'-DDD	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:38	1
4,4'-DDE	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:38	1
4,4'-DDT	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:38	1
Dieldrin	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:38	1
Endosulfan I	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:38	1
Endosulfan II	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:38	1
Endosulfan sulfate	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:38	1
Endrin	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:38	1
Endrin aldehyde	ND		0.051		ug/L		06/08/11 09:32	06/09/11 01:38	1
Heptachlor	ND		0.010		ug/L		06/08/11 09:32	06/09/11 01:38	1
Heptachlor epoxide	ND		0.010		ug/L		06/08/11 09:32	06/09/11 01:38	1
Methoxychlor	ND		0.10		ug/L		06/08/11 09:32	06/09/11 01:38	1
Endrin ketone	ND *		0.020		ug/L		06/08/11 09:32	06/09/11 01:38	1
Toxaphene	ND		1.0		ug/L		06/08/11 09:32	06/09/11 01:38	1
alpha-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/09/11 01:38	1
gamma-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/09/11 01:38	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	74		18 - 181				06/08/11 09:32	06/09/11 01:38	1
DCB Decachlorobiphenyl	90		53 - 122				06/08/11 09:32	06/09/11 01:38	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Client Sample ID: MW-3-060111

Lab Sample ID: 580-26520-4

Date Collected: 06/01/11 14:18

Matrix: Water

Date Received: 06/02/11 09:50

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:36	5
Lead	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:36	5
Antimony	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:36	5
Cadmium	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:36	5
Copper	ND		0.0050		mg/L		06/09/11 10:30	06/09/11 21:36	5
Manganese	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:36	5
Zinc	0.0073		0.0070		mg/L		06/09/11 10:30	06/09/11 21:36	5

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:59	5
Antimony	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:59	5
Cadmium	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:59	5
Copper	ND		0.0050		mg/L		06/09/11 10:30	06/09/11 21:59	5
Lead	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:59	5
Manganese	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 21:59	5
Zinc	ND		0.0070		mg/L		06/09/11 10:30	06/09/11 21:59	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 12:33	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 13:21	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 580-26520-5

Date Collected: 06/01/11 00:00

Matrix: Water

Date Received: 06/02/11 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.10		ug/L			06/10/11 23:08	1
Bromobenzene	ND		0.10		ug/L			06/10/11 23:08	1
Bromoform	ND		0.10		ug/L			06/10/11 23:08	1
Bromomethane	ND		0.10		ug/L			06/10/11 23:08	1
Carbon tetrachloride	ND		0.10		ug/L			06/10/11 23:08	1
Chlorobenzene	ND		0.10		ug/L			06/10/11 23:08	1
Chlorobromomethane	ND		0.10		ug/L			06/10/11 23:08	1
Chlorodibromomethane	ND		0.10		ug/L			06/10/11 23:08	1
Chloroethane	ND		0.25		ug/L			06/10/11 23:08	1
Chloroform	ND		0.10		ug/L			06/10/11 23:08	1
Chloromethane	ND		0.10		ug/L			06/10/11 23:08	1
2-Chlorotoluene	ND		0.10		ug/L			06/10/11 23:08	1
4-Chlorotoluene	ND		0.20		ug/L			06/10/11 23:08	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/10/11 23:08	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/10/11 23:08	1
1,2-Dibromo-3-Chloropropane	ND		0.40		ug/L			06/10/11 23:08	1
1,2-Dibromoethane	ND		0.10		ug/L			06/10/11 23:08	1
Dibromomethane	ND		0.10		ug/L			06/10/11 23:08	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/10/11 23:08	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/10/11 23:08	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/10/11 23:08	1
Dichlorobromomethane	ND		0.10		ug/L			06/10/11 23:08	1
Dichlorodifluoromethane	ND		0.40		ug/L			06/10/11 23:08	1
1,2-Dichloroethane	ND		0.10		ug/L			06/10/11 23:08	1
1,1-Dichloroethane	ND		0.10		ug/L			06/10/11 23:08	1
1,1-Dichloroethene	ND		0.10		ug/L			06/10/11 23:08	1
1,3-Dichloropropane	ND		0.10		ug/L			06/10/11 23:08	1
2,2-Dichloropropane	ND		0.10		ug/L			06/10/11 23:08	1
1,2-Dichloropropane	ND		0.10		ug/L			06/10/11 23:08	1
1,1-Dichloropropene	ND		0.10		ug/L			06/10/11 23:08	1
Ethylbenzene	ND		0.10		ug/L			06/10/11 23:08	1
Hexachlorobutadiene	ND		0.20		ug/L			06/10/11 23:08	1
Isopropylbenzene	ND		0.10		ug/L			06/10/11 23:08	1
4-Isopropyltoluene	ND		0.20		ug/L			06/10/11 23:08	1
Methylene Chloride	ND		0.50		ug/L			06/10/11 23:08	1
Methyl tert-butyl ether	ND		0.10		ug/L			06/10/11 23:08	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/10/11 23:08	1
Naphthalene	ND		0.40		ug/L			06/10/11 23:08	1
n-Butylbenzene	ND		0.10		ug/L			06/10/11 23:08	1
N-Propylbenzene	ND		0.10		ug/L			06/10/11 23:08	1
o-Xylene	ND		0.10		ug/L			06/10/11 23:08	1
sec-Butylbenzene	ND		0.10		ug/L			06/10/11 23:08	1
Styrene	ND		0.10		ug/L			06/10/11 23:08	1
tert-Butylbenzene	ND		0.10		ug/L			06/10/11 23:08	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/10/11 23:08	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/10/11 23:08	1
Tetrachloroethene	ND		0.10		ug/L			06/10/11 23:08	1
Toluene	ND		0.10		ug/L			06/10/11 23:08	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/10/11 23:08	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/10/11 23:08	1



Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 580-26520-5

Date Collected: 06/01/11 00:00

Matrix: Water

Date Received: 06/02/11 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/10/11 23:08	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/10/11 23:08	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/10/11 23:08	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/10/11 23:08	1
Trichloroethene	ND		0.10		ug/L			06/10/11 23:08	1
Trichlorofluoromethane	ND		0.10		ug/L			06/10/11 23:08	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/10/11 23:08	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/10/11 23:08	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/10/11 23:08	1
Vinyl chloride	ND		0.020		ug/L			06/10/11 23:08	1
Acetone	ND		2.0		ug/L			06/10/11 23:08	1
2-Butanone	ND		2.0		ug/L			06/10/11 23:08	1
Carbon disulfide	ND		0.10		ug/L			06/10/11 23:08	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/10/11 23:08	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		75 - 120					06/10/11 23:08	1
Ethylbenzene-d10	91		75 - 125					06/10/11 23:08	1
Fluorobenzene (Surr)	100		70 - 130					06/10/11 23:08	1
Toluene-d8 (Surr)	95		75 - 125					06/10/11 23:08	1
Trifluorotoluene (Surr)	108		80 - 125					06/10/11 23:08	1



QC Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-87710/4
Matrix: Water
Analysis Batch: 87710

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	ND		0.10		ug/L			06/10/11 21:52	1
Bromobenzene	ND		0.10		ug/L			06/10/11 21:52	1
Bromoform	ND		0.10		ug/L			06/10/11 21:52	1
Bromomethane	ND		0.10		ug/L			06/10/11 21:52	1
Carbon tetrachloride	ND		0.10		ug/L			06/10/11 21:52	1
Chlorobenzene	ND		0.10		ug/L			06/10/11 21:52	1
Chlorobromomethane	ND		0.10		ug/L			06/10/11 21:52	1
Chlorodibromomethane	ND		0.10		ug/L			06/10/11 21:52	1
Chloroethane	ND		0.25		ug/L			06/10/11 21:52	1
Chloroform	ND		0.10		ug/L			06/10/11 21:52	1
Chloromethane	ND		0.10		ug/L			06/10/11 21:52	1
2-Chlorotoluene	ND		0.10		ug/L			06/10/11 21:52	1
4-Chlorotoluene	ND		0.20		ug/L			06/10/11 21:52	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/10/11 21:52	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/10/11 21:52	1
1,2-Dibromo-3-Chloropropane	ND		0.40		ug/L			06/10/11 21:52	1
1,2-Dibromoethane	ND		0.10		ug/L			06/10/11 21:52	1
Dibromomethane	ND		0.10		ug/L			06/10/11 21:52	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/10/11 21:52	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/10/11 21:52	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/10/11 21:52	1
Dichlorobromomethane	ND		0.10		ug/L			06/10/11 21:52	1
Dichlorodifluoromethane	ND		0.40		ug/L			06/10/11 21:52	1
1,2-Dichloroethane	ND		0.10		ug/L			06/10/11 21:52	1
1,1-Dichloroethane	ND		0.10		ug/L			06/10/11 21:52	1
1,1-Dichloroethene	ND		0.10		ug/L			06/10/11 21:52	1
1,3-Dichloropropane	ND		0.10		ug/L			06/10/11 21:52	1
2,2-Dichloropropane	ND		0.10		ug/L			06/10/11 21:52	1
1,2-Dichloropropane	ND		0.10		ug/L			06/10/11 21:52	1
1,1-Dichloropropene	ND		0.10		ug/L			06/10/11 21:52	1
Ethylbenzene	ND		0.10		ug/L			06/10/11 21:52	1
Hexachlorobutadiene	ND		0.20		ug/L			06/10/11 21:52	1
Isopropylbenzene	ND		0.10		ug/L			06/10/11 21:52	1
4-Isopropyltoluene	ND		0.20		ug/L			06/10/11 21:52	1
Methylene Chloride	ND		0.50		ug/L			06/10/11 21:52	1
Methyl tert-butyl ether	ND		0.10		ug/L			06/10/11 21:52	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/10/11 21:52	1
Naphthalene	ND		0.40		ug/L			06/10/11 21:52	1
n-Butylbenzene	ND		0.10		ug/L			06/10/11 21:52	1
N-Propylbenzene	ND		0.10		ug/L			06/10/11 21:52	1
o-Xylene	ND		0.10		ug/L			06/10/11 21:52	1
sec-Butylbenzene	ND		0.10		ug/L			06/10/11 21:52	1
Styrene	ND		0.10		ug/L			06/10/11 21:52	1
tert-Butylbenzene	ND		0.10		ug/L			06/10/11 21:52	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/10/11 21:52	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/10/11 21:52	1
Tetrachloroethene	ND		0.10		ug/L			06/10/11 21:52	1
Toluene	ND		0.10		ug/L			06/10/11 21:52	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/10/11 21:52	1

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-87710/4

Matrix: Water

Analysis Batch: 87710

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/10/11 21:52	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/10/11 21:52	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/10/11 21:52	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/10/11 21:52	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/10/11 21:52	1
Trichloroethene	ND		0.10		ug/L			06/10/11 21:52	1
Trichlorofluoromethane	ND		0.10		ug/L			06/10/11 21:52	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/10/11 21:52	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/10/11 21:52	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/10/11 21:52	1
Vinyl chloride	ND		0.020		ug/L			06/10/11 21:52	1
Acetone	ND		2.0		ug/L			06/10/11 21:52	1
2-Butanone	ND		2.0		ug/L			06/10/11 21:52	1
Carbon disulfide	ND		0.10		ug/L			06/10/11 21:52	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/10/11 21:52	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	106		75 - 120		06/10/11 21:52	1
Ethylbenzene-d10	100		75 - 125		06/10/11 21:52	1
Fluorobenzene (Surr)	104		70 - 130		06/10/11 21:52	1
Toluene-d8 (Surr)	101		75 - 125		06/10/11 21:52	1
Trifluorotoluene (Surr)	104		80 - 125		06/10/11 21:52	1

Lab Sample ID: LCS 580-87710/5

Matrix: Water

Analysis Batch: 87710

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Chlorobenzene	5.00	4.26		ug/L		85	71 - 140
1,1-Dichloroethene	5.00	5.57		ug/L		111	78 - 151
Toluene	5.00	5.14		ug/L		103	80 - 126
Trichloroethene	5.00	5.08		ug/L		102	79 - 131

Surrogate	LCS LCS		Limits
	% Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	93		75 - 120
Ethylbenzene-d10	93		75 - 125
Fluorobenzene (Surr)	105		70 - 130
Toluene-d8 (Surr)	96		75 - 125
Trifluorotoluene (Surr)	122		80 - 125

Lab Sample ID: LCSD 580-87710/6

Matrix: Water

Analysis Batch: 87710

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	
								RPD	Limit
Benzene	5.00	5.13		ug/L		103	75 - 142	4	20
Chlorobenzene	5.00	4.83		ug/L		97	71 - 140	13	20
1,1-Dichloroethene	5.00	5.00		ug/L		100	78 - 151	11	20

TestAmerica Seattle

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-87710/6

Matrix: Water

Analysis Batch: 87710

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD
							Limits	RPD	
Toluene	5.00	5.33		ug/L		107	80 - 126	4	20
Trichloroethene	5.00	4.58		ug/L		92	79 - 131	10	20

Surrogate	LCSD		Limits
	% Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	105		75 - 120
Ethylbenzene-d10	104		75 - 125
Fluorobenzene (Surr)	101		70 - 130
Toluene-d8 (Surr)	101		75 - 125
Trifluorotoluene (Surr)	106		80 - 125

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-205123/23

Matrix: Water

Analysis Batch: 205123

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ethane	ND		1.1		ug/L			06/06/11 15:53	1
Ethylene	ND		1.0		ug/L			06/06/11 15:53	1
Methane	ND		0.58		ug/L			06/06/11 15:53	1

Lab Sample ID: LCS 680-205123/21

Matrix: Water

Analysis Batch: 205123

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	RPD
Ethane	282	312		ug/L		111	75 - 125	
Ethylene	271	309		ug/L		114	75 - 125	
Methane	153	170		ug/L		111	75 - 125	

Lab Sample ID: LCSD 680-205123/22

Matrix: Water

Analysis Batch: 205123

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD
							Limits	RPD	
Ethane	282	319		ug/L		113	75 - 125	2	30
Ethylene	271	310		ug/L		115	75 - 125	1	30
Methane	153	173		ug/L		113	75 - 125	1	30

Lab Sample ID: MB 680-205230/21

Matrix: Water

Analysis Batch: 205230

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ethane	ND		1.1		ug/L			06/07/11 16:42	1
Ethylene	ND		1.0		ug/L			06/07/11 16:42	1
Methane	ND		0.58		ug/L			06/07/11 16:42	1

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: LCS 680-205230/19
Matrix: Water
Analysis Batch: 205230

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Ethane	282	314		ug/L		111	75 - 125	
Ethylene	271	311		ug/L		115	75 - 125	
Methane	153	175		ug/L		114	75 - 125	

Lab Sample ID: LCSD 680-205230/20
Matrix: Water
Analysis Batch: 205230

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD	
		Result	Qualifier				Limits	RPD	Limit	
Ethane	282	301		ug/L		107	75 - 125	4	30	
Ethylene	271	299		ug/L		111	75 - 125	4	30	
Methane	153	168		ug/L		110	75 - 125	4	30	

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-87465/1-A
Matrix: Water
Analysis Batch: 87537

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87465

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aldrin	ND		0.010		ug/L		06/08/11 09:32	06/08/11 23:41	1
alpha-BHC	ND		0.010		ug/L		06/08/11 09:32	06/08/11 23:41	1
beta-BHC	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
delta-BHC	ND		0.010		ug/L		06/08/11 09:32	06/08/11 23:41	1
gamma-BHC (Lindane)	ND		0.010		ug/L		06/08/11 09:32	06/08/11 23:41	1
4,4'-DDD	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
4,4'-DDE	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
4,4'-DDT	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
Dieldrin	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
Endosulfan I	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
Endosulfan II	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
Endosulfan sulfate	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
Endrin	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
Endrin aldehyde	ND		0.050		ug/L		06/08/11 09:32	06/08/11 23:41	1
Heptachlor	ND		0.010		ug/L		06/08/11 09:32	06/08/11 23:41	1
Heptachlor epoxide	ND		0.010		ug/L		06/08/11 09:32	06/08/11 23:41	1
Methoxychlor	ND		0.10		ug/L		06/08/11 09:32	06/08/11 23:41	1
Endrin ketone	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
Toxaphene	ND		1.0		ug/L		06/08/11 09:32	06/08/11 23:41	1
alpha-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/08/11 23:41	1
gamma-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/08/11 23:41	1
Surrogate	MB MB		Limits				Prepared	Analyzed	Dil Fac
% Recovery	Qualifier								
Tetrachloro-m-xylene	63		18 - 181				06/08/11 09:32	06/08/11 23:41	1
DCB Decachlorobiphenyl	69		53 - 122				06/08/11 09:32	06/08/11 23:41	1

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-87465/2-A
Matrix: Water
Analysis Batch: 87537

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87465

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Aldrin	0.200	0.180		ug/L		90	44 - 139	
alpha-BHC	0.200	0.208		ug/L		104	41 - 133	
beta-BHC	0.200	0.202		ug/L		101	54 - 130	
delta-BHC	0.200	0.197		ug/L		98	7 - 169	
gamma-BHC (Lindane)	0.200	0.217		ug/L		108	53 - 134	
4,4'-DDD	0.200	0.249		ug/L		125	40 - 152	
4,4'-DDE	0.200	0.228		ug/L		114	43 - 148	
4,4'-DDT	0.200	0.192		ug/L		96	37 - 162	
Dieldrin	0.200	0.247		ug/L		124	46 - 145	
Endosulfan I	0.200	0.237		ug/L		118	49 - 132	
Endosulfan II	0.200	0.268		ug/L		134	54 - 138	
Endosulfan sulfate	0.200	0.231		ug/L		116	48 - 130	
Endrin	0.200	0.257		ug/L		129	51 - 142	
Endrin aldehyde	0.200	0.235		ug/L		118	27 - 183	
Heptachlor	0.200	0.243		ug/L		122	53 - 130	
Heptachlor epoxide	0.200	0.237		ug/L		118	54 - 125	
Methoxychlor	0.200	0.250		ug/L		125	47 - 167	
Endrin ketone	0.200	0.253		ug/L		127	48 - 134	
alpha-Chlordane	0.200	0.226		ug/L		113	40 - 131	
gamma-Chlordane	0.200	0.227		ug/L		114	46 - 131	

Surrogate	LCS		Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	62		18 - 181
DCB Decachlorobiphenyl	64		53 - 122

Lab Sample ID: LCSD 580-87465/3-A
Matrix: Water
Analysis Batch: 87537

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87465

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD	Limit
		Result	Qualifier				Limits			
Aldrin	0.200	0.200		ug/L		100	44 - 139	11	38	
alpha-BHC	0.200	0.218		ug/L		109	41 - 133	5	41	
beta-BHC	0.200	0.211		ug/L		106	54 - 130	4	34	
delta-BHC	0.200	0.204		ug/L		102	7 - 169	3	49	
gamma-BHC (Lindane)	0.200	0.223		ug/L		112	53 - 134	3	42	
4,4'-DDD	0.200	0.266		ug/L		133	40 - 152	7	47	
4,4'-DDE	0.200	0.259		ug/L		130	43 - 148	13	43	
4,4'-DDT	0.200	0.210		ug/L		105	37 - 162	9	49	
Dieldrin	0.200	0.260		ug/L		130	46 - 145	5	39	
Endosulfan I	0.200	0.249		ug/L		124	49 - 132	5	40	
Endosulfan II	0.200	0.260		ug/L		130	54 - 138	3	37	
Endosulfan sulfate	0.200	0.240		ug/L		120	48 - 130	4	34	
Endrin	0.200	0.269		ug/L		135	51 - 142	5	41	
Endrin aldehyde	0.200	0.236		ug/L		118	27 - 183	0	43	
Heptachlor	0.200	0.259		ug/L		130	53 - 130	6	39	
Heptachlor epoxide	0.200	0.249		ug/L		124	54 - 125	5	35	
Methoxychlor	0.200	0.260		ug/L		130	47 - 167	4	37	
Endrin ketone	0.200	0.270	*	ug/L		135	48 - 134	7	37	
alpha-Chlordane	0.200	0.243		ug/L		122	40 - 131	7	43	

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 580-87465/3-A
Matrix: Water
Analysis Batch: 87537

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87465

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	
							Limits	RPD		
gamma-Chlordane	0.200	0.245		ug/L		122	46 - 131	8	40	
Surrogate										
		LCSD	LCSD				% Recovery	Qualifier	Limits	
Tetrachloro-m-xylene							73		18 - 181	
DCB Decachlorobiphenyl							78		53 - 122	

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 580-87495/24-A
Matrix: Water
Analysis Batch: 87642

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 87495

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		0.0020		mg/L		06/08/11 13:08	06/09/11 09:50	5
Antimony	ND		0.0020		mg/L		06/08/11 13:08	06/09/11 09:50	5
Cadmium	ND		0.0020		mg/L		06/08/11 13:08	06/09/11 09:50	5
Copper	ND		0.0050		mg/L		06/08/11 13:08	06/09/11 09:50	5
Lead	ND		0.0020		mg/L		06/08/11 13:08	06/09/11 09:50	5
Manganese	ND		0.0020		mg/L		06/08/11 13:08	06/09/11 09:50	5
Zinc	ND		0.0070		mg/L		06/08/11 13:08	06/09/11 09:50	5

Lab Sample ID: LCS 580-87495/25-A
Matrix: Water
Analysis Batch: 87642

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 87495

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	RPD
Arsenic	4.00	4.08		mg/L		102	80 - 120	
Antimony	3.00	2.94		mg/L		98	80 - 120	
Cadmium	0.100	0.102		mg/L		102	80 - 120	
Copper	0.500	0.537		mg/L		107	80 - 120	
Lead	1.00	1.03		mg/L		103	80 - 120	
Manganese	1.00	1.02		mg/L		102	80 - 120	
Zinc	1.00	1.03		mg/L		103	80 - 120	

Lab Sample ID: LCSD 580-87495/26-A
Matrix: Water
Analysis Batch: 87642

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 87495

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD
							Limits	RPD	
Arsenic	4.00	4.04		mg/L		101	80 - 120	1	20
Antimony	3.00	2.92		mg/L		97	80 - 120	1	20
Cadmium	0.100	0.0994		mg/L		99	80 - 120	3	20
Copper	0.500	0.541		mg/L		108	80 - 120	1	20
Lead	1.00	1.02		mg/L		102	80 - 120	1	20
Manganese	1.00	1.02		mg/L		102	80 - 120	0	20
Zinc	1.00	1.03		mg/L		103	80 - 120	0	20

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSSRM 580-87495/27-A
Matrix: Water
Analysis Batch: 87642

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 87495

Analyte	Spike Added	LCSSRM		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Arsenic	4.00	4.06		mg/L		101	80 - 120	
Antimony	3.00	2.93		mg/L		98	80 - 120	
Cadmium	0.100	0.101		mg/L		101	80 - 120	
Copper	0.500	0.541		mg/L		108	80 - 120	
Lead	1.00	1.03		mg/L		103	80 - 120	
Manganese	1.00	1.02		mg/L		102	80 - 120	
Zinc	1.00	1.03		mg/L		103	80 - 120	

Lab Sample ID: LCS 580-87583/25-A
Matrix: Water
Analysis Batch: 87642

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 87583

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Arsenic	4.00	3.91		mg/L		98	80 - 120	
Antimony	3.00	2.87		mg/L		96	80 - 120	
Cadmium	0.100	0.101		mg/L		101	80 - 120	
Copper	0.500	0.504		mg/L		101	80 - 120	
Lead	1.00	0.987		mg/L		99	80 - 120	
Manganese	1.00	1.00		mg/L		100	80 - 120	
Zinc	1.00	0.975		mg/L		98	80 - 120	

Lab Sample ID: LCSD 580-87583/26-A
Matrix: Water
Analysis Batch: 87642

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 87583

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD	
		Result	Qualifier				Limits	RPD	Limit	
Arsenic	4.00	3.87		mg/L		97	80 - 120	1	20	
Antimony	3.00	2.88		mg/L		96	80 - 120	0	20	
Cadmium	0.100	0.100		mg/L		100	80 - 120	1	20	
Copper	0.500	0.499		mg/L		100	80 - 120	1	20	
Lead	1.00	0.996		mg/L		100	80 - 120	1	20	
Manganese	1.00	0.994		mg/L		99	80 - 120	1	20	
Zinc	1.00	1.01		mg/L		101	80 - 120	3	20	

Lab Sample ID: MB 580-87414/20-C
Matrix: Water
Analysis Batch: 87642

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 87583

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 19:49	5
Antimony	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 19:49	5
Cadmium	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 19:49	5
Copper	ND		0.0050		mg/L		06/09/11 10:30	06/09/11 19:49	5
Lead	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 19:49	5
Manganese	ND		0.0020		mg/L		06/09/11 10:30	06/09/11 19:49	5
Zinc	ND		0.0070		mg/L		06/09/11 10:30	06/09/11 19:49	5

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-87513/20-A
Matrix: Water
Analysis Batch: 87619

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87513

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 12:09	1

Lab Sample ID: LCS 580-87513/21-A
Matrix: Water
Analysis Batch: 87619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Mercury	0.00200	0.00213		mg/L		106	80 - 120	

Lab Sample ID: LCSD 580-87513/22-A
Matrix: Water
Analysis Batch: 87619

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87513

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD
							Limits	RPD	Limit
Mercury	0.00200	0.00214		mg/L		107	80 - 120	0	20

Lab Sample ID: LCSSRM 580-87513/23-A
Matrix: Water
Analysis Batch: 87619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87513

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Mercury	0.00200	0.00216		mg/L		108	75 - 125	

Lab Sample ID: LCS 580-87518/17-A
Matrix: Water
Analysis Batch: 87619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87518

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Mercury	0.00200	0.00218		mg/L		109	80 - 120	

Lab Sample ID: LCSD 580-87518/18-A
Matrix: Water
Analysis Batch: 87619

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87518

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD
							Limits	RPD	Limit
Mercury	0.00200	0.00218		mg/L		109	80 - 120	0	20

Lab Sample ID: LCSSRM 580-87518/19-A
Matrix: Water
Analysis Batch: 87619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87518

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Mercury	0.00200	0.00221		mg/L		110	75 - 125	

Lab Sample ID: MB 580-87431/9-B
Matrix: Water
Analysis Batch: 87619

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 87518

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 12:58	1

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-87175/3
Matrix: Water
Analysis Batch: 87175

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	ND		0.90		mg/L			06/02/11 10:14	1
Sulfate	ND		1.2		mg/L			06/02/11 10:14	1

Lab Sample ID: LCS 580-87175/4
Matrix: Water
Analysis Batch: 87175

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Sulfate	15.0	14.6		mg/L		97	90 - 110

Lab Sample ID: MB 580-87181/3
Matrix: Water
Analysis Batch: 87181

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Nitrate as N	ND		0.90		mg/L			06/02/11 10:14	1

Lab Sample ID: LCS 580-87181/4
Matrix: Water
Analysis Batch: 87181

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits

Method: 310.1 - Alkalinity

Lab Sample ID: MB 580-87824/1
Matrix: Water
Analysis Batch: 87824

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Alkalinity	ND		5.0		mg/L			06/13/11 17:08	1

Lab Sample ID: LCS 580-87824/2
Matrix: Water
Analysis Batch: 87824

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits

Method: 415.1 - TOC

Lab Sample ID: MB 580-87854/3
Matrix: Water
Analysis Batch: 87854

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Organic Carbon	ND		1.0		mg/L			06/13/11 13:41	1

QC Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Method: 415.1 - TOC (Continued)

Lab Sample ID: LCS 580-87854/4
 Matrix: Water
 Analysis Batch: 87854

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec Limits
Total Organic Carbon	15.0	16.0		mg/L		107	85 - 115

Lab Sample ID: 580-26520-1 MS
 Matrix: Water
 Analysis Batch: 87854

Client Sample ID: MW-2-060111
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec Limits
Total Organic Carbon	1.5		10.0	11.0		mg/L		95	85 - 115

Lab Sample ID: 580-26520-1 DU
 Matrix: Water
 Analysis Batch: 87854

Client Sample ID: MW-2-060111
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	1.5		1.32		mg/L		12	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Client Sample ID: MW-2-060111

Lab Sample ID: 580-26520-1

Date Collected: 06/01/11 09:34

Matrix: Water

Date Received: 06/02/11 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	87710	06/11/11 01:34	SK	TAL SEA
Total/NA	Analysis	RSK-175		1	205230	06/07/11 18:20	AGM	TAL SAV
Total/NA	Prep	3510C			87465	06/08/11 09:32	DB	TAL SEA
Total/NA	Analysis	8081A		1	87537	06/09/11 00:39	BT	TAL SEA
Total/NA	Prep	7470A			87513	06/09/11 08:30	ZF	TAL SEA
Total/NA	Analysis	7470A		1	87619	06/09/11 12:24	FCW	TAL SEA
Dissolved	Prep	7470A			87518	06/09/11 08:30	ZF	TAL SEA
Dissolved	Analysis	7470A		1	87619	06/09/11 13:12	FCW	TAL SEA
Total Recoverable	Prep	3005A			87583	06/09/11 10:30	ZF	TAL SEA
Total Recoverable	Analysis	6020		5	87642	06/09/11 21:18	FCW	TAL SEA
Dissolved	Prep	3005A			87583	06/09/11 10:30	ZF	TAL SEA
Dissolved	Analysis	6020		5	87642	06/09/11 21:41	FCW	TAL SEA
Total/NA	Analysis	300.0		1	87175	06/02/11 17:37	AM	TAL SEA
Total/NA	Analysis	300.0		1	87181	06/02/11 17:37	AM	TAL SEA
Total/NA	Analysis	310.1		1	87824	06/13/11 17:08	SH	TAL SEA
Total/NA	Analysis	415.1		1	87854	06/13/11 13:41	AM	TAL SEA

Client Sample ID: MW-6-060111

Lab Sample ID: 580-26520-2

Date Collected: 06/01/11 10:52

Matrix: Water

Date Received: 06/02/11 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	87710	06/11/11 02:09	SK	TAL SEA
Total/NA	Analysis	RSK-175		1	205123	06/06/11 19:49	AGM	TAL SAV
Total/NA	Prep	3510C			87465	06/08/11 09:32	DB	TAL SEA
Total/NA	Analysis	8081A		1	87537	06/09/11 00:59	BT	TAL SEA
Total/NA	Prep	7470A			87513	06/09/11 08:30	ZF	TAL SEA
Total/NA	Analysis	7470A		1	87619	06/09/11 12:30	FCW	TAL SEA
Dissolved	Prep	7470A			87518	06/09/11 08:30	ZF	TAL SEA
Dissolved	Analysis	7470A		1	87619	06/09/11 13:14	FCW	TAL SEA
Total Recoverable	Prep	3005A			87583	06/09/11 10:30	ZF	TAL SEA
Total Recoverable	Analysis	6020		5	87642	06/09/11 21:24	FCW	TAL SEA
Dissolved	Prep	3005A			87583	06/09/11 10:30	ZF	TAL SEA
Dissolved	Analysis	6020		5	87642	06/09/11 21:47	FCW	TAL SEA
Total/NA	Analysis	300.0		1	87175	06/02/11 17:53	AM	TAL SEA
Total/NA	Analysis	300.0		5	87175	06/03/11 10:42	AM	TAL SEA
Total/NA	Analysis	300.0		1	87181	06/02/11 17:53	AM	TAL SEA
Total/NA	Analysis	310.1		1	87824	06/13/11 17:08	SH	TAL SEA
Total/NA	Analysis	415.1		1	87854	06/13/11 13:41	AM	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Client Sample ID: MW-4-060111

Lab Sample ID: 580-26520-3

Date Collected: 06/01/11 13:17

Matrix: Water

Date Received: 06/02/11 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	87710	06/11/11 02:40	SK	TAL SEA
Total/NA	Prep	3510C			87465	06/08/11 09:32	DB	TAL SEA
Total/NA	Analysis	8081A		1	87537	06/09/11 01:18	BT	TAL SEA
Total/NA	Prep	7470A			87513	06/09/11 08:30	ZF	TAL SEA
Total/NA	Analysis	7470A		1	87619	06/09/11 12:31	FCW	TAL SEA
Dissolved	Prep	7470A			87518	06/09/11 08:30	ZF	TAL SEA
Dissolved	Analysis	7470A		1	87619	06/09/11 13:19	FCW	TAL SEA
Total Recoverable	Prep	3005A			87583	06/09/11 10:30	ZF	TAL SEA
Total Recoverable	Analysis	6020		5	87642	06/09/11 21:30	FCW	TAL SEA
Dissolved	Prep	3005A			87583	06/09/11 10:30	ZF	TAL SEA
Dissolved	Analysis	6020		5	87642	06/09/11 21:53	FCW	TAL SEA

Client Sample ID: MW-3-060111

Lab Sample ID: 580-26520-4

Date Collected: 06/01/11 14:18

Matrix: Water

Date Received: 06/02/11 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	87710	06/11/11 03:05	SK	TAL SEA
Total/NA	Prep	3510C			87465	06/08/11 09:32	DB	TAL SEA
Total/NA	Analysis	8081A		1	87537	06/09/11 01:38	BT	TAL SEA
Total/NA	Prep	7470A			87513	06/09/11 08:30	ZF	TAL SEA
Total/NA	Analysis	7470A		1	87619	06/09/11 12:33	FCW	TAL SEA
Dissolved	Prep	7470A			87518	06/09/11 08:30	ZF	TAL SEA
Dissolved	Analysis	7470A		1	87619	06/09/11 13:21	FCW	TAL SEA
Total Recoverable	Prep	3005A			87583	06/09/11 10:30	ZF	TAL SEA
Total Recoverable	Analysis	6020		5	87642	06/09/11 21:36	FCW	TAL SEA
Dissolved	Prep	3005A			87583	06/09/11 10:30	ZF	TAL SEA
Dissolved	Analysis	6020		5	87642	06/09/11 21:59	FCW	TAL SEA

Client Sample ID: TRIP BLANK

Lab Sample ID: 580-26520-5

Date Collected: 06/01/11 00:00

Matrix: Water

Date Received: 06/02/11 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	87710	06/10/11 23:08	SK	TAL SEA

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022
TestAmerica Seattle	Alaska	TA-Port Heiden Mobile Lab	10	UST-093
TestAmerica Seattle	California	NELAC	9	1115CA
TestAmerica Seattle	Florida	NELAC	4	E871074
TestAmerica Seattle	L-A-B	DoD ELAP		L2236
TestAmerica Seattle	L-A-B	ISO/IEC 17025		L2236
TestAmerica Seattle	Louisiana	NELAC	6	05016
TestAmerica Seattle	Montana	MT DEQ UST	8	N/A
TestAmerica Seattle	Oregon	NELAC	10	WA100007
TestAmerica Seattle	USDA	USDA		P330-11-00222
TestAmerica Seattle	Washington	State Program	10	C553
TestAmerica Savannah	A2LA	DoD ELAP		0399-01
TestAmerica Savannah	A2LA	ISO/IEC 17025		399.01
TestAmerica Savannah	Alabama	State Program	4	41450
TestAmerica Savannah	Arkansas	Arkansas DOH	6	N/A
TestAmerica Savannah	Arkansas	State Program	6	88-0692
TestAmerica Savannah	California	NELAC	9	3217CA
TestAmerica Savannah	Colorado	State Program	8	N/A
TestAmerica Savannah	Connecticut	State Program	1	PH-0161
TestAmerica Savannah	Delaware	State Program	3	N/A
TestAmerica Savannah	Florida	NELAC	4	E87052
TestAmerica Savannah	Georgia	Georgia EPD	4	N/A
TestAmerica Savannah	Georgia	State Program	4	803
TestAmerica Savannah	Guam	State Program	9	09-005r
TestAmerica Savannah	Hawaii	State Program	9	N/A
TestAmerica Savannah	Illinois	NELAC	5	200022
TestAmerica Savannah	Indiana	State Program	5	N/A
TestAmerica Savannah	Iowa	State Program	7	353
TestAmerica Savannah	Kansas	NELAC	7	E-10322
TestAmerica Savannah	Kentucky	Kentucky UST	4	18
TestAmerica Savannah	Kentucky	State Program	4	90084
TestAmerica Savannah	Louisiana	NELAC	6	LA100015
TestAmerica Savannah	Louisiana	NELAC	6	30690
TestAmerica Savannah	Maine	State Program	1	GA00006
TestAmerica Savannah	Maryland	State Program	3	250
TestAmerica Savannah	Massachusetts	State Program	1	M-GA006
TestAmerica Savannah	Michigan	State Program	5	9925
TestAmerica Savannah	Mississippi	State Program	4	N/A
TestAmerica Savannah	Montana	State Program	8	CERT0081
TestAmerica Savannah	Nebraska	State Program	7	TestAmerica-Savannah
TestAmerica Savannah	Nevada	State Program	9	GA6
TestAmerica Savannah	New Jersey	NELAC	2	GA769
TestAmerica Savannah	New Mexico	State Program	6	N/A
TestAmerica Savannah	New York	NELAC	2	10842
TestAmerica Savannah	North Carolina	North Carolina DENR	4	269
TestAmerica Savannah	North Carolina	North Carolina PHL	4	13701
TestAmerica Savannah	Oklahoma	State Program	6	9984
TestAmerica Savannah	Pennsylvania	NELAC	3	68-00474
TestAmerica Savannah	Puerto Rico	State Program	2	GA00006
TestAmerica Savannah	Rhode Island	State Program	1	LAO00244
TestAmerica Savannah	South Carolina	State Program	4	98001
TestAmerica Savannah	Tennessee	State Program	4	TN02961
TestAmerica Savannah	Texas	NELAC	6	T104704185-08-TX
TestAmerica Savannah	USDA	USDA		SAV 3-04

Certification Summary

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Savannah	Vermont	State Program	1	87052
TestAmerica Savannah	Virginia	State Program	3	302
TestAmerica Savannah	Washington	State Program	10	C1794
TestAmerica Savannah	West Virginia	West Virginia DEP	3	94
TestAmerica Savannah	West Virginia	West Virginia DHHR (DW)	3	9950C
TestAmerica Savannah	Wisconsin	State Program	5	999819810
TestAmerica Savannah	Wyoming	State Program	8	8TMS-Q

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.



Sample Summary

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26520-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-26520-1	MW-2-060111	Water	06/01/11 09:34	06/02/11 09:50
580-26520-2	MW-6-060111	Water	06/01/11 10:52	06/02/11 09:50
580-26520-3	MW-4-060111	Water	06/01/11 13:17	06/02/11 09:50
580-26520-4	MW-3-060111	Water	06/01/11 14:18	06/02/11 09:50
580-26520-5	TRIP BLANK	Water	06/01/11 00:00	06/02/11 09:50

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- 5
- 6
- 7
- 8
- 9
- 10
- 11

Furukawa

TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

Rush

Short Hold

Chain of Custody Record

Client <i>Furukawa</i>		Client Contact <i>Brett Corp</i>		Date <i>6-01-11</i>	Chain of Custody Number <i>11247</i>
Address		Telephone Number (Area Code)/Fax Number <i>(425) 295-0800</i>		Lab Number <i>26520</i>	Page <i>1</i> of <i>1</i>
City <i>Issaquah</i>	State <i>WA</i>	Zip Code <i>98027</i>	Sampler <i>R. Hibbs</i>	Lab Contact	
Project Name and Location (State) <i>YSF Yakima WA</i>			Billing Contact		

Contract/Purchase Order/Quote No. *765-001*

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives						Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt	
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH			
<i>MW-2-06011</i>	<i>6-1-11</i>	<i>0734</i>	<i>X</i>				<i>3</i>	<i>1</i>	<i>6</i>	<i>1</i>					<i>6/2/11</i>
<i>MW-6-06011</i>	<i>L</i>	<i>1052</i>	<i>X</i>				<i>3</i>	<i>1</i>	<i>6</i>	<i>1</i>					
<i>MW-4-06011</i>	<i>L</i>	<i>1317</i>	<i>X</i>				<i>3</i>	<i>1</i>	<i>3</i>	<i>1</i>					
<i>MW-3-06011</i>	<i>L</i>	<i>1418</i>	<i>X</i>				<i>3</i>	<i>1</i>	<i>3</i>	<i>1</i>					
<i>TRIP BLANK</i>															

*NOX 2000
Organics
Perk 608/80
Test/Digg metals
Alkalinity
Sulfate 300.0
Nitrate 300.0
TOC 4/5.1
Chloride 300.0
metals
Fluoride
Iron*

Cooler/IB Dig/IR cor 1.3°C unc 1.8°C Cooler/IB Dig/IR cor 1.1°C unc 1.1°C
Cooler Dsc Lg Green/Bl@ Lab#2000 Cooler Dsc Lg Blue/Wr@ Lab#950
Wet/Packs Packing Bubble Wrap Wet/Packs Packing Bubble Wrap #2

Cooler Yes No Cooler Temp: _____ Possible Hazard Identification Non-Hazard Flammable Skin Irritant Poison B Unknown Return To Client Disposal By Lab Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days) 24 Hours 48 Hours 5 Days 10 Days 15 Days Other _____ QC Requirements (Specify)

1. Relinquished By Sign/Print <i>Ryan Hibbs</i>	Date <i>6-1-11</i>	Time <i>1600</i>	1. Received By Sign/Print <i>Francisco Luna, Jr.</i>	Date <i>6/2/11</i>	Time
2. Relinquished By Sign/Print	Date	Time	2. Received By Sign/Print	Date	Time
3. Relinquished By Sign/Print	Date	Time	3. Received By Sign/Print	Date	Time

Comments

Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-26520-1

Login Number: 26520

List Source: TestAmerica Seattle

List Number: 1

Creator: Luna, Francisco

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Containers received broken. No volume could be salvaged for analysis.
Sample collection date/times are provided.	False	One sample set without sample time. Logged in per COC.
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-26520-1

Login Number: 26520

List Source: TestAmerica Savannah

List Number: 1

List Creation: 06/04/11 10:06 AM

Creator: Conner, Keaton

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-26530-1
Client Project/Site: YSF Yakima WA
Revision: 1

For:
Farallon Consulting LLC
975 5th Avenue NW
Suite 100
Issaquah, Washington 98027

Attn: Jeff Kaspar

Pamela R. Johnson

Authorized for release by:
08/12/2011 03:28:36 PM
Pam Johnson
Project Manager I
pamr.johnson@testamericainc.com

Designee for
Kristine Allen
Project Manager I
kristine.allen@testamericainc.com

LINKS

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results through
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Visit us at:
www.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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Case Narrative

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Job ID: 580-26530-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-26530-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC/MS VOA

Method(s) 8260B: The Trifluorotoluene (TFT) surrogate recovery for the blank associated with batch 580-87535 was outside recovery limits. As the deficient recovery indicated a potential high bias, no target compounds were detected in the method blank above the reporting limit, and all associated sample TFT surrogate recoveries fell within acceptance criteria, the data have been reported.

Method(s) 8260B: Surrogate recovery for the following sample(s) was outside the upper control limit: I-TP4-052711-2.5 (580-26530-1), I-TP6-052711-4.5 (580-26530-10). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260B: The target compound Carbon Disulfide was added by the client after sample data had been calculated and reported. Therefore the detected concentration of Carbon Disulfide in sample 580-26530-10 was not known at time of initial data work up.

No other analytical or quality issues were noted.

GC Semi VOA

Method(s) 8081A: The continuing calibration verification (CCV) for analytical batch 87956 exceeded control criteria low for DDT and DCB. The closing CCV also failed on re-analysis confirming matrix interference as the reason for CCV failure. Original results have been reported and qualified "A".

Method(s) NWTPH-Dx:

For sample 580-26530-1, the results in the C10-C24 range are due to a mixture of heavily weathered diesel fuel and overlapping results from the motor oil range.

For sample 580-26530-10, the results in the C10-C24 range are due to what most closely resembles a mineral oil range product.

The affected analyte ranges have been qualified with the "Y" qualifier and reported.

Method(s) NWTPH-HCID:

For sample 580-26530-1, the results in the C12-C24 range are due to a mixture of heavily weathered diesel fuel and overlapping results from the motor oil range.

For sample 580-26530-10, the results in the C12-C24 range are due to what most closely resembles a mineral oil range product.

The affected analyte ranges are qualified with the "Y" qualifier and reported.

No other analytical or quality issues were noted.

Metals

Method(s) 6010B: The absolute value for Cd is higher than the RL. The associated ICB, MB and CCB's were all within limits sample qualified "L". No bias is indicated.

No other analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

Case Narrative

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Job ID: 580-26530-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

Organic Prep

No analytical or quality issues were noted.

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Definitions/Glossary

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
Y	The chromatographic response resembles a typical fuel pattern.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

Metals

Qualifier	Qualifier Description
L	A negative instrument reading had an absolute value greater than the reporting limit

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit (Dioxin)
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or method detection limit if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Client Sample ID: I-TP4-052711-2.5

Lab Sample ID: 580-26530-1

Date Collected: 05/27/11 07:45

Matrix: Solid

Date Received: 06/01/11 14:20

Percent Solids: 91.9

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Chloromethane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Vinyl chloride	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Bromomethane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Chloroethane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Trichlorofluoromethane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,1-Dichloroethene	ND		5.6		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Methylene Chloride	ND		17		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
trans-1,2-Dichloroethene	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,1-Dichloroethane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
2,2-Dichloropropane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
cis-1,2-Dichloroethene	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Chlorobromomethane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Chloroform	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,1,1-Trichloroethane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Carbon tetrachloride	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,1-Dichloropropene	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Benzene	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,2-Dichloroethane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Trichloroethene	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,2-Dichloropropane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Dibromomethane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Dichlorobromomethane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
cis-1,3-Dichloropropene	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Toluene	ND		2.3		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
trans-1,3-Dichloropropene	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,1,2-Trichloroethane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Tetrachloroethene	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,3-Dichloropropane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Chlorodibromomethane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Ethylene Dibromide	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Chlorobenzene	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Ethylbenzene	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,1,1,2-Tetrachloroethane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,1,2,2-Tetrachloroethane	ND		2.3		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
m-Xylene & p-Xylene	ND		2.3		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
o-Xylene	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Styrene	ND		2.3		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Bromoform	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Isopropylbenzene	ND		2.3		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Bromobenzene	ND		2.3		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
N-Propylbenzene	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,2,3-Trichloropropane	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
2-Chlorotoluene	ND		2.3		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,3,5-Trimethylbenzene	ND		5.6		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
4-Chlorotoluene	ND		2.3		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
tert-Butylbenzene	ND		2.3		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,2,4-Trimethylbenzene	ND		2.3		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
sec-Butylbenzene	ND		2.3		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,3-Dichlorobenzene	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Client Sample ID: I-TP4-052711-2.5

Lab Sample ID: 580-26530-1

Date Collected: 05/27/11 07:45

Matrix: Solid

Date Received: 06/01/11 14:20

Percent Solids: 91.9

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		2.3		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,4-Dichlorobenzene	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
n-Butylbenzene	ND		2.3		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,2-Dichlorobenzene	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,2-Dibromo-3-Chloropropane	ND		2.3		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,2,4-Trichlorobenzene	ND		2.3		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
1,2,3-Trichlorobenzene	ND		2.3		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Hexachlorobutadiene	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Naphthalene	ND		5.6		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Methyl tert-butyl ether	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Carbon disulfide	ND		1.1		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
Acetone	ND		17		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
4-Methyl-2-pentanone	ND		5.6		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1
2-Butanone	ND		5.6		ug/Kg	*	06/08/11 17:34	06/08/11 23:31	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	94		80 - 120	06/08/11 17:34	06/08/11 23:31	1
Toluene-d8 (Surr)	98		80 - 120	06/08/11 17:34	06/08/11 23:31	1
Ethylbenzene-d10	161	X	70 - 120	06/08/11 17:34	06/08/11 23:31	1
4-Bromofluorobenzene (Surr)	132	X	70 - 120	06/08/11 17:34	06/08/11 23:31	1
Trifluorotoluene (Surr)	89		65 - 140	06/08/11 17:34	06/08/11 23:31	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	120	Y	27		mg/Kg	*	06/10/11 11:21	06/21/11 13:24	1
Motor Oil (>C24-C36)	930		54		mg/Kg	*	06/10/11 11:21	06/21/11 13:24	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	104		50 - 150	06/10/11 11:21	06/21/11 13:24	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC) - DL

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	1400		210		mg/Kg	*	06/10/11 08:19	06/13/11 11:04	2
Gasoline	ND		43		mg/Kg	*	06/10/11 08:19	06/13/11 11:04	2
#2 Diesel (>C12-C24)	190	Y	110		mg/Kg	*	06/10/11 08:19	06/13/11 11:04	2

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	95		50 - 150	06/10/11 08:19	06/13/11 11:04	2
4-Bromofluorobenzene (Surr)	136		50 - 150	06/10/11 08:19	06/13/11 11:04	2

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92		0.10		%			06/09/11 14:09	1
Percent Moisture	8.1		0.10		%			06/09/11 14:09	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Client Sample ID: I-TP4-052711-8.0

Lab Sample ID: 580-26530-3

Date Collected: 05/27/11 07:55

Matrix: Solid

Date Received: 06/01/11 14:20

Percent Solids: 85.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Chloromethane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Vinyl chloride	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Bromomethane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Chloroethane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Trichlorofluoromethane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,1-Dichloroethene	ND		5.7		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Methylene Chloride	ND		17		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
trans-1,2-Dichloroethene	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,1-Dichloroethane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
2,2-Dichloropropane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
cis-1,2-Dichloroethene	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Chlorobromomethane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Chloroform	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,1,1-Trichloroethane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Carbon tetrachloride	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,1-Dichloropropene	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Benzene	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,2-Dichloroethane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Trichloroethene	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,2-Dichloropropane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Dibromomethane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Dichlorobromomethane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
cis-1,3-Dichloropropene	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Toluene	ND		2.3		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
trans-1,3-Dichloropropene	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,1,2-Trichloroethane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Tetrachloroethene	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,3-Dichloropropane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Chlorodibromomethane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Ethylene Dibromide	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Chlorobenzene	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Ethylbenzene	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,1,1,2-Tetrachloroethane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,1,2,2-Tetrachloroethane	ND		2.3		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
m-Xylene & p-Xylene	ND		2.3		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
o-Xylene	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Styrene	ND		2.3		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Bromoform	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Isopropylbenzene	ND		2.3		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Bromobenzene	ND		2.3		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
N-Propylbenzene	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,2,3-Trichloropropane	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
2-Chlorotoluene	ND		2.3		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,3,5-Trimethylbenzene	ND		5.7		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
4-Chlorotoluene	ND		2.3		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
tert-Butylbenzene	ND		2.3		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,2,4-Trimethylbenzene	ND		2.3		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
sec-Butylbenzene	ND		2.3		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,3-Dichlorobenzene	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Client Sample ID: I-TP4-052711-8.0

Lab Sample ID: 580-26530-3

Date Collected: 05/27/11 07:55

Matrix: Solid

Date Received: 06/01/11 14:20

Percent Solids: 85.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		2.3		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,4-Dichlorobenzene	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
n-Butylbenzene	ND		2.3		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,2-Dichlorobenzene	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,2-Dibromo-3-Chloropropane	ND		2.3		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,2,4-Trichlorobenzene	ND		2.3		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
1,2,3-Trichlorobenzene	ND		2.3		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Hexachlorobutadiene	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Naphthalene	ND		5.7		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Methyl tert-butyl ether	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Carbon disulfide	ND		1.1		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
Acetone	ND		17		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
4-Methyl-2-pentanone	ND		5.7		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1
2-Butanone	ND		5.7		ug/Kg	☼	06/08/11 17:34	06/08/11 23:55	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	95		80 - 120	06/08/11 17:34	06/08/11 23:55	1
Toluene-d8 (Surr)	102		80 - 120	06/08/11 17:34	06/08/11 23:55	1
Ethylbenzene-d10	108		70 - 120	06/08/11 17:34	06/08/11 23:55	1
4-Bromofluorobenzene (Surr)	105		70 - 120	06/08/11 17:34	06/08/11 23:55	1
Trifluorotoluene (Surr)	88		65 - 140	06/08/11 17:34	06/08/11 23:55	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		110		mg/Kg	☼	06/10/11 08:19	06/13/11 11:51	1
Gasoline	ND		23		mg/Kg	☼	06/10/11 08:19	06/13/11 11:51	1
#2 Diesel (>C12-C24)	ND		57		mg/Kg	☼	06/10/11 08:19	06/13/11 11:51	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	97		50 - 150	06/10/11 08:19	06/13/11 11:51	1
4-Bromofluorobenzene (Surr)	123		50 - 150	06/10/11 08:19	06/13/11 11:51	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86		0.10		%			06/09/11 14:09	1
Percent Moisture	14		0.10		%			06/09/11 14:09	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Client Sample ID: I-TP5-052711-4.5

Lab Sample ID: 580-26530-5

Date Collected: 05/27/11 08:25

Matrix: Solid

Date Received: 06/01/11 14:20

Percent Solids: 72.6

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Chloromethane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Vinyl chloride	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Bromomethane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Chloroethane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Trichlorofluoromethane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
1,1-Dichloroethene	ND		7.2		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Methylene Chloride	ND		21		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
trans-1,2-Dichloroethene	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
1,1-Dichloroethane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
2,2-Dichloropropane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
cis-1,2-Dichloroethene	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Chlorobromomethane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Chloroform	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
1,1,1-Trichloroethane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Carbon tetrachloride	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
1,1-Dichloropropene	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Benzene	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
1,2-Dichloroethane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Trichloroethene	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
1,2-Dichloropropane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Dibromomethane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Dichlorobromomethane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
cis-1,3-Dichloropropene	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Toluene	ND		2.9		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
trans-1,3-Dichloropropene	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
1,1,2-Trichloroethane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Tetrachloroethene	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
1,3-Dichloropropane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Chlorodibromomethane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Ethylene Dibromide	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Chlorobenzene	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Ethylbenzene	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
1,1,1,2-Tetrachloroethane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
1,1,2,2-Tetrachloroethane	ND		2.9		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
m-Xylene & p-Xylene	ND		2.9		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
o-Xylene	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Styrene	ND		2.9		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Bromoform	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Isopropylbenzene	ND		2.9		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
Bromobenzene	ND		2.9		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
N-Propylbenzene	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
1,2,3-Trichloropropane	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
2-Chlorotoluene	ND		2.9		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
1,3,5-Trimethylbenzene	ND		7.2		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
4-Chlorotoluene	ND		2.9		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
tert-Butylbenzene	ND		2.9		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
1,2,4-Trimethylbenzene	ND		2.9		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
sec-Butylbenzene	ND		2.9		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1
1,3-Dichlorobenzene	ND		1.4		ug/Kg	*	06/08/11 17:34	06/09/11 00:20	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Client Sample ID: I-TP5-052711-4.5

Lab Sample ID: 580-26530-5

Date Collected: 05/27/11 08:25

Matrix: Solid

Date Received: 06/01/11 14:20

Percent Solids: 72.6

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		2.9		ug/Kg	☼	06/08/11 17:34	06/09/11 00:20	1
1,4-Dichlorobenzene	ND		1.4		ug/Kg	☼	06/08/11 17:34	06/09/11 00:20	1
n-Butylbenzene	ND		2.9		ug/Kg	☼	06/08/11 17:34	06/09/11 00:20	1
1,2-Dichlorobenzene	ND		1.4		ug/Kg	☼	06/08/11 17:34	06/09/11 00:20	1
1,2-Dibromo-3-Chloropropane	ND		2.9		ug/Kg	☼	06/08/11 17:34	06/09/11 00:20	1
1,2,4-Trichlorobenzene	ND		2.9		ug/Kg	☼	06/08/11 17:34	06/09/11 00:20	1
1,2,3-Trichlorobenzene	ND		2.9		ug/Kg	☼	06/08/11 17:34	06/09/11 00:20	1
Hexachlorobutadiene	ND		1.4		ug/Kg	☼	06/08/11 17:34	06/09/11 00:20	1
Naphthalene	ND		7.2		ug/Kg	☼	06/08/11 17:34	06/09/11 00:20	1
Methyl tert-butyl ether	ND		1.4		ug/Kg	☼	06/08/11 17:34	06/09/11 00:20	1
Carbon disulfide	ND		1.4		ug/Kg	☼	06/08/11 17:34	06/09/11 00:20	1
Acetone	ND		21		ug/Kg	☼	06/08/11 17:34	06/09/11 00:20	1
4-Methyl-2-pentanone	ND		7.2		ug/Kg	☼	06/08/11 17:34	06/09/11 00:20	1
2-Butanone	ND		7.2		ug/Kg	☼	06/08/11 17:34	06/09/11 00:20	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	95		80 - 120	06/08/11 17:34	06/09/11 00:20	1
Toluene-d8 (Surr)	100		80 - 120	06/08/11 17:34	06/09/11 00:20	1
Ethylbenzene-d10	111		70 - 120	06/08/11 17:34	06/09/11 00:20	1
4-Bromofluorobenzene (Surr)	107		70 - 120	06/08/11 17:34	06/09/11 00:20	1
Trifluorotoluene (Surr)	77		65 - 140	06/08/11 17:34	06/09/11 00:20	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		130		mg/Kg	☼	06/10/11 08:19	06/13/11 12:14	1
Gasoline	ND		26		mg/Kg	☼	06/10/11 08:19	06/13/11 12:14	1
#2 Diesel (>C12-C24)	ND		65		mg/Kg	☼	06/10/11 08:19	06/13/11 12:14	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	96		50 - 150	06/10/11 08:19	06/13/11 12:14	1
4-Bromofluorobenzene (Surr)	114		50 - 150	06/10/11 08:19	06/13/11 12:14	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	73		0.10		%			06/09/11 14:09	1
Percent Moisture	27		0.10		%			06/09/11 14:09	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Client Sample ID: A-TP1-052711-5.0

Lab Sample ID: 580-26530-7

Date Collected: 05/27/11 08:50

Matrix: Solid

Date Received: 06/01/11 14:20

Percent Solids: 82.1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.1		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
alpha-BHC	ND		1.1		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
beta-BHC	ND		1.1		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
delta-BHC	ND		1.1		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
gamma-BHC (Lindane)	ND		1.1		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
4,4'-DDD	ND		2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
4,4'-DDE	ND		2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
4,4'-DDT	ND	^	2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
Dieldrin	ND		2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
Endosulfan I	ND		1.1		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
Endosulfan II	ND		2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
Endosulfan sulfate	ND		2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
Endrin	ND		2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
Endrin aldehyde	ND		2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
Heptachlor	ND		1.1		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
Heptachlor epoxide	ND		1.1		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
Methoxychlor	ND		11		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
Endrin ketone	ND		2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
Toxaphene	ND		110		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
alpha-Chlordane	ND		1.1		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
gamma-Chlordane	ND		1.1		ug/Kg	☼	06/07/11 15:20	06/15/11 22:05	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	56		49 - 123				06/07/11 15:20	06/15/11 22:05	1
DCB Decachlorobiphenyl	69		40 - 158				06/07/11 15:20	06/15/11 22:05	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.9		mg/Kg	☼	06/08/11 10:22	06/08/11 18:58	1
Lead	6.3		1.5		mg/Kg	☼	06/08/11 10:22	06/08/11 18:58	1
Antimony	ND		2.9		mg/Kg	☼	06/08/11 10:22	06/08/11 18:58	1
Cadmium	ND		0.49		mg/Kg	☼	06/08/11 10:22	06/08/11 18:58	1
Copper	24		0.98		mg/Kg	☼	06/08/11 10:22	06/08/11 18:58	1
Manganese	170		0.98		mg/Kg	☼	06/08/11 10:22	06/08/11 18:58	1
Zinc	830		2.0		mg/Kg	☼	06/08/11 10:22	06/08/11 18:58	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.035		0.019		mg/Kg	☼	06/13/11 09:30	06/13/11 13:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82		0.10		%			06/08/11 10:25	1
Percent Moisture	18		0.10		%			06/08/11 10:25	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Client Sample ID: A-TP2-052711-5.0

Lab Sample ID: 580-26530-8

Date Collected: 05/27/11 09:10

Matrix: Solid

Date Received: 06/01/11 14:20

Percent Solids: 84.4

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.2		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
alpha-BHC	ND		1.2		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
beta-BHC	ND		1.2		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
delta-BHC	ND		1.2		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
gamma-BHC (Lindane)	ND		1.2		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
4,4'-DDD	ND		2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
4,4'-DDE	ND		2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
4,4'-DDT	ND	^	2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
Dieldrin	ND		2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
Endosulfan I	ND		1.2		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
Endosulfan II	ND		2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
Endosulfan sulfate	ND		2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
Endrin	ND		2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
Endrin aldehyde	ND		2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
Heptachlor	ND		1.2		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
Heptachlor epoxide	ND		1.2		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
Methoxychlor	ND		12		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
Endrin ketone	ND		2.3		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
Toxaphene	ND		120		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
alpha-Chlordane	ND		1.2		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
gamma-Chlordane	ND		1.2		ug/Kg	☼	06/07/11 15:20	06/15/11 22:25	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	83		49 - 123				06/07/11 15:20	06/15/11 22:25	1
DCB Decachlorobiphenyl	64		40 - 158				06/07/11 15:20	06/15/11 22:25	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.1		mg/Kg	☼	06/08/11 10:22	06/08/11 19:04	1
Lead	5.9		1.5		mg/Kg	☼	06/08/11 10:22	06/08/11 19:04	1
Antimony	ND		3.1		mg/Kg	☼	06/08/11 10:22	06/08/11 19:04	1
Cadmium	ND	L	0.51		mg/Kg	☼	06/08/11 10:22	06/08/11 19:04	1
Copper	23		1.0		mg/Kg	☼	06/08/11 10:22	06/08/11 19:04	1
Manganese	310		1.0		mg/Kg	☼	06/08/11 10:22	06/08/11 19:04	1
Zinc	54		2.0		mg/Kg	☼	06/08/11 10:22	06/08/11 19:04	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.26		0.017		mg/Kg	☼	06/13/11 09:30	06/13/11 13:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84		0.10		%			06/08/11 10:25	1
Percent Moisture	16		0.10		%			06/08/11 10:25	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Client Sample ID: I-TP6-052711-4.5

Lab Sample ID: 580-26530-10

Date Collected: 05/27/11 09:35

Matrix: Solid

Date Received: 06/01/11 14:20

Percent Solids: 57.2

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Chloromethane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Vinyl chloride	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Bromomethane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Chloroethane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Trichlorofluoromethane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
1,1-Dichloroethene	ND		8.9		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Methylene Chloride	ND		27		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
trans-1,2-Dichloroethene	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
1,1-Dichloroethane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
2,2-Dichloropropane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
cis-1,2-Dichloroethene	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Chlorobromomethane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Chloroform	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
1,1,1-Trichloroethane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Carbon tetrachloride	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
1,1-Dichloropropene	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Benzene	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
1,2-Dichloroethane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Trichloroethene	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
1,2-Dichloropropane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Dibromomethane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Dichlorobromomethane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
cis-1,3-Dichloropropene	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Toluene	ND		3.6		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
trans-1,3-Dichloropropene	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
1,1,2-Trichloroethane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Tetrachloroethene	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
1,3-Dichloropropane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Chlorodibromomethane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Ethylene Dibromide	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Chlorobenzene	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Ethylbenzene	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
1,1,1,2-Tetrachloroethane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
1,1,2,2-Tetrachloroethane	ND		3.6		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
m-Xylene & p-Xylene	ND		3.6		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
o-Xylene	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Styrene	ND		3.6		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Bromoform	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Isopropylbenzene	ND		3.6		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
Bromobenzene	ND		3.6		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
N-Propylbenzene	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
1,2,3-Trichloropropane	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
2-Chlorotoluene	ND		3.6		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
1,3,5-Trimethylbenzene	ND		8.9		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
4-Chlorotoluene	ND		3.6		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
tert-Butylbenzene	ND		3.6		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
1,2,4-Trimethylbenzene	ND		3.6		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
sec-Butylbenzene	ND		3.6		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1
1,3-Dichlorobenzene	ND		1.8		ug/Kg	☼	06/08/11 17:34	06/09/11 00:44	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Client Sample ID: I-TP6-052711-4.5

Lab Sample ID: 580-26530-10

Date Collected: 05/27/11 09:35

Matrix: Solid

Date Received: 06/01/11 14:20

Percent Solids: 57.2

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		3.6		ug/Kg	*	06/08/11 17:34	06/09/11 00:44	1
1,4-Dichlorobenzene	ND		1.8		ug/Kg	*	06/08/11 17:34	06/09/11 00:44	1
n-Butylbenzene	ND		3.6		ug/Kg	*	06/08/11 17:34	06/09/11 00:44	1
1,2-Dichlorobenzene	ND		1.8		ug/Kg	*	06/08/11 17:34	06/09/11 00:44	1
1,2-Dibromo-3-Chloropropane	ND		3.6		ug/Kg	*	06/08/11 17:34	06/09/11 00:44	1
1,2,4-Trichlorobenzene	ND		3.6		ug/Kg	*	06/08/11 17:34	06/09/11 00:44	1
1,2,3-Trichlorobenzene	ND		3.6		ug/Kg	*	06/08/11 17:34	06/09/11 00:44	1
Hexachlorobutadiene	ND		1.8		ug/Kg	*	06/08/11 17:34	06/09/11 00:44	1
Naphthalene	ND		8.9		ug/Kg	*	06/08/11 17:34	06/09/11 00:44	1
Methyl tert-butyl ether	ND		1.8		ug/Kg	*	06/08/11 17:34	06/09/11 00:44	1
Carbon disulfide	1.9		1.8		ug/Kg	*	06/08/11 17:34	06/09/11 00:44	1
Acetone	ND		27		ug/Kg	*	06/08/11 17:34	06/09/11 00:44	1
4-Methyl-2-pentanone	ND		8.9		ug/Kg	*	06/08/11 17:34	06/09/11 00:44	1
2-Butanone	ND		8.9		ug/Kg	*	06/08/11 17:34	06/09/11 00:44	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	96		80 - 120	06/08/11 17:34	06/09/11 00:44	1
Toluene-d8 (Surr)	96		80 - 120	06/08/11 17:34	06/09/11 00:44	1
Ethylbenzene-d10	193	X	70 - 120	06/08/11 17:34	06/09/11 00:44	1
4-Bromofluorobenzene (Surr)	129	X	70 - 120	06/08/11 17:34	06/09/11 00:44	1
Trifluorotoluene (Surr)	92		65 - 140	06/08/11 17:34	06/09/11 00:44	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	98	Y	43		mg/Kg	*	06/10/11 11:21	06/21/11 14:03	1
Motor Oil (>C24-C36)	91		86		mg/Kg	*	06/10/11 11:21	06/21/11 14:03	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	96		50 - 150	06/10/11 11:21	06/21/11 14:03	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		170		mg/Kg	*	06/10/11 08:19	06/13/11 12:37	1
Gasoline	ND		35		mg/Kg	*	06/10/11 08:19	06/13/11 12:37	1
#2 Diesel (>C12-C24)	120	Y	86		mg/Kg	*	06/10/11 08:19	06/13/11 12:37	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	100		50 - 150	06/10/11 08:19	06/13/11 12:37	1
4-Bromofluorobenzene (Surr)	129		50 - 150	06/10/11 08:19	06/13/11 12:37	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	57		0.10		%			06/09/11 14:09	1
Percent Moisture	43		0.10		%			06/09/11 14:09	1

QC Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-87534/1-A
Matrix: Solid
Analysis Batch: 87535

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87534

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dichlorodifluoromethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Chloromethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Vinyl chloride	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Bromomethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Chloroethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Trichlorofluoromethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,1-Dichloroethene	ND		5.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Methylene Chloride	ND		15		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
trans-1,2-Dichloroethene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,1-Dichloroethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
2,2-Dichloropropane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
cis-1,2-Dichloroethene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Chlorobromomethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Chloroform	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,1,1-Trichloroethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Carbon tetrachloride	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,1-Dichloropropene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Benzene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,2-Dichloroethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Trichloroethene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,2-Dichloropropane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Dibromomethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Dichlorobromomethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Toluene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
trans-1,3-Dichloropropene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,1,2-Trichloroethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Tetrachloroethene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,3-Dichloropropane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Chlorodibromomethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Ethylene Dibromide	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Chlorobenzene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Ethylbenzene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
m-Xylene & p-Xylene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
o-Xylene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Styrene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Bromoform	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Isopropylbenzene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Bromobenzene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
N-Propylbenzene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,2,3-Trichloropropane	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
2-Chlorotoluene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
4-Chlorotoluene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
tert-Butylbenzene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
sec-Butylbenzene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-87534/1-A

Matrix: Solid

Analysis Batch: 87535

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 87534

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,3-Dichlorobenzene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
4-Isopropyltoluene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
n-Butylbenzene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,2-Dichlorobenzene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
1,2,3-Trichlorobenzene	ND		2.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Hexachlorobutadiene	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Naphthalene	ND		5.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Methyl tert-butyl ether	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Carbon disulfide	ND		1.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
Acetone	ND		15		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
4-Methyl-2-pentanone	ND		5.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1
2-Butanone	ND		5.0		ug/Kg		06/08/11 17:34	06/08/11 17:51	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
Fluorobenzene (Surr)	100		80 - 120	06/08/11 17:34	06/08/11 17:51	1
Toluene-d8 (Surr)	104		80 - 120	06/08/11 17:34	06/08/11 17:51	1
Ethylbenzene-d10	105		70 - 120	06/08/11 17:34	06/08/11 17:51	1
4-Bromofluorobenzene (Surr)	108		70 - 120	06/08/11 17:34	06/08/11 17:51	1
Trifluorotoluene (Surr)	141	X	65 - 140	06/08/11 17:34	06/08/11 17:51	1

Lab Sample ID: LCS 580-87534/2-A

Matrix: Solid

Analysis Batch: 87535

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 87534

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
1,1-Dichloroethene	40.0	37.0		ug/Kg		93	65 - 135
Benzene	40.0	43.7		ug/Kg		109	75 - 125
Trichloroethene	40.0	44.5		ug/Kg		111	75 - 125
Toluene	40.0	44.6		ug/Kg		112	70 - 125
Chlorobenzene	40.0	45.8		ug/Kg		115	75 - 125

Surrogate	LCS LCS		Limits
	% Recovery	Qualifier	
Fluorobenzene (Surr)	99		80 - 120
Toluene-d8 (Surr)	101		80 - 120
Ethylbenzene-d10	110		70 - 120
4-Bromofluorobenzene (Surr)	103		70 - 120
Trifluorotoluene (Surr)	120		65 - 140

Lab Sample ID: LCSD 580-87534/3-A

Matrix: Solid

Analysis Batch: 87535

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 87534

Analyte	Spike Added	LCSD LCSD		Unit	D	% Rec	% Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
1,1-Dichloroethene	40.0	33.5		ug/Kg		84	65 - 135	10	30
Benzene	40.0	38.9		ug/Kg		97	75 - 125	12	30
Trichloroethene	40.0	39.4		ug/Kg		99	75 - 125	12	30

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-87534/3-A

Matrix: Solid

Analysis Batch: 87535

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 87534

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	RPD Limit
							Limits	RPD		
Toluene	40.0	39.1		ug/Kg		98	70 - 125	13		30
Chlorobenzene	40.0	41.2		ug/Kg		103	75 - 125	11		30

Surrogate	LCSD LCSD		Limits
	% Recovery	Qualifier	
Fluorobenzene (Surr)	99		80 - 120
Toluene-d8 (Surr)	102		80 - 120
Ethylbenzene-d10	106		70 - 120
4-Bromofluorobenzene (Surr)	101		70 - 120
Trifluorotoluene (Surr)	107		65 - 140

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-87424/1-A

Matrix: Solid

Analysis Batch: 87956

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 87424

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aldrin	ND		1.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
alpha-BHC	ND		1.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
beta-BHC	ND		1.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
delta-BHC	ND		1.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
gamma-BHC (Lindane)	ND		1.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
4,4'-DDD	ND		2.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
4,4'-DDE	ND		2.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
4,4'-DDT	ND	^	2.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
Dieldrin	ND		2.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
Endosulfan I	ND		1.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
Endosulfan II	ND		2.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
Endosulfan sulfate	ND		2.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
Endrin	ND		2.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
Endrin aldehyde	ND		2.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
Heptachlor	ND		1.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
Heptachlor epoxide	ND		1.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
Methoxychlor	ND		10		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
Endrin ketone	ND		2.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
Toxaphene	ND		100		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
alpha-Chlordane	ND		1.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1
gamma-Chlordane	ND		1.0		ug/Kg		06/07/11 15:20	06/15/11 21:07	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
Tetrachloro-m-xylene	92		49 - 123	06/07/11 15:20	06/15/11 21:07	1
DCB Decachlorobiphenyl	90		40 - 158	06/07/11 15:20	06/15/11 21:07	1

Lab Sample ID: LCS 580-87424/2-A

Matrix: Solid

Analysis Batch: 87956

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 87424

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	RPD
Aldrin	20.0	19.0		ug/Kg		95	53 - 126	

TestAmerica Seattle

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-87424/2-A

Matrix: Solid

Analysis Batch: 87956

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 87424

Analyte	Spike	LCS	LCS	Unit	D	% Rec	% Rec.
	Added	Result	Qualifier				
alpha-BHC	20.0	18.4		ug/Kg		92	41 - 128
beta-BHC	20.0	18.4		ug/Kg		92	48 - 121
delta-BHC	20.0	19.0		ug/Kg		95	22 - 153
gamma-BHC (Lindane)	20.0	17.9		ug/Kg		90	50 - 127
4,4'-DDD	20.0	19.5		ug/Kg		98	44 - 141
4,4'-DDE	20.0	19.2		ug/Kg		96	47 - 140
4,4'-DDT	20.0	14.9	^	ug/Kg		75	34 - 159
Dieldrin	20.0	18.8		ug/Kg		94	53 - 134
Endosulfan I	20.0	18.4		ug/Kg		92	52 - 122
Endosulfan II	20.0	18.3		ug/Kg		92	53 - 132
Endosulfan sulfate	20.0	18.2		ug/Kg		91	42 - 128
Endrin	20.0	18.8		ug/Kg		94	46 - 138
Endrin aldehyde	20.0	17.6		ug/Kg		88	12 - 179
Heptachlor	20.0	19.7		ug/Kg		99	50 - 130
Heptachlor epoxide	20.0	18.7		ug/Kg		94	49 - 123
Methoxychlor	20.0	15.4		ug/Kg		77	46 - 154
Endrin ketone	20.0	18.9		ug/Kg		95	45 - 127
alpha-Chlordane	20.0	18.3		ug/Kg		92	46 - 118
gamma-Chlordane	20.0	18.4		ug/Kg		92	49 - 122

Surrogate	LCS	LCS	Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	89		49 - 123
DCB Decachlorobiphenyl	85		40 - 158

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-88457/1-B

Matrix: Solid

Analysis Batch: 88400

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 88457

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
#2 Diesel (C10-C24)	ND		25		mg/Kg		06/10/11 11:21	06/21/11 12:45	1
Motor Oil (>C24-C36)	ND		50		mg/Kg		06/10/11 11:21	06/21/11 12:45	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
o-Terphenyl	97		50 - 150	06/10/11 11:21	06/21/11 12:45	1

Lab Sample ID: LCS 580-88457/2-B

Matrix: Solid

Analysis Batch: 88400

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 88457

Analyte	Spike	LCS	LCS	Unit	D	% Rec	% Rec.
	Added	Result	Qualifier				
#2 Diesel (C10-C24)	500	496		mg/Kg		99	64 - 127
Motor Oil (>C24-C36)	500	490		mg/Kg		98	70 - 125

Surrogate	LCS	LCS	Limits
	% Recovery	Qualifier	
o-Terphenyl	100		50 - 150

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-26530-1 DU
Matrix: Solid
Analysis Batch: 88400

Client Sample ID: I-TP4-052711-2.5
Prep Type: Total/NA
Prep Batch: 88457

Analyte	Sample	Sample	DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
#2 Diesel (C10-C24)	120	Y	129		mg/Kg	☼	7	35
Motor Oil (>C24-C36)	930		1190		mg/Kg	☼	24	35
DU DU								
Surrogate	% Recovery	Qualifier	Limits					
<i>o</i> -Terphenyl	104		50 - 150					

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Lab Sample ID: MB 580-87656/1-A
Matrix: Solid
Analysis Batch: 87739

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87656

Analyte	MB	MB	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Motor Oil	ND		100		mg/Kg		06/10/11 08:19	06/13/11 10:17	1
Gasoline	ND		20		mg/Kg		06/10/11 08:19	06/13/11 10:17	1
#2 Diesel (>C12-C24)	ND		50		mg/Kg		06/10/11 08:19	06/13/11 10:17	1
MB MB									
Surrogate	% Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac		
<i>o</i> -Terphenyl	95		50 - 150		06/10/11 08:19	06/13/11 10:17	1		
4-Bromofluorobenzene (Surr)	122		50 - 150		06/10/11 08:19	06/13/11 10:17	1		

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC) - DL

Lab Sample ID: 580-26530-1 DU
Matrix: Solid
Analysis Batch: 87739

Client Sample ID: I-TP4-052711-2.5
Prep Type: Total/NA
Prep Batch: 87656

Analyte	Sample	Sample	DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Motor Oil - DL	1400		1410		mg/Kg	☼	1	35
Gasoline - DL	ND		ND		mg/Kg	☼	NC	35
#2 Diesel (>C12-C24) - DL	190	Y	149		mg/Kg	☼	26	35
DU DU								
Surrogate	% Recovery	Qualifier	Limits					
<i>o</i> -Terphenyl - DL	68		50 - 150					
4-Bromofluorobenzene (Surr) - DL	99		50 - 150					

Method: 6010B - Metals (ICP)

Lab Sample ID: LCS 580-87474/20-A
Matrix: Solid
Analysis Batch: 87526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87474

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits	
							% Rec	Limits
Arsenic	200	187		mg/Kg		94	80 - 120	
Lead	50.0	48.9		mg/Kg		98	80 - 120	
Antimony	150	130		mg/Kg		86	80 - 120	
Cadmium	5.00	4.72		mg/Kg		94	80 - 120	

TestAmerica Seattle

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 580-87474/20-A
Matrix: Solid
Analysis Batch: 87526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87474

Analyte	Spike	LCS	LCS	Unit	D	% Rec	% Rec.	
	Added	Result	Qualifier				Limits	
Copper	25.0	23.7		mg/Kg		95	80 - 120	
Manganese	50.0	48.6		mg/Kg		97	80 - 120	
Zinc	50.0	46.1		mg/Kg		92	80 - 120	

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-87690/22-A
Matrix: Solid
Analysis Batch: 87796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87690

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.017		mg/Kg		06/13/11 09:30	06/13/11 12:55	1

Lab Sample ID: LCS 580-87690/23-A
Matrix: Solid
Analysis Batch: 87796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87690

Analyte	Spike	LCS	LCS	Unit	D	% Rec	% Rec.	
	Added	Result	Qualifier				Limits	
Mercury	0.167	0.178		mg/Kg		106	80 - 120	

Lab Sample ID: LCSD 580-87690/24-A
Matrix: Solid
Analysis Batch: 87796

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87690

Analyte	Spike	LCSD	LCSD	Unit	D	% Rec	% Rec.		RPD
	Added	Result	Qualifier				Limits	RPD	Limit
Mercury	0.167	0.179		mg/Kg		107	80 - 120	1	20

Method: Moisture - Percent Moisture

Lab Sample ID: 580-26530-1 DU
Matrix: Solid
Analysis Batch: 87620

Client Sample ID: I-TP4-052711-2.5
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	
	Result	Qualifier	Result	Qualifier				RPD	Limit
Percent Solids	92		91		%		1	20	
Percent Moisture	8.1		9.4		%		15	20	

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Client Sample ID: I-TP4-052711-2.5

Lab Sample ID: 580-26530-1

Date Collected: 05/27/11 07:45

Matrix: Solid

Date Received: 06/01/11 14:20

Percent Solids: 91.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87534	06/08/11 17:34	SK	TAL SEA
Total/NA	Analysis	8260B		1	87535	06/08/11 23:31	SK	TAL SEA
Total/NA	Prep	3550B	DL		87656	06/10/11 08:19	KKW	TAL SEA
Total/NA	Analysis	NWTPH-HCID	DL	2	87739	06/13/11 11:04	EK	TAL SEA
Total/NA	Prep	3550B			88457	06/10/11 11:21	SP	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	88400	06/21/11 13:24	EK	TAL SEA
Total/NA	Analysis	Moisture		1	87620	06/09/11 14:09	JMB	TAL SEA

Client Sample ID: I-TP4-052711-8.0

Lab Sample ID: 580-26530-3

Date Collected: 05/27/11 07:55

Matrix: Solid

Date Received: 06/01/11 14:20

Percent Solids: 85.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87534	06/08/11 17:34	SK	TAL SEA
Total/NA	Analysis	8260B		1	87535	06/08/11 23:55	SK	TAL SEA
Total/NA	Prep	3550B			87656	06/10/11 08:19	KKW	TAL SEA
Total/NA	Analysis	NWTPH-HCID		1	87739	06/13/11 11:51	EK	TAL SEA
Total/NA	Analysis	Moisture		1	87620	06/09/11 14:09	JMB	TAL SEA

Client Sample ID: I-TP5-052711-4.5

Lab Sample ID: 580-26530-5

Date Collected: 05/27/11 08:25

Matrix: Solid

Date Received: 06/01/11 14:20

Percent Solids: 72.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87534	06/08/11 17:34	SK	TAL SEA
Total/NA	Analysis	8260B		1	87535	06/09/11 00:20	SK	TAL SEA
Total/NA	Prep	3550B			87656	06/10/11 08:19	KKW	TAL SEA
Total/NA	Analysis	NWTPH-HCID		1	87739	06/13/11 12:14	EK	TAL SEA
Total/NA	Analysis	Moisture		1	87620	06/09/11 14:09	JMB	TAL SEA

Client Sample ID: A-TP1-052711-5.0

Lab Sample ID: 580-26530-7

Date Collected: 05/27/11 08:50

Matrix: Solid

Date Received: 06/01/11 14:20

Percent Solids: 82.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87424	06/07/11 15:20	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 22:05	CM	TAL SEA
Total/NA	Prep	3050B			87474	06/08/11 10:22	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87552	06/08/11 18:58	SP	TAL SEA
Total/NA	Prep	7471A			87690	06/13/11 09:30	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 13:22	FCW	TAL SEA
Total/NA	Analysis	Moisture		1	87475	06/08/11 10:25	JMB	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Client Sample ID: A-TP2-052711-5.0

Lab Sample ID: 580-26530-8

Date Collected: 05/27/11 09:10

Matrix: Solid

Date Received: 06/01/11 14:20

Percent Solids: 84.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			87424	06/07/11 15:20	KKW	TAL SEA
Total/NA	Analysis	8081A		1	87956	06/15/11 22:25	CM	TAL SEA
Total/NA	Prep	3050B			87474	06/08/11 10:22	PAB	TAL SEA
Total/NA	Analysis	6010B		1	87552	06/08/11 19:04	SP	TAL SEA
Total/NA	Prep	7471A			87690	06/13/11 09:30	ZF	TAL SEA
Total/NA	Analysis	7471A		1	87796	06/13/11 13:24	FCW	TAL SEA
Total/NA	Analysis	Moisture		1	87475	06/08/11 10:25	JMB	TAL SEA

Client Sample ID: I-TP6-052711-4.5

Lab Sample ID: 580-26530-10

Date Collected: 05/27/11 09:35

Matrix: Solid

Date Received: 06/01/11 14:20

Percent Solids: 57.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	5035			87534	06/08/11 17:34	SK	TAL SEA
Total/NA	Analysis	8260B		1	87535	06/09/11 00:44	SK	TAL SEA
Total/NA	Prep	3550B			87656	06/10/11 08:19	KKW	TAL SEA
Total/NA	Analysis	NWTPH-HCID		1	87739	06/13/11 12:37	EK	TAL SEA
Total/NA	Prep	3550B			88457	06/10/11 11:21	SP	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	88400	06/21/11 14:03	EK	TAL SEA
Total/NA	Analysis	Moisture		1	87620	06/09/11 14:09	JMB	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022
TestAmerica Seattle	Alaska	TA-Port Heiden Mobile Lab	10	UST-093
TestAmerica Seattle	California	NELAC	9	1115CA
TestAmerica Seattle	Florida	NELAC	4	E871074
TestAmerica Seattle	L-A-B	DoD ELAP		L2236
TestAmerica Seattle	L-A-B	ISO/IEC 17025		L2236
TestAmerica Seattle	Louisiana	NELAC	6	05016
TestAmerica Seattle	Montana	MT DEQ UST	8	N/A
TestAmerica Seattle	Oregon	NELAC	10	WA100007
TestAmerica Seattle	USDA	USDA		P330-11-00222
TestAmerica Seattle	Washington	State Program	10	C553

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.



Sample Summary

Client: Farallon Consulting LLC
Project/Site: YSF Yakima WA

TestAmerica Job ID: 580-26530-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-26530-1	I-TP4-052711-2.5	Solid	05/27/11 07:45	06/01/11 14:20
580-26530-3	I-TP4-052711-8.0	Solid	05/27/11 07:55	06/01/11 14:20
580-26530-5	I-TP5-052711-4.5	Solid	05/27/11 08:25	06/01/11 14:20
580-26530-7	A-TP1-052711-5.0	Solid	05/27/11 08:50	06/01/11 14:20
580-26530-8	A-TP2-052711-5.0	Solid	05/27/11 09:10	06/01/11 14:20
580-26530-10	I-TP6-052711-4.5	Solid	05/27/11 09:35	06/01/11 14:20

- 1
- 2
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- 8
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- 10
- 11

Facilities

TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

Rush

Short Hold

**Chain of
Custody Record**

Client <i>Issaquah</i>		Client Contact <i>Brett Corp</i>		Date <i>5-28-11</i>	Chain of Custody Number <i>11273</i>
Address		Telephone Number (Area Code)/Fax Number <i>(425) 295-0200</i>		Lab Number <i>26530</i>	Page <i>1</i> of <i>1</i>

City <i>Issaquah</i>	State <i>WA</i>	Zip Code <i>98027</i>	Sampler <i>R. Hibbs</i>	Lab Contact	Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt
Project Name and Location (State) <i>YSF Yukon WA</i>			Billing Contact			

Contract/Purchase Order/Quote No. <i>41594 765-001</i>	Matrix	Containers & Preservatives
---	--------	----------------------------

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix					Containers & Preservatives											
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH							
<i>I-TP4-052711-2.5</i>	<i>5-27-11</i>	<i>0745</i>				<i>X</i>	<i>1</i>												
<i>I-TP4-052711-5.0</i>		<i>0750</i>					<i>1</i>												
<i>I-TP4-052711-8.0</i>		<i>0755</i>					<i>1</i>												
<i>I-TP5-052711-2.5</i>		<i>0800</i>					<i>1</i>												
<i>I-TP5-052711-4.5</i>		<i>0805</i>					<i>1</i>												
<i>I-TP5-052711-6.5</i>		<i>0830</i>					<i>1</i>												
<i>A-TP1-052711-5.0</i>		<i>0850</i>					<i>1</i>												
<i>A-TP2-052711-5.0</i>		<i>0910</i>					<i>1</i>												
<i>I-TP6-052711-2.5</i>		<i>0930</i>					<i>1</i>												
<i>I-TP6-052711-4.5</i>		<i>0935</i>					<i>1</i>												
<i>I-TP6-052711-5.5</i>	<i>0940</i>					<i>1</i>													

Cooler/FB Dig/TR cors. 6" unc. 5.80
Cooler Disc Ly Blue/Wite @ Lab 1420
Wet/Packs Packing Bubble Wrap

Cooler <input type="checkbox"/> Yes <input type="checkbox"/> No Cooler Temp: _____	Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown	Sample Disposal <input type="checkbox"/> Return To Client <input type="checkbox"/> Archive For _____ Months	<input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Disposal By Lab (A fee may be assessed if samples are retained longer than 1 month)
---	--	--	--

Turn Around Time Required (business days) <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 5 Days <input type="checkbox"/> 10 Days <input type="checkbox"/> 15 Days <input checked="" type="checkbox"/> Other _____	QC Requirements (Specify)
--	---------------------------

1. Relinquished By Sign/Print <i>Ryan Hibbs</i>	Date <i>5-28-11</i>	Time <i>0930</i>	1. Received By Sign/Print <i>Francisco Luna Jr.</i>	Date <i>6/1/11</i>	Time <i>1145</i>
2. Relinquished By Sign/Print	Date	Time	2. Received By Sign/Print	Date	Time
3. Relinquished By Sign/Print	Date	Time	3. Received By Sign/Print	Date	Time

Comments
Hold until instructed which samples to analyze

26530

Client: _____ Client Contact: _____ Date: _____ Chain of Custody Number: _____
 Address: _____ Telephone Number (Area Code)/Fax Number: _____ Lab Number: _____ Page _____ of _____
 City: _____ State: _____ Zip Code: _____ Sampler: _____ Lab Contact: _____
 Project Name and Location (State): _____ Billing Contact: _____ Analysis (Attach list if more space is needed): _____
 Contract/Purchase Order/Quote No.: _____

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives							Special Instructions/ Conditions of Receipt									
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc	NH2OH										
_____	_____	_____																					
_____	_____	_____																					
_____	_____	_____																					
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_____	_____	_____																					
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_____	_____	_____																					
_____	_____	_____																					

1808
 8081
 Metals (see table)
 Metals (see table)

Cooler: Yes No Cooler Temp: _____ Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown Return To Client Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): 24 Hours 48 Hours 5 Days 10 Days 15 Days Other _____ QC Requirements (Specify): _____

1. Relinquished By: Sign/Print _____	Date _____	Time _____	1. Received By: Sign/Print _____	Date _____	Time _____
2. Relinquished By: Sign/Print _____	Date _____	Time _____	2. Received By: Sign/Print _____	Date _____	Time _____
3. Relinquished By: Sign/Print _____	Date _____	Time _____	3. Received By: Sign/Print _____	Date _____	Time _____

Comments: _____
 Metals to include: Antimony, Arsenic, Cadmium, Copper, Lead, Manganese, Mercury, and Zinc

Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-26530-1

Login Number: 26530

List Source: TestAmerica Seattle

List Number: 1

Creator: Luna, Francisco

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	False	Rec'd past hold time for 48hour extraction of bulk volatile.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	Not needed.
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	No VOA rec'd.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-26540-1

Client Project/Site: YSF Yakima Steel
Revision: 2

For:

Farallon Consulting LLC
975 5th Avenue NW
Suite 100
Issaquah, Washington 98027

Attn: Jeff Kaspar

Pamela R. Johnson

Authorized for release by:
08/12/2011 03:29:28 PM

Pam Johnson
Project Manager I
pamr.johnson@testamericainc.com

Designee for
Kristine Allen
Project Manager I
kristine.allen@testamericainc.com

LINKS

Review your project
results through
Total Access

Have a Question?



Visit us at:
www.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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Case Narrative

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Job ID: 580-26540-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative
580-26540-1

Comments

No additional comments.

Receipt

Method(s) RSK-175: One or more containers for the following sample(s) was received broken or leaking: BLIND (580-26540-7). One sample vial was received with the bottom gone from the vial..

All other samples were received in good condition within temperature requirements.

GC/MS VOA

No analytical or quality issues were noted.

GC VOA

No analytical or quality issues were noted.

GC Semi VOA

Method(s) 8081A: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for batch 87465 exceeded control limits for the following analytes: Endrin ketone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8081A: The continuing calibration verification (CCV) for Endrin ketone and Methoxychlor are both recovering above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No other analytical or quality issues were noted.

Metals

No analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.



Definitions/Glossary

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

General Chemistry

Qualifier	Qualifier Description
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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.
%R	Percent Recovery
EDL	Estimated Detection Limit (Dioxin)
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or method detection limit if shown).
PQL	Practical Quantitation Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-11-060211

Lab Sample ID: 580-26540-1

Date Collected: 06/02/11 07:18

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.20		ug/L			06/11/11 03:31	1
2-Chlorotoluene	ND		0.10		ug/L			06/11/11 03:31	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/11/11 03:31	1
Carbon tetrachloride	ND		0.10		ug/L			06/11/11 03:31	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 03:31	1
Chlorobenzene	ND		0.10		ug/L			06/11/11 03:31	1
Vinyl chloride	ND		0.020		ug/L			06/11/11 03:31	1
sec-Butylbenzene	ND		0.10		ug/L			06/11/11 03:31	1
Dibromomethane	ND		0.10		ug/L			06/11/11 03:31	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/11/11 03:31	1
o-Xylene	ND		0.10		ug/L			06/11/11 03:31	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/11/11 03:31	1
Styrene	ND		0.10		ug/L			06/11/11 03:31	1
Chlorobromomethane	ND		0.10		ug/L			06/11/11 03:31	1
Dichlorobromomethane	ND		0.10		ug/L			06/11/11 03:31	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/11/11 03:31	1
Benzene	ND		0.10		ug/L			06/11/11 03:31	1
Chloroethane	ND		0.25		ug/L			06/11/11 03:31	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 03:31	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/11/11 03:31	1
N-Propylbenzene	ND		0.10		ug/L			06/11/11 03:31	1
4-Isopropyltoluene	ND		0.20		ug/L			06/11/11 03:31	1
n-Butylbenzene	ND		0.10		ug/L			06/11/11 03:31	1
1,1-Dichloropropene	ND		0.10		ug/L			06/11/11 03:31	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/11/11 03:31	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 03:31	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/11/11 03:31	1
Toluene	ND		0.10		ug/L			06/11/11 03:31	1
Naphthalene	ND		0.40		ug/L			06/11/11 03:31	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/11/11 03:31	1
1,3-Dichloropropane	ND		0.10		ug/L			06/11/11 03:31	1
Chloroform	1.3		0.10		ug/L			06/11/11 03:31	1
4-Chlorotoluene	ND		0.20		ug/L			06/11/11 03:31	1
Chlorodibromomethane	ND		0.10		ug/L			06/11/11 03:31	1
Dichlorodifluoromethane	ND		0.40		ug/L			06/11/11 03:31	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/11/11 03:31	1
tert-Butylbenzene	ND		0.10		ug/L			06/11/11 03:31	1
Chloromethane	ND		0.10		ug/L			06/11/11 03:31	1
Methylene Chloride	ND		0.50		ug/L			06/11/11 03:31	1
1,1-Dichloroethene	ND		0.10		ug/L			06/11/11 03:31	1
Isopropylbenzene	ND		0.10		ug/L			06/11/11 03:31	1
1,2-Dichloroethane	ND		0.10		ug/L			06/11/11 03:31	1
Tetrachloroethene	1.6		0.10		ug/L			06/11/11 03:31	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/11/11 03:31	1
2,2-Dichloropropane	ND		0.10		ug/L			06/11/11 03:31	1
1,2-Dibromoethane	ND		0.10		ug/L			06/11/11 03:31	1
Bromoform	ND		0.10		ug/L			06/11/11 03:31	1
1,2-Dibromo-3-Chloropropane	ND		0.40		ug/L			06/11/11 03:31	1
Trichlorofluoromethane	ND		0.10		ug/L			06/11/11 03:31	1
Trichloroethene	0.22		0.10		ug/L			06/11/11 03:31	1

Client Sample Results

Client: Farallon Consulting LLC
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TestAmerica Job ID: 580-26540-1

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Lab Sample ID: 580-26540-1

Date Collected: 06/02/11 07:18

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		0.10		ug/L			06/11/11 03:31	1
1,2-Dichloropropane	ND		0.10		ug/L			06/11/11 03:31	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 03:31	1
Ethylbenzene	ND		0.10		ug/L			06/11/11 03:31	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/11/11 03:31	1
Hexachlorobutadiene	ND		0.20		ug/L			06/11/11 03:31	1
1,1-Dichloroethane	ND		0.10		ug/L			06/11/11 03:31	1
Bromomethane	ND		0.10		ug/L			06/11/11 03:31	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/11/11 03:31	1
Methyl tert-butyl ether	ND		0.10		ug/L			06/11/11 03:31	1
Acetone	ND		2.0		ug/L			06/11/11 03:31	1
2-Butanone	ND		2.0		ug/L			06/11/11 03:31	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/11/11 03:31	1
Carbon disulfide	ND		0.10		ug/L			06/11/11 03:31	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		75 - 120					06/11/11 03:31	1
Ethylbenzene-d10	92		75 - 125					06/11/11 03:31	1
Fluorobenzene (Surr)	100		70 - 130					06/11/11 03:31	1
Trifluorotoluene (Surr)	104		80 - 125					06/11/11 03:31	1
Toluene-d8 (Surr)	98		75 - 125					06/11/11 03:31	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.010		ug/L		06/08/11 09:32	06/09/11 01:57	1
alpha-BHC	ND		0.010		ug/L		06/08/11 09:32	06/09/11 01:57	1
beta-BHC	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:57	1
delta-BHC	ND		0.010		ug/L		06/08/11 09:32	06/09/11 01:57	1
gamma-BHC (Lindane)	ND		0.010		ug/L		06/08/11 09:32	06/09/11 01:57	1
4,4'-DDD	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:57	1
4,4'-DDE	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:57	1
4,4'-DDT	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:57	1
Dieldrin	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:57	1
Endosulfan I	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:57	1
Endosulfan II	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:57	1
Endosulfan sulfate	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:57	1
Endrin	ND		0.020		ug/L		06/08/11 09:32	06/09/11 01:57	1
Endrin aldehyde	ND		0.050		ug/L		06/08/11 09:32	06/09/11 01:57	1
Heptachlor	ND		0.010		ug/L		06/08/11 09:32	06/09/11 01:57	1
Heptachlor epoxide	ND		0.010		ug/L		06/08/11 09:32	06/09/11 01:57	1
Methoxychlor	ND		0.10		ug/L		06/08/11 09:32	06/09/11 01:57	1
Endrin ketone	ND *		0.020		ug/L		06/08/11 09:32	06/09/11 01:57	1
Toxaphene	ND		1.0		ug/L		06/08/11 09:32	06/09/11 01:57	1
alpha-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/09/11 01:57	1
gamma-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/09/11 01:57	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	72		18 - 181				06/08/11 09:32	06/09/11 01:57	1
DCB Decachlorobiphenyl	90		53 - 122				06/08/11 09:32	06/09/11 01:57	1

Client Sample Results

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TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-11-060211

Lab Sample ID: 580-26540-1

Date Collected: 06/02/11 07:18

Matrix: Water

Date Received: 06/03/11 10:13

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 16:56	5
Lead	0.0038		0.0020		mg/L		06/14/11 09:39	06/14/11 16:56	5
Antimony	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 16:56	5
Cadmium	0.022		0.0020		mg/L		06/14/11 09:39	06/14/11 16:56	5
Copper	ND		0.0050		mg/L		06/14/11 09:39	06/14/11 16:56	5
Manganese	0.18		0.0020		mg/L		06/14/11 09:39	06/14/11 16:56	5
Zinc	7.7		0.0070		mg/L		06/14/11 09:39	06/14/11 16:56	5

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:41	5
Antimony	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:41	5
Cadmium	0.022		0.0020		mg/L		06/14/11 09:39	06/14/11 17:41	5
Copper	ND		0.0050		mg/L		06/14/11 09:39	06/14/11 17:41	5
Lead	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:41	5
Manganese	0.018		0.0020		mg/L		06/14/11 09:39	06/14/11 17:41	5
Zinc	7.5		0.0070		mg/L		06/14/11 09:39	06/14/11 17:41	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 12:34	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 13:22	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-7B-060211

Lab Sample ID: 580-26540-2

Date Collected: 06/02/11 08:18

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.20		ug/L			06/11/11 03:58	1
2-Chlorotoluene	ND		0.10		ug/L			06/11/11 03:58	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/11/11 03:58	1
Carbon tetrachloride	ND		0.10		ug/L			06/11/11 03:58	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 03:58	1
Chlorobenzene	ND		0.10		ug/L			06/11/11 03:58	1
Vinyl chloride	ND		0.020		ug/L			06/11/11 03:58	1
sec-Butylbenzene	ND		0.10		ug/L			06/11/11 03:58	1
Dibromomethane	ND		0.10		ug/L			06/11/11 03:58	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/11/11 03:58	1
o-Xylene	ND		0.10		ug/L			06/11/11 03:58	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/11/11 03:58	1
Styrene	ND		0.10		ug/L			06/11/11 03:58	1
Chlorobromomethane	ND		0.10		ug/L			06/11/11 03:58	1
Dichlorobromomethane	ND		0.10		ug/L			06/11/11 03:58	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/11/11 03:58	1
Benzene	ND		0.10		ug/L			06/11/11 03:58	1
Chloroethane	ND		0.25		ug/L			06/11/11 03:58	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 03:58	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/11/11 03:58	1
N-Propylbenzene	ND		0.10		ug/L			06/11/11 03:58	1
4-Isopropyltoluene	ND		0.20		ug/L			06/11/11 03:58	1
n-Butylbenzene	ND		0.10		ug/L			06/11/11 03:58	1
1,1-Dichloropropene	ND		0.10		ug/L			06/11/11 03:58	1
cis-1,2-Dichloroethene	3.8		0.10		ug/L			06/11/11 03:58	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 03:58	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/11/11 03:58	1
Toluene	ND		0.10		ug/L			06/11/11 03:58	1
Naphthalene	ND		0.40		ug/L			06/11/11 03:58	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/11/11 03:58	1
1,3-Dichloropropane	ND		0.10		ug/L			06/11/11 03:58	1
Chloroform	1.1		0.10		ug/L			06/11/11 03:58	1
4-Chlorotoluene	ND		0.20		ug/L			06/11/11 03:58	1
Chlorodibromomethane	ND		0.10		ug/L			06/11/11 03:58	1
Dichlorodifluoromethane	ND		0.40		ug/L			06/11/11 03:58	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/11/11 03:58	1
tert-Butylbenzene	ND		0.10		ug/L			06/11/11 03:58	1
Chloromethane	ND		0.10		ug/L			06/11/11 03:58	1
Methylene Chloride	ND		0.50		ug/L			06/11/11 03:58	1
1,1-Dichloroethene	ND		0.10		ug/L			06/11/11 03:58	1
Isopropylbenzene	ND		0.10		ug/L			06/11/11 03:58	1
1,2-Dichloroethane	ND		0.10		ug/L			06/11/11 03:58	1
Tetrachloroethene	1.9		0.10		ug/L			06/11/11 03:58	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/11/11 03:58	1
2,2-Dichloropropane	ND		0.10		ug/L			06/11/11 03:58	1
1,2-Dibromoethane	ND		0.10		ug/L			06/11/11 03:58	1
Bromoform	ND		0.10		ug/L			06/11/11 03:58	1
1,2-Dibromo-3-Chloropropane	ND		0.40		ug/L			06/11/11 03:58	1
Trichlorofluoromethane	ND		0.10		ug/L			06/11/11 03:58	1
Trichloroethene	0.44		0.10		ug/L			06/11/11 03:58	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-7B-060211

Lab Sample ID: 580-26540-2

Date Collected: 06/02/11 08:18

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		0.10		ug/L			06/11/11 03:58	1
1,2-Dichloropropane	ND		0.10		ug/L			06/11/11 03:58	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 03:58	1
Ethylbenzene	ND		0.10		ug/L			06/11/11 03:58	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/11/11 03:58	1
Hexachlorobutadiene	ND		0.20		ug/L			06/11/11 03:58	1
1,1-Dichloroethane	ND		0.10		ug/L			06/11/11 03:58	1
Bromomethane	ND		0.10		ug/L			06/11/11 03:58	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/11/11 03:58	1
Methyl tert-butyl ether	ND		0.10		ug/L			06/11/11 03:58	1
Acetone	ND		2.0		ug/L			06/11/11 03:58	1
2-Butanone	ND		2.0		ug/L			06/11/11 03:58	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/11/11 03:58	1
Carbon disulfide	ND		0.10		ug/L			06/11/11 03:58	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		75 - 120					06/11/11 03:58	1
Ethylbenzene-d10	96		75 - 125					06/11/11 03:58	1
Fluorobenzene (Surr)	106		70 - 130					06/11/11 03:58	1
Trifluorotoluene (Surr)	108		80 - 125					06/11/11 03:58	1
Toluene-d8 (Surr)	95		75 - 125					06/11/11 03:58	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.010		ug/L		06/08/11 09:32	06/09/11 02:17	1
alpha-BHC	ND		0.010		ug/L		06/08/11 09:32	06/09/11 02:17	1
beta-BHC	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:17	1
delta-BHC	ND		0.010		ug/L		06/08/11 09:32	06/09/11 02:17	1
gamma-BHC (Lindane)	ND		0.010		ug/L		06/08/11 09:32	06/09/11 02:17	1
4,4'-DDD	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:17	1
4,4'-DDE	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:17	1
4,4'-DDT	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:17	1
Dieldrin	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:17	1
Endosulfan I	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:17	1
Endosulfan II	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:17	1
Endosulfan sulfate	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:17	1
Endrin	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:17	1
Endrin aldehyde	ND		0.050		ug/L		06/08/11 09:32	06/09/11 02:17	1
Heptachlor	ND		0.010		ug/L		06/08/11 09:32	06/09/11 02:17	1
Heptachlor epoxide	ND		0.010		ug/L		06/08/11 09:32	06/09/11 02:17	1
Methoxychlor	ND		0.10		ug/L		06/08/11 09:32	06/09/11 02:17	1
Endrin ketone	ND *		0.020		ug/L		06/08/11 09:32	06/09/11 02:17	1
Toxaphene	ND		1.0		ug/L		06/08/11 09:32	06/09/11 02:17	1
alpha-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/09/11 02:17	1
gamma-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/09/11 02:17	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	84		18 - 181				06/08/11 09:32	06/09/11 02:17	1
DCB Decachlorobiphenyl	82		53 - 122				06/08/11 09:32	06/09/11 02:17	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-7B-060211

Lab Sample ID: 580-26540-2

Date Collected: 06/02/11 08:18

Matrix: Water

Date Received: 06/03/11 10:13

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:01	5
Lead	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:01	5
Antimony	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:01	5
Cadmium	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:01	5
Copper	ND		0.0050		mg/L		06/14/11 09:39	06/14/11 17:01	5
Manganese	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:01	5
Zinc	ND		0.0070		mg/L		06/14/11 09:39	06/14/11 17:01	5

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:46	5
Antimony	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:46	5
Cadmium	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:46	5
Copper	ND		0.0050		mg/L		06/14/11 09:39	06/14/11 17:46	5
Lead	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:46	5
Manganese	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:46	5
Zinc	0.011		0.0070		mg/L		06/14/11 09:39	06/14/11 17:46	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 12:36	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 13:24	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-7A-060211

Lab Sample ID: 580-26540-3

Date Collected: 06/02/11 09:22

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.20		ug/L			06/11/11 04:24	1
2-Chlorotoluene	ND		0.10		ug/L			06/11/11 04:24	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/11/11 04:24	1
Carbon tetrachloride	ND		0.10		ug/L			06/11/11 04:24	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 04:24	1
Chlorobenzene	ND		0.10		ug/L			06/11/11 04:24	1
Vinyl chloride	ND		0.020		ug/L			06/11/11 04:24	1
sec-Butylbenzene	ND		0.10		ug/L			06/11/11 04:24	1
Dibromomethane	ND		0.10		ug/L			06/11/11 04:24	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/11/11 04:24	1
o-Xylene	ND		0.10		ug/L			06/11/11 04:24	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/11/11 04:24	1
Styrene	ND		0.10		ug/L			06/11/11 04:24	1
Chlorobromomethane	ND		0.10		ug/L			06/11/11 04:24	1
Dichlorobromomethane	ND		0.10		ug/L			06/11/11 04:24	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/11/11 04:24	1
Benzene	ND		0.10		ug/L			06/11/11 04:24	1
Chloroethane	ND		0.25		ug/L			06/11/11 04:24	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 04:24	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/11/11 04:24	1
N-Propylbenzene	ND		0.10		ug/L			06/11/11 04:24	1
4-Isopropyltoluene	ND		0.20		ug/L			06/11/11 04:24	1
n-Butylbenzene	ND		0.10		ug/L			06/11/11 04:24	1
1,1-Dichloropropene	ND		0.10		ug/L			06/11/11 04:24	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/11/11 04:24	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 04:24	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/11/11 04:24	1
Toluene	0.11		0.10		ug/L			06/11/11 04:24	1
Naphthalene	ND		0.40		ug/L			06/11/11 04:24	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/11/11 04:24	1
1,3-Dichloropropane	ND		0.10		ug/L			06/11/11 04:24	1
Chloroform	ND		0.10		ug/L			06/11/11 04:24	1
4-Chlorotoluene	ND		0.20		ug/L			06/11/11 04:24	1
Chlorodibromomethane	ND		0.10		ug/L			06/11/11 04:24	1
Dichlorodifluoromethane	ND		0.40		ug/L			06/11/11 04:24	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/11/11 04:24	1
tert-Butylbenzene	ND		0.10		ug/L			06/11/11 04:24	1
Chloromethane	ND		0.10		ug/L			06/11/11 04:24	1
Methylene Chloride	ND		0.50		ug/L			06/11/11 04:24	1
1,1-Dichloroethene	ND		0.10		ug/L			06/11/11 04:24	1
Isopropylbenzene	ND		0.10		ug/L			06/11/11 04:24	1
1,2-Dichloroethane	ND		0.10		ug/L			06/11/11 04:24	1
Tetrachloroethene	ND		0.10		ug/L			06/11/11 04:24	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/11/11 04:24	1
2,2-Dichloropropane	ND		0.10		ug/L			06/11/11 04:24	1
1,2-Dibromoethane	ND		0.10		ug/L			06/11/11 04:24	1
Bromoform	ND		0.10		ug/L			06/11/11 04:24	1
1,2-Dibromo-3-Chloropropane	ND		0.40		ug/L			06/11/11 04:24	1
Trichlorofluoromethane	0.23		0.10		ug/L			06/11/11 04:24	1
Trichloroethene	ND		0.10		ug/L			06/11/11 04:24	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-7A-060211

Lab Sample ID: 580-26540-3

Date Collected: 06/02/11 09:22

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		0.10		ug/L			06/11/11 04:24	1
1,2-Dichloropropane	ND		0.10		ug/L			06/11/11 04:24	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 04:24	1
Ethylbenzene	ND		0.10		ug/L			06/11/11 04:24	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/11/11 04:24	1
Hexachlorobutadiene	ND		0.20		ug/L			06/11/11 04:24	1
1,1-Dichloroethane	ND		0.10		ug/L			06/11/11 04:24	1
Bromomethane	ND		0.10		ug/L			06/11/11 04:24	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/11/11 04:24	1
Methyl tert-butyl ether	ND		0.10		ug/L			06/11/11 04:24	1
Acetone	ND		2.0		ug/L			06/11/11 04:24	1
2-Butanone	ND		2.0		ug/L			06/11/11 04:24	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/11/11 04:24	1
Carbon disulfide	ND		0.10		ug/L			06/11/11 04:24	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		75 - 120		06/11/11 04:24	1
Ethylbenzene-d10	99		75 - 125		06/11/11 04:24	1
Fluorobenzene (Surr)	101		70 - 130		06/11/11 04:24	1
Trifluorotoluene (Surr)	107		80 - 125		06/11/11 04:24	1
Toluene-d8 (Surr)	101		75 - 125		06/11/11 04:24	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		1.1		ug/L			06/09/11 15:42	1
Ethylene	ND		1.0		ug/L			06/09/11 15:42	1
Methane	1.7		0.58		ug/L			06/09/11 15:42	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0099		ug/L		06/08/11 09:32	06/09/11 02:36	1
alpha-BHC	ND		0.0099		ug/L		06/08/11 09:32	06/09/11 02:36	1
beta-BHC	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:36	1
delta-BHC	ND		0.0099		ug/L		06/08/11 09:32	06/09/11 02:36	1
gamma-BHC (Lindane)	ND		0.0099		ug/L		06/08/11 09:32	06/09/11 02:36	1
4,4'-DDD	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:36	1
4,4'-DDE	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:36	1
4,4'-DDT	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:36	1
Dieldrin	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:36	1
Endosulfan I	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:36	1
Endosulfan II	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:36	1
Endosulfan sulfate	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:36	1
Endrin	ND		0.020		ug/L		06/08/11 09:32	06/09/11 02:36	1
Endrin aldehyde	ND		0.050		ug/L		06/08/11 09:32	06/09/11 02:36	1
Heptachlor	ND		0.0099		ug/L		06/08/11 09:32	06/09/11 02:36	1
Heptachlor epoxide	ND		0.0099		ug/L		06/08/11 09:32	06/09/11 02:36	1
Methoxychlor	ND		0.099		ug/L		06/08/11 09:32	06/09/11 02:36	1
Endrin ketone	ND	*	0.020		ug/L		06/08/11 09:32	06/09/11 02:36	1
Toxaphene	ND		0.99		ug/L		06/08/11 09:32	06/09/11 02:36	1
alpha-Chlordane	ND		0.0099		ug/L		06/08/11 09:32	06/09/11 02:36	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-7A-060211

Lab Sample ID: 580-26540-3

Date Collected: 06/02/11 09:22

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-Chlordane	ND		0.0099		ug/L		06/08/11 09:32	06/09/11 02:36	1
Surrogate									
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	72		18 - 181				06/08/11 09:32	06/09/11 02:36	1
DCB Decachlorobiphenyl	57		53 - 122				06/08/11 09:32	06/09/11 02:36	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0064		0.0020		mg/L		06/14/11 09:39	06/14/11 17:06	5
Lead	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:06	5
Antimony	0.0054		0.0020		mg/L		06/14/11 09:39	06/14/11 17:06	5
Cadmium	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:06	5
Copper	0.0063		0.0050		mg/L		06/14/11 09:39	06/14/11 17:06	5
Manganese	0.0053		0.0020		mg/L		06/14/11 09:39	06/14/11 17:06	5
Zinc	0.037		0.0070		mg/L		06/14/11 09:39	06/14/11 17:06	5

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0060		0.0020		mg/L		06/14/11 09:39	06/14/11 17:51	5
Antimony	0.0054		0.0020		mg/L		06/14/11 09:39	06/14/11 17:51	5
Cadmium	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:51	5
Copper	0.0060		0.0050		mg/L		06/14/11 09:39	06/14/11 17:51	5
Lead	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:51	5
Manganese	0.0035		0.0020		mg/L		06/14/11 09:39	06/14/11 17:51	5
Zinc	0.040		0.0070		mg/L		06/14/11 09:39	06/14/11 17:51	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 12:38	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 13:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		0.90		mg/L			06/03/11 16:20	1
Nitrate as N	4.7		0.90		mg/L			06/03/11 16:20	1
Sulfate	150		12		mg/L			06/14/11 14:58	10
Total Organic Carbon	7.8		1.0		mg/L			06/13/11 14:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	160		5.0		mg/L			06/13/11 17:08	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-10-060211

Lab Sample ID: 580-26540-4

Date Collected: 06/02/11 10:28

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.20		ug/L			06/11/11 04:49	1
2-Chlorotoluene	ND		0.10		ug/L			06/11/11 04:49	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/11/11 04:49	1
Carbon tetrachloride	ND		0.10		ug/L			06/11/11 04:49	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 04:49	1
Chlorobenzene	ND		0.10		ug/L			06/11/11 04:49	1
Vinyl chloride	ND		0.020		ug/L			06/11/11 04:49	1
sec-Butylbenzene	ND		0.10		ug/L			06/11/11 04:49	1
Dibromomethane	ND		0.10		ug/L			06/11/11 04:49	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/11/11 04:49	1
o-Xylene	ND		0.10		ug/L			06/11/11 04:49	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/11/11 04:49	1
Styrene	ND		0.10		ug/L			06/11/11 04:49	1
Chlorobromomethane	ND		0.10		ug/L			06/11/11 04:49	1
Dichlorobromomethane	ND		0.10		ug/L			06/11/11 04:49	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/11/11 04:49	1
Benzene	ND		0.10		ug/L			06/11/11 04:49	1
Chloroethane	ND		0.25		ug/L			06/11/11 04:49	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 04:49	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/11/11 04:49	1
N-Propylbenzene	ND		0.10		ug/L			06/11/11 04:49	1
4-Isopropyltoluene	ND		0.20		ug/L			06/11/11 04:49	1
n-Butylbenzene	ND		0.10		ug/L			06/11/11 04:49	1
1,1-Dichloropropene	ND		0.10		ug/L			06/11/11 04:49	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/11/11 04:49	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 04:49	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/11/11 04:49	1
Toluene	ND		0.10		ug/L			06/11/11 04:49	1
Naphthalene	ND		0.40		ug/L			06/11/11 04:49	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/11/11 04:49	1
1,3-Dichloropropane	ND		0.10		ug/L			06/11/11 04:49	1
Chloroform	1.5		0.10		ug/L			06/11/11 04:49	1
4-Chlorotoluene	ND		0.20		ug/L			06/11/11 04:49	1
Chlorodibromomethane	ND		0.10		ug/L			06/11/11 04:49	1
Dichlorodifluoromethane	ND		0.40		ug/L			06/11/11 04:49	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/11/11 04:49	1
tert-Butylbenzene	ND		0.10		ug/L			06/11/11 04:49	1
Chloromethane	ND		0.10		ug/L			06/11/11 04:49	1
Methylene Chloride	ND		0.50		ug/L			06/11/11 04:49	1
1,1-Dichloroethene	ND		0.10		ug/L			06/11/11 04:49	1
Isopropylbenzene	ND		0.10		ug/L			06/11/11 04:49	1
1,2-Dichloroethane	ND		0.10		ug/L			06/11/11 04:49	1
Tetrachloroethene	1.8		0.10		ug/L			06/11/11 04:49	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/11/11 04:49	1
2,2-Dichloropropane	ND		0.10		ug/L			06/11/11 04:49	1
1,2-Dibromoethane	ND		0.10		ug/L			06/11/11 04:49	1
Bromoform	ND		0.10		ug/L			06/11/11 04:49	1
1,2-Dibromo-3-Chloropropane	ND		0.40		ug/L			06/11/11 04:49	1
Trichlorofluoromethane	ND		0.10		ug/L			06/11/11 04:49	1
Trichloroethene	0.10		0.10		ug/L			06/11/11 04:49	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-10-060211

Lab Sample ID: 580-26540-4

Date Collected: 06/02/11 10:28

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		0.10		ug/L			06/11/11 04:49	1
1,2-Dichloropropane	ND		0.10		ug/L			06/11/11 04:49	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 04:49	1
Ethylbenzene	ND		0.10		ug/L			06/11/11 04:49	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/11/11 04:49	1
Hexachlorobutadiene	ND		0.20		ug/L			06/11/11 04:49	1
1,1-Dichloroethane	ND		0.10		ug/L			06/11/11 04:49	1
Bromomethane	ND		0.10		ug/L			06/11/11 04:49	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/11/11 04:49	1
Methyl tert-butyl ether	ND		0.10		ug/L			06/11/11 04:49	1
Acetone	ND		2.0		ug/L			06/11/11 04:49	1
2-Butanone	ND		2.0		ug/L			06/11/11 04:49	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/11/11 04:49	1
Carbon disulfide	ND		0.10		ug/L			06/11/11 04:49	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		75 - 120					06/11/11 04:49	1
Ethylbenzene-d10	99		75 - 125					06/11/11 04:49	1
Fluorobenzene (Surr)	102		70 - 130					06/11/11 04:49	1
Trifluorotoluene (Surr)	101		80 - 125					06/11/11 04:49	1
Toluene-d8 (Surr)	100		75 - 125					06/11/11 04:49	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.010		ug/L		06/08/11 09:32	06/09/11 05:31	1
alpha-BHC	ND		0.010		ug/L		06/08/11 09:32	06/09/11 05:31	1
beta-BHC	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:31	1
delta-BHC	ND		0.010		ug/L		06/08/11 09:32	06/09/11 05:31	1
gamma-BHC (Lindane)	ND		0.010		ug/L		06/08/11 09:32	06/09/11 05:31	1
4,4'-DDD	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:31	1
4,4'-DDE	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:31	1
4,4'-DDT	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:31	1
Dieldrin	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:31	1
Endosulfan I	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:31	1
Endosulfan II	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:31	1
Endosulfan sulfate	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:31	1
Endrin	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:31	1
Endrin aldehyde	ND		0.051		ug/L		06/08/11 09:32	06/09/11 05:31	1
Heptachlor	ND		0.010		ug/L		06/08/11 09:32	06/09/11 05:31	1
Heptachlor epoxide	ND		0.010		ug/L		06/08/11 09:32	06/09/11 05:31	1
Methoxychlor	ND		0.10		ug/L		06/08/11 09:32	06/09/11 05:31	1
Endrin ketone	ND	^ *	0.020		ug/L		06/08/11 09:32	06/09/11 05:31	1
Toxaphene	ND		1.0		ug/L		06/08/11 09:32	06/09/11 05:31	1
alpha-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/09/11 05:31	1
gamma-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/09/11 05:31	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	85		18 - 181				06/08/11 09:32	06/09/11 05:31	1
DCB Decachlorobiphenyl	71		53 - 122				06/08/11 09:32	06/09/11 05:31	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-10-060211

Lab Sample ID: 580-26540-4

Date Collected: 06/02/11 10:28

Matrix: Water

Date Received: 06/03/11 10:13

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:11	5
Lead	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:11	5
Antimony	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:11	5
Cadmium	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:11	5
Copper	ND		0.0050		mg/L		06/14/11 09:39	06/14/11 17:11	5
Manganese	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:11	5
Zinc	0.070		0.0070		mg/L		06/14/11 09:39	06/14/11 17:11	5

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:56	5
Antimony	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:56	5
Cadmium	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:56	5
Copper	ND		0.0050		mg/L		06/14/11 09:39	06/14/11 17:56	5
Lead	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:56	5
Manganese	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:56	5
Zinc	0.072		0.0070		mg/L		06/14/11 09:39	06/14/11 17:56	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 12:39	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 13:27	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-1-060211

Lab Sample ID: 580-26540-5

Date Collected: 06/02/11 11:42

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.20		ug/L			06/15/11 16:28	1
2-Chlorotoluene	ND		0.10		ug/L			06/15/11 16:28	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/15/11 16:28	1
Carbon tetrachloride	ND		0.10		ug/L			06/15/11 16:28	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/15/11 16:28	1
Chlorobenzene	ND		0.10		ug/L			06/15/11 16:28	1
Vinyl chloride	ND		0.020		ug/L			06/15/11 16:28	1
sec-Butylbenzene	ND		0.10		ug/L			06/15/11 16:28	1
Dibromomethane	ND		0.10		ug/L			06/15/11 16:28	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/15/11 16:28	1
o-Xylene	ND		0.10		ug/L			06/15/11 16:28	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/15/11 16:28	1
Styrene	ND		0.10		ug/L			06/15/11 16:28	1
Chlorobromomethane	ND		0.10		ug/L			06/15/11 16:28	1
Dichlorobromomethane	0.14		0.10		ug/L			06/15/11 16:28	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/15/11 16:28	1
Benzene	ND		0.10		ug/L			06/15/11 16:28	1
Chloroethane	ND		0.25		ug/L			06/15/11 16:28	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/15/11 16:28	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/15/11 16:28	1
N-Propylbenzene	ND		0.10		ug/L			06/15/11 16:28	1
4-Isopropyltoluene	ND		0.20		ug/L			06/15/11 16:28	1
n-Butylbenzene	ND		0.10		ug/L			06/15/11 16:28	1
1,1-Dichloropropene	ND		0.10		ug/L			06/15/11 16:28	1
cis-1,2-Dichloroethene	0.10		0.10		ug/L			06/15/11 16:28	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/15/11 16:28	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/15/11 16:28	1
Toluene	ND		0.10		ug/L			06/15/11 16:28	1
Naphthalene	ND		0.40		ug/L			06/15/11 16:28	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/15/11 16:28	1
1,3-Dichloropropane	ND		0.10		ug/L			06/15/11 16:28	1
Chloroform	2.2		0.10		ug/L			06/15/11 16:28	1
4-Chlorotoluene	ND		0.20		ug/L			06/15/11 16:28	1
Chlorodibromomethane	ND		0.10		ug/L			06/15/11 16:28	1
Dichlorodifluoromethane	ND		0.40		ug/L			06/15/11 16:28	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/15/11 16:28	1
tert-Butylbenzene	ND		0.10		ug/L			06/15/11 16:28	1
Chloromethane	ND		0.10		ug/L			06/15/11 16:28	1
Methylene Chloride	ND		0.50		ug/L			06/15/11 16:28	1
1,1-Dichloroethene	ND		0.10		ug/L			06/15/11 16:28	1
Isopropylbenzene	ND		0.10		ug/L			06/15/11 16:28	1
1,2-Dichloroethane	ND		0.10		ug/L			06/15/11 16:28	1
Tetrachloroethene	3.2		0.10		ug/L			06/15/11 16:28	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/15/11 16:28	1
2,2-Dichloropropane	ND		0.10		ug/L			06/15/11 16:28	1
1,2-Dibromoethane	ND		0.10		ug/L			06/15/11 16:28	1
Bromoform	ND		0.10		ug/L			06/15/11 16:28	1
1,2-Dibromo-3-Chloropropane	ND		0.40		ug/L			06/15/11 16:28	1
Trichlorofluoromethane	ND		0.10		ug/L			06/15/11 16:28	1
Trichloroethene	0.31		0.10		ug/L			06/15/11 16:28	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-1-060211

Lab Sample ID: 580-26540-5

Date Collected: 06/02/11 11:42

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		0.10		ug/L			06/15/11 16:28	1
1,2-Dichloropropane	ND		0.10		ug/L			06/15/11 16:28	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/15/11 16:28	1
Ethylbenzene	ND		0.10		ug/L			06/15/11 16:28	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/15/11 16:28	1
Hexachlorobutadiene	ND		0.20		ug/L			06/15/11 16:28	1
1,1-Dichloroethane	ND		0.10		ug/L			06/15/11 16:28	1
Bromomethane	ND		0.10		ug/L			06/15/11 16:28	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/15/11 16:28	1
Methyl tert-butyl ether	ND		0.10		ug/L			06/15/11 16:28	1
Acetone	ND		2.0		ug/L			06/15/11 16:28	1
2-Butanone	ND		2.0		ug/L			06/15/11 16:28	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/15/11 16:28	1
Carbon disulfide	ND		0.10		ug/L			06/15/11 16:28	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		75 - 120		06/15/11 16:28	1
Ethylbenzene-d10	89		75 - 125		06/15/11 16:28	1
Fluorobenzene (Surr)	98		70 - 130		06/15/11 16:28	1
Trifluorotoluene (Surr)	112		80 - 125		06/15/11 16:28	1
Toluene-d8 (Surr)	92		75 - 125		06/15/11 16:28	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		1.1		ug/L			06/09/11 15:55	1
Ethylene	ND		1.0		ug/L			06/09/11 15:55	1
Methane	ND		0.58		ug/L			06/09/11 15:55	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.010		ug/L		06/08/11 09:32	06/09/11 05:50	1
alpha-BHC	ND		0.010		ug/L		06/08/11 09:32	06/09/11 05:50	1
beta-BHC	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:50	1
delta-BHC	ND		0.010		ug/L		06/08/11 09:32	06/09/11 05:50	1
gamma-BHC (Lindane)	ND		0.010		ug/L		06/08/11 09:32	06/09/11 05:50	1
4,4'-DDD	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:50	1
4,4'-DDE	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:50	1
4,4'-DDT	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:50	1
Dieldrin	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:50	1
Endosulfan I	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:50	1
Endosulfan II	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:50	1
Endosulfan sulfate	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:50	1
Endrin	ND		0.020		ug/L		06/08/11 09:32	06/09/11 05:50	1
Endrin aldehyde	ND		0.051		ug/L		06/08/11 09:32	06/09/11 05:50	1
Heptachlor	ND		0.010		ug/L		06/08/11 09:32	06/09/11 05:50	1
Heptachlor epoxide	ND		0.010		ug/L		06/08/11 09:32	06/09/11 05:50	1
Methoxychlor	ND		0.10		ug/L		06/08/11 09:32	06/09/11 05:50	1
Endrin ketone	ND	^ *	0.020		ug/L		06/08/11 09:32	06/09/11 05:50	1
Toxaphene	ND		1.0		ug/L		06/08/11 09:32	06/09/11 05:50	1
alpha-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/09/11 05:50	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-1-060211

Lab Sample ID: 580-26540-5

Date Collected: 06/02/11 11:42

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/09/11 05:50	1
Surrogate									
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	85		18 - 181				06/08/11 09:32	06/09/11 05:50	1
DCB Decachlorobiphenyl	70		53 - 122				06/08/11 09:32	06/09/11 05:50	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		06/14/11 09:39	06/14/11 17:16	5
Lead	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:16	5
Antimony	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:16	5
Cadmium	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:16	5
Copper	ND		0.0050		mg/L		06/14/11 09:39	06/14/11 17:16	5
Manganese	0.070		0.0020		mg/L		06/14/11 09:39	06/14/11 17:16	5
Zinc	ND		0.0070		mg/L		06/14/11 09:39	06/14/11 17:16	5

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 18:01	5
Antimony	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 18:01	5
Cadmium	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 18:01	5
Copper	ND		0.0050		mg/L		06/14/11 09:39	06/14/11 18:01	5
Lead	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 18:01	5
Manganese	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 18:01	5
Zinc	ND		0.0070		mg/L		06/14/11 09:39	06/14/11 18:01	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 12:41	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 13:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22		0.90		mg/L			06/03/11 16:37	1
Nitrate as N	4.0		0.90		mg/L			06/03/11 16:37	1
Sulfate	16		1.2		mg/L			06/03/11 16:37	1
Total Organic Carbon	1.4		1.0		mg/L			06/13/11 14:00	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	81		5.0		mg/L			06/13/11 17:08	1

Client Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: WDOE-6-060211

Lab Sample ID: 580-26540-6

Date Collected: 06/02/11 12:46

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.20		ug/L			06/11/11 05:15	1
2-Chlorotoluene	ND		0.10		ug/L			06/11/11 05:15	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/11/11 05:15	1
Carbon tetrachloride	ND		0.10		ug/L			06/11/11 05:15	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 05:15	1
Chlorobenzene	ND		0.10		ug/L			06/11/11 05:15	1
Vinyl chloride	37		0.020		ug/L			06/11/11 05:15	1
sec-Butylbenzene	ND		0.10		ug/L			06/11/11 05:15	1
Dibromomethane	ND		0.10		ug/L			06/11/11 05:15	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/11/11 05:15	1
o-Xylene	ND		0.10		ug/L			06/11/11 05:15	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/11/11 05:15	1
Styrene	ND		0.10		ug/L			06/11/11 05:15	1
Chlorobromomethane	ND		0.10		ug/L			06/11/11 05:15	1
Dichlorobromomethane	ND		0.10		ug/L			06/11/11 05:15	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/11/11 05:15	1
Benzene	ND		0.10		ug/L			06/11/11 05:15	1
Chloroethane	ND		0.25		ug/L			06/11/11 05:15	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 05:15	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/11/11 05:15	1
N-Propylbenzene	ND		0.10		ug/L			06/11/11 05:15	1
4-Isopropyltoluene	ND		0.20		ug/L			06/11/11 05:15	1
n-Butylbenzene	ND		0.10		ug/L			06/11/11 05:15	1
1,1-Dichloropropene	ND		0.10		ug/L			06/11/11 05:15	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 05:15	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/11/11 05:15	1
Toluene	ND		0.10		ug/L			06/11/11 05:15	1
Naphthalene	ND		0.40		ug/L			06/11/11 05:15	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/11/11 05:15	1
1,3-Dichloropropane	ND		0.10		ug/L			06/11/11 05:15	1
Chloroform	ND		0.10		ug/L			06/11/11 05:15	1
4-Chlorotoluene	ND		0.20		ug/L			06/11/11 05:15	1
Chlorodibromomethane	ND		0.10		ug/L			06/11/11 05:15	1
Dichlorodifluoromethane	ND		0.40		ug/L			06/11/11 05:15	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/11/11 05:15	1
tert-Butylbenzene	ND		0.10		ug/L			06/11/11 05:15	1
Chloromethane	ND		0.10		ug/L			06/11/11 05:15	1
Methylene Chloride	ND		0.50		ug/L			06/11/11 05:15	1
1,1-Dichloroethene	3.1		0.10		ug/L			06/11/11 05:15	1
Isopropylbenzene	ND		0.10		ug/L			06/11/11 05:15	1
1,2-Dichloroethane	ND		0.10		ug/L			06/11/11 05:15	1
Tetrachloroethene	5.7		0.10		ug/L			06/11/11 05:15	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/11/11 05:15	1
2,2-Dichloropropane	ND		0.10		ug/L			06/11/11 05:15	1
1,2-Dibromoethane	ND		0.10		ug/L			06/11/11 05:15	1
Bromoform	ND		0.10		ug/L			06/11/11 05:15	1
1,2-Dibromo-3-Chloropropane	ND		0.40		ug/L			06/11/11 05:15	1
Trichlorofluoromethane	ND		0.10		ug/L			06/11/11 05:15	1
Trichloroethene	31		0.10		ug/L			06/11/11 05:15	1
Bromobenzene	ND		0.10		ug/L			06/11/11 05:15	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: WDOE-6-060211

Lab Sample ID: 580-26540-6

Date Collected: 06/02/11 12:46

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		0.10		ug/L			06/11/11 05:15	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 05:15	1
Ethylbenzene	0.20		0.10		ug/L			06/11/11 05:15	1
trans-1,2-Dichloroethene	0.57		0.10		ug/L			06/11/11 05:15	1
Hexachlorobutadiene	ND		0.20		ug/L			06/11/11 05:15	1
1,1-Dichloroethane	ND		0.10		ug/L			06/11/11 05:15	1
Bromomethane	ND		0.10		ug/L			06/11/11 05:15	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/11/11 05:15	1
Methyl tert-butyl ether	ND		0.10		ug/L			06/11/11 05:15	1
Acetone	ND		2.0		ug/L			06/11/11 05:15	1
2-Butanone	ND		2.0		ug/L			06/11/11 05:15	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/11/11 05:15	1
Carbon disulfide	ND		0.10		ug/L			06/11/11 05:15	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		75 - 120		06/11/11 05:15	1
Ethylbenzene-d10	97		75 - 125		06/11/11 05:15	1
Fluorobenzene (Surr)	101		70 - 130		06/11/11 05:15	1
Trifluorotoluene (Surr)	104		80 - 125		06/11/11 05:15	1
Toluene-d8 (Surr)	95		75 - 125		06/11/11 05:15	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	300		1.0		ug/L			06/14/11 18:07	10

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		1.1		ug/L			06/09/11 16:08	1
Ethylene	ND		1.0		ug/L			06/09/11 16:08	1
Methane	3.9		0.58		ug/L			06/09/11 16:08	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.010		ug/L		06/08/11 09:32	06/09/11 06:09	1
alpha-BHC	ND		0.010		ug/L		06/08/11 09:32	06/09/11 06:09	1
beta-BHC	ND		0.020		ug/L		06/08/11 09:32	06/09/11 06:09	1
delta-BHC	ND		0.010		ug/L		06/08/11 09:32	06/09/11 06:09	1
gamma-BHC (Lindane)	ND		0.010		ug/L		06/08/11 09:32	06/09/11 06:09	1
4,4'-DDD	0.028	p	0.020		ug/L		06/08/11 09:32	06/09/11 06:09	1
4,4'-DDE	ND		0.020		ug/L		06/08/11 09:32	06/09/11 06:09	1
4,4'-DDT	ND		0.020		ug/L		06/08/11 09:32	06/09/11 06:09	1
Dieldrin	0.063		0.020		ug/L		06/08/11 09:32	06/09/11 06:09	1
Endosulfan I	ND		0.020		ug/L		06/08/11 09:32	06/09/11 06:09	1
Endosulfan II	ND		0.020		ug/L		06/08/11 09:32	06/09/11 06:09	1
Endosulfan sulfate	ND		0.020		ug/L		06/08/11 09:32	06/09/11 06:09	1
Endrin	ND		0.020		ug/L		06/08/11 09:32	06/09/11 06:09	1
Endrin aldehyde	ND		0.051		ug/L		06/08/11 09:32	06/09/11 06:09	1
Heptachlor	ND		0.010		ug/L		06/08/11 09:32	06/09/11 06:09	1
Heptachlor epoxide	ND		0.010		ug/L		06/08/11 09:32	06/09/11 06:09	1
Methoxychlor	ND		0.10		ug/L		06/08/11 09:32	06/09/11 06:09	1
Endrin ketone	ND	^ *	0.020		ug/L		06/08/11 09:32	06/09/11 06:09	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: WDOE-6-060211

Lab Sample ID: 580-26540-6

Date Collected: 06/02/11 12:46

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	ND		1.0		ug/L		06/08/11 09:32	06/09/11 06:09	1
alpha-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/09/11 06:09	1
gamma-Chlordane	0.011		0.010		ug/L		06/08/11 09:32	06/09/11 06:09	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	77		18 - 181				06/08/11 09:32	06/09/11 06:09	1
DCB Decachlorobiphenyl	72		53 - 122				06/08/11 09:32	06/09/11 06:09	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		06/14/11 09:39	06/14/11 17:21	5
Lead	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:21	5
Antimony	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:21	5
Cadmium	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:21	5
Copper	ND		0.0050		mg/L		06/14/11 09:39	06/14/11 17:21	5
Manganese	0.40		0.0020		mg/L		06/14/11 09:39	06/14/11 17:21	5
Zinc	0.45		0.0070		mg/L		06/14/11 09:39	06/14/11 17:21	5

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/14/11 09:50	06/14/11 18:06	5
Antimony	ND		0.0020		mg/L		06/14/11 09:50	06/14/11 18:06	5
Cadmium	ND		0.0020		mg/L		06/14/11 09:50	06/14/11 18:06	5
Copper	ND		0.0050		mg/L		06/14/11 09:50	06/14/11 18:06	5
Lead	ND		0.0020		mg/L		06/14/11 09:50	06/14/11 18:06	5
Manganese	0.42		0.0020		mg/L		06/14/11 09:50	06/14/11 18:06	5
Zinc	0.099		0.0070		mg/L		06/14/11 09:50	06/14/11 18:06	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 12:43	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 13:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21		0.90		mg/L			06/03/11 16:53	1
Nitrate as N	ND		0.90		mg/L			06/03/11 16:53	1
Sulfate	160		12		mg/L			06/14/11 15:15	10
Total Organic Carbon	1.3		1.0		mg/L			06/13/11 14:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	36		5.0		mg/L			06/13/11 17:08	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: BLIND

Lab Sample ID: 580-26540-7

Date Collected: 06/02/11 13:16

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.20		ug/L			06/11/11 05:40	1
2-Chlorotoluene	ND		0.10		ug/L			06/11/11 05:40	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/11/11 05:40	1
Carbon tetrachloride	ND		0.10		ug/L			06/11/11 05:40	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 05:40	1
Chlorobenzene	ND		0.10		ug/L			06/11/11 05:40	1
Vinyl chloride	34		0.020		ug/L			06/11/11 05:40	1
sec-Butylbenzene	ND		0.10		ug/L			06/11/11 05:40	1
Dibromomethane	ND		0.10		ug/L			06/11/11 05:40	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/11/11 05:40	1
o-Xylene	ND		0.10		ug/L			06/11/11 05:40	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/11/11 05:40	1
Styrene	ND		0.10		ug/L			06/11/11 05:40	1
Chlorobromomethane	ND		0.10		ug/L			06/11/11 05:40	1
Dichlorobromomethane	ND		0.10		ug/L			06/11/11 05:40	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/11/11 05:40	1
Benzene	ND		0.10		ug/L			06/11/11 05:40	1
Chloroethane	ND		0.25		ug/L			06/11/11 05:40	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/11/11 05:40	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/11/11 05:40	1
N-Propylbenzene	ND		0.10		ug/L			06/11/11 05:40	1
4-Isopropyltoluene	ND		0.20		ug/L			06/11/11 05:40	1
n-Butylbenzene	ND		0.10		ug/L			06/11/11 05:40	1
1,1-Dichloropropene	ND		0.10		ug/L			06/11/11 05:40	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 05:40	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/11/11 05:40	1
Toluene	ND		0.10		ug/L			06/11/11 05:40	1
Naphthalene	ND		0.40		ug/L			06/11/11 05:40	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/11/11 05:40	1
1,3-Dichloropropane	ND		0.10		ug/L			06/11/11 05:40	1
Chloroform	ND		0.10		ug/L			06/11/11 05:40	1
4-Chlorotoluene	ND		0.20		ug/L			06/11/11 05:40	1
Chlorodibromomethane	ND		0.10		ug/L			06/11/11 05:40	1
Dichlorodifluoromethane	ND		0.40		ug/L			06/11/11 05:40	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/11/11 05:40	1
tert-Butylbenzene	ND		0.10		ug/L			06/11/11 05:40	1
Chloromethane	ND		0.10		ug/L			06/11/11 05:40	1
Methylene Chloride	ND		0.50		ug/L			06/11/11 05:40	1
1,1-Dichloroethene	3.0		0.10		ug/L			06/11/11 05:40	1
Isopropylbenzene	ND		0.10		ug/L			06/11/11 05:40	1
1,2-Dichloroethane	ND		0.10		ug/L			06/11/11 05:40	1
Tetrachloroethene	5.6		0.10		ug/L			06/11/11 05:40	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/11/11 05:40	1
2,2-Dichloropropane	ND		0.10		ug/L			06/11/11 05:40	1
1,2-Dibromoethane	ND		0.10		ug/L			06/11/11 05:40	1
Bromoform	ND		0.10		ug/L			06/11/11 05:40	1
1,2-Dibromo-3-Chloropropane	ND		0.40		ug/L			06/11/11 05:40	1
Trichlorofluoromethane	ND		0.10		ug/L			06/11/11 05:40	1
Trichloroethene	28		0.10		ug/L			06/11/11 05:40	1
Bromobenzene	ND		0.10		ug/L			06/11/11 05:40	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: BLIND

Lab Sample ID: 580-26540-7

Date Collected: 06/02/11 13:16

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		0.10		ug/L			06/11/11 05:40	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/11/11 05:40	1
Ethylbenzene	0.22		0.10		ug/L			06/11/11 05:40	1
trans-1,2-Dichloroethene	0.61		0.10		ug/L			06/11/11 05:40	1
Hexachlorobutadiene	ND		0.20		ug/L			06/11/11 05:40	1
1,1-Dichloroethane	ND		0.10		ug/L			06/11/11 05:40	1
Bromomethane	ND		0.10		ug/L			06/11/11 05:40	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/11/11 05:40	1
Methyl tert-butyl ether	ND		0.10		ug/L			06/11/11 05:40	1
Acetone	ND		2.0		ug/L			06/11/11 05:40	1
2-Butanone	ND		2.0		ug/L			06/11/11 05:40	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/11/11 05:40	1
Carbon disulfide	0.13		0.10		ug/L			06/11/11 05:40	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		75 - 120		06/11/11 05:40	1
Ethylbenzene-d10	102		75 - 125		06/11/11 05:40	1
Fluorobenzene (Surr)	97		70 - 130		06/11/11 05:40	1
Trifluorotoluene (Surr)	104		80 - 125		06/11/11 05:40	1
Toluene-d8 (Surr)	101		75 - 125		06/11/11 05:40	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	250		1.0		ug/L			06/14/11 18:33	10

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	ND		1.1		ug/L			06/09/11 16:21	1
Ethylene	ND		1.0		ug/L			06/09/11 16:21	1
Methane	4.7		0.58		ug/L			06/09/11 16:21	1

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0099		ug/L		06/08/11 09:32	06/09/11 06:29	1
alpha-BHC	ND		0.0099		ug/L		06/08/11 09:32	06/09/11 06:29	1
beta-BHC	ND		0.020		ug/L		06/08/11 09:32	06/09/11 06:29	1
delta-BHC	ND		0.0099		ug/L		06/08/11 09:32	06/09/11 06:29	1
gamma-BHC (Lindane)	ND		0.0099		ug/L		06/08/11 09:32	06/09/11 06:29	1
4,4'-DDD	0.034	p	0.020		ug/L		06/08/11 09:32	06/09/11 06:29	1
4,4'-DDE	ND		0.020		ug/L		06/08/11 09:32	06/09/11 06:29	1
4,4'-DDT	ND		0.020		ug/L		06/08/11 09:32	06/09/11 06:29	1
Dieldrin	0.072		0.020		ug/L		06/08/11 09:32	06/09/11 06:29	1
Endosulfan I	ND		0.020		ug/L		06/08/11 09:32	06/09/11 06:29	1
Endosulfan II	ND		0.020		ug/L		06/08/11 09:32	06/09/11 06:29	1
Endosulfan sulfate	ND		0.020		ug/L		06/08/11 09:32	06/09/11 06:29	1
Endrin	ND		0.020		ug/L		06/08/11 09:32	06/09/11 06:29	1
Endrin aldehyde	ND		0.050		ug/L		06/08/11 09:32	06/09/11 06:29	1
Heptachlor	ND		0.0099		ug/L		06/08/11 09:32	06/09/11 06:29	1
Heptachlor epoxide	ND		0.0099		ug/L		06/08/11 09:32	06/09/11 06:29	1
Methoxychlor	ND		0.099		ug/L		06/08/11 09:32	06/09/11 06:29	1
Endrin ketone	ND	^ *	0.020		ug/L		06/08/11 09:32	06/09/11 06:29	1

Client Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: BLIND

Lab Sample ID: 580-26540-7

Date Collected: 06/02/11 13:16

Matrix: Water

Date Received: 06/03/11 10:13

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	ND		0.99		ug/L		06/08/11 09:32	06/09/11 06:29	1
alpha-Chlordane	ND		0.0099		ug/L		06/08/11 09:32	06/09/11 06:29	1
gamma-Chlordane	0.018		0.0099		ug/L		06/08/11 09:32	06/09/11 06:29	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	80		18 - 181				06/08/11 09:32	06/09/11 06:29	1
DCB Decachlorobiphenyl	60		53 - 122				06/08/11 09:32	06/09/11 06:29	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		06/14/11 09:39	06/14/11 17:26	5
Lead	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:26	5
Antimony	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:26	5
Cadmium	ND		0.0020		mg/L		06/14/11 09:39	06/14/11 17:26	5
Copper	ND		0.0050		mg/L		06/14/11 09:39	06/14/11 17:26	5
Manganese	0.42		0.0020		mg/L		06/14/11 09:39	06/14/11 17:26	5
Zinc	0.51		0.0070		mg/L		06/14/11 09:39	06/14/11 17:26	5

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/14/11 09:50	06/14/11 18:11	5
Antimony	ND		0.0020		mg/L		06/14/11 09:50	06/14/11 18:11	5
Cadmium	ND		0.0020		mg/L		06/14/11 09:50	06/14/11 18:11	5
Copper	ND		0.0050		mg/L		06/14/11 09:50	06/14/11 18:11	5
Lead	ND		0.0020		mg/L		06/14/11 09:50	06/14/11 18:11	5
Manganese	0.41		0.0020		mg/L		06/14/11 09:50	06/14/11 18:11	5
Zinc	0.096		0.0070		mg/L		06/14/11 09:50	06/14/11 18:11	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 12:44	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 13:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21		0.90		mg/L			06/03/11 17:09	1
Nitrate as N	ND		0.90		mg/L			06/03/11 17:09	1
Sulfate	160		12		mg/L			06/14/11 15:31	10
Total Organic Carbon	1.3		1.0		mg/L			06/13/11 14:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	38		5.0		mg/L			06/13/11 17:08	1

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-87710/4

Matrix: Water

Analysis Batch: 87710

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dichlorobenzene	ND		0.20		ug/L			06/10/11 21:52	1
2-Chlorotoluene	ND		0.10		ug/L			06/10/11 21:52	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/10/11 21:52	1
Carbon tetrachloride	ND		0.10		ug/L			06/10/11 21:52	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/10/11 21:52	1
Chlorobenzene	ND		0.10		ug/L			06/10/11 21:52	1
Vinyl chloride	ND		0.020		ug/L			06/10/11 21:52	1
sec-Butylbenzene	ND		0.10		ug/L			06/10/11 21:52	1
Dibromomethane	ND		0.10		ug/L			06/10/11 21:52	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/10/11 21:52	1
o-Xylene	ND		0.10		ug/L			06/10/11 21:52	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/10/11 21:52	1
Styrene	ND		0.10		ug/L			06/10/11 21:52	1
Chlorobromomethane	ND		0.10		ug/L			06/10/11 21:52	1
Dichlorobromomethane	ND		0.10		ug/L			06/10/11 21:52	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/10/11 21:52	1
Benzene	ND		0.10		ug/L			06/10/11 21:52	1
Chloroethane	ND		0.25		ug/L			06/10/11 21:52	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/10/11 21:52	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/10/11 21:52	1
N-Propylbenzene	ND		0.10		ug/L			06/10/11 21:52	1
4-Isopropyltoluene	ND		0.20		ug/L			06/10/11 21:52	1
n-Butylbenzene	ND		0.10		ug/L			06/10/11 21:52	1
1,1-Dichloropropene	ND		0.10		ug/L			06/10/11 21:52	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/10/11 21:52	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/10/11 21:52	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/10/11 21:52	1
Toluene	ND		0.10		ug/L			06/10/11 21:52	1
Naphthalene	ND		0.40		ug/L			06/10/11 21:52	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/10/11 21:52	1
1,3-Dichloropropane	ND		0.10		ug/L			06/10/11 21:52	1
Chloroform	ND		0.10		ug/L			06/10/11 21:52	1
4-Chlorotoluene	ND		0.20		ug/L			06/10/11 21:52	1
Chlorodibromomethane	ND		0.10		ug/L			06/10/11 21:52	1
Dichlorodifluoromethane	ND		0.40		ug/L			06/10/11 21:52	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/10/11 21:52	1
tert-Butylbenzene	ND		0.10		ug/L			06/10/11 21:52	1
Chloromethane	ND		0.10		ug/L			06/10/11 21:52	1
Methylene Chloride	ND		0.50		ug/L			06/10/11 21:52	1
1,1-Dichloroethene	ND		0.10		ug/L			06/10/11 21:52	1
Isopropylbenzene	ND		0.10		ug/L			06/10/11 21:52	1
1,2-Dichloroethane	ND		0.10		ug/L			06/10/11 21:52	1
Tetrachloroethene	ND		0.10		ug/L			06/10/11 21:52	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/10/11 21:52	1
2,2-Dichloropropane	ND		0.10		ug/L			06/10/11 21:52	1
1,2-Dibromoethane	ND		0.10		ug/L			06/10/11 21:52	1
Bromoform	ND		0.10		ug/L			06/10/11 21:52	1
1,2-Dibromo-3-Chloropropane	ND		0.40		ug/L			06/10/11 21:52	1
Trichlorofluoromethane	ND		0.10		ug/L			06/10/11 21:52	1

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-87710/4

Matrix: Water

Analysis Batch: 87710

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Trichloroethene	ND		0.10		ug/L			06/10/11 21:52	1
Bromobenzene	ND		0.10		ug/L			06/10/11 21:52	1
1,2-Dichloropropane	ND		0.10		ug/L			06/10/11 21:52	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/10/11 21:52	1
Ethylbenzene	ND		0.10		ug/L			06/10/11 21:52	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/10/11 21:52	1
Hexachlorobutadiene	ND		0.20		ug/L			06/10/11 21:52	1
1,1-Dichloroethane	ND		0.10		ug/L			06/10/11 21:52	1
Bromomethane	ND		0.10		ug/L			06/10/11 21:52	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/10/11 21:52	1
Methyl tert-butyl ether	ND		0.10		ug/L			06/10/11 21:52	1
Acetone	ND		2.0		ug/L			06/10/11 21:52	1
2-Butanone	ND		2.0		ug/L			06/10/11 21:52	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/10/11 21:52	1
Carbon disulfide	ND		0.10		ug/L			06/10/11 21:52	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	106		75 - 120		06/10/11 21:52	1
Ethylbenzene-d10	100		75 - 125		06/10/11 21:52	1
Fluorobenzene (Surr)	104		70 - 130		06/10/11 21:52	1
Trifluorotoluene (Surr)	104		80 - 125		06/10/11 21:52	1
Toluene-d8 (Surr)	101		75 - 125		06/10/11 21:52	1

Lab Sample ID: LCS 580-87710/5

Matrix: Water

Analysis Batch: 87710

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	5.00	5.36		ug/L		107	75 - 142
Toluene	5.00	5.14		ug/L		103	80 - 126
1,1-Dichloroethene	5.00	5.57		ug/L		111	78 - 151
Trichloroethene	5.00	5.08		ug/L		102	79 - 131

Surrogate	LCS LCS		Limits
	% Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	93		75 - 120
Ethylbenzene-d10	93		75 - 125
Fluorobenzene (Surr)	105		70 - 130
Trifluorotoluene (Surr)	122		80 - 125
Toluene-d8 (Surr)	96		75 - 125

Lab Sample ID: LCSD 580-87710/6

Matrix: Water

Analysis Batch: 87710

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	
								RPD	Limit
Chlorobenzene	5.00	4.83		ug/L		97	71 - 140	13	20
Benzene	5.00	5.13		ug/L		103	75 - 142	4	20
Toluene	5.00	5.33		ug/L		107	80 - 126	4	20

TestAmerica Seattle

QC Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-87710/6

Matrix: Water

Analysis Batch: 87710

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	% Rec	% Rec.	RPD	RPD
	Added	Result	Qualifier				Limits		Limit
1,1-Dichloroethene	5.00	5.00		ug/L		100	78 - 151	11	20
Trichloroethene	5.00	4.58		ug/L		92	79 - 131	10	20

Surrogate	LCSD	LCSD	Limits
	% Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	105		75 - 120
Ethylbenzene-d10	104		75 - 125
Fluorobenzene (Surr)	101		70 - 130
Trifluorotoluene (Surr)	106		80 - 125
Toluene-d8 (Surr)	101		75 - 125

Lab Sample ID: MB 580-87872/4

Matrix: Water

Analysis Batch: 87872

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dichlorobenzene	ND		0.20		ug/L		06/14/11 11:31		1
2-Chlorotoluene	ND		0.10		ug/L		06/14/11 11:31		1
1,2,3-Trichloropropane	ND		0.20		ug/L		06/14/11 11:31		1
Carbon tetrachloride	ND		0.10		ug/L		06/14/11 11:31		1
cis-1,3-Dichloropropene	ND		0.10		ug/L		06/14/11 11:31		1
Chlorobenzene	ND		0.10		ug/L		06/14/11 11:31		1
Vinyl chloride	ND		0.020		ug/L		06/14/11 11:31		1
sec-Butylbenzene	ND		0.10		ug/L		06/14/11 11:31		1
Dibromomethane	ND		0.10		ug/L		06/14/11 11:31		1
m-Xylene & p-Xylene	ND		0.20		ug/L		06/14/11 11:31		1
o-Xylene	ND		0.10		ug/L		06/14/11 11:31		1
1,2,4-Trichlorobenzene	ND		0.20		ug/L		06/14/11 11:31		1
Styrene	ND		0.10		ug/L		06/14/11 11:31		1
Chlorobromomethane	ND		0.10		ug/L		06/14/11 11:31		1
Dichlorobromomethane	ND		0.10		ug/L		06/14/11 11:31		1
1,3-Dichlorobenzene	ND		0.20		ug/L		06/14/11 11:31		1
Benzene	ND		0.10		ug/L		06/14/11 11:31		1
Chloroethane	ND		0.25		ug/L		06/14/11 11:31		1
trans-1,3-Dichloropropene	ND		0.10		ug/L		06/14/11 11:31		1
1,2,3-Trichlorobenzene	ND		0.40		ug/L		06/14/11 11:31		1
N-Propylbenzene	ND		0.10		ug/L		06/14/11 11:31		1
4-Isopropyltoluene	ND		0.20		ug/L		06/14/11 11:31		1
n-Butylbenzene	ND		0.10		ug/L		06/14/11 11:31		1
1,1-Dichloropropene	ND		0.10		ug/L		06/14/11 11:31		1
cis-1,2-Dichloroethene	ND		0.10		ug/L		06/14/11 11:31		1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L		06/14/11 11:31		1
1,2,4-Trimethylbenzene	ND		0.10		ug/L		06/14/11 11:31		1
Toluene	ND		0.10		ug/L		06/14/11 11:31		1
Naphthalene	ND		0.40		ug/L		06/14/11 11:31		1
1,3,5-Trimethylbenzene	ND		0.10		ug/L		06/14/11 11:31		1
1,3-Dichloropropane	ND		0.10		ug/L		06/14/11 11:31		1
Chloroform	ND		0.10		ug/L		06/14/11 11:31		1
4-Chlorotoluene	ND		0.20		ug/L		06/14/11 11:31		1
Chlorodibromomethane	ND		0.10		ug/L		06/14/11 11:31		1

QC Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-87872/4

Matrix: Water

Analysis Batch: 87872

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dichlorodifluoromethane	ND		0.40		ug/L			06/14/11 11:31	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/14/11 11:31	1
tert-Butylbenzene	ND		0.10		ug/L			06/14/11 11:31	1
Chloromethane	ND		0.10		ug/L			06/14/11 11:31	1
Methylene Chloride	ND		0.50		ug/L			06/14/11 11:31	1
1,1-Dichloroethene	ND		0.10		ug/L			06/14/11 11:31	1
Isopropylbenzene	ND		0.10		ug/L			06/14/11 11:31	1
1,2-Dichloroethane	ND		0.10		ug/L			06/14/11 11:31	1
Tetrachloroethene	ND		0.10		ug/L			06/14/11 11:31	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/14/11 11:31	1
2,2-Dichloropropane	ND		0.10		ug/L			06/14/11 11:31	1
1,2-Dibromoethane	ND		0.10		ug/L			06/14/11 11:31	1
Bromoform	ND		0.10		ug/L			06/14/11 11:31	1
1,2-Dibromo-3-Chloropropane	ND		0.40		ug/L			06/14/11 11:31	1
Trichlorofluoromethane	ND		0.10		ug/L			06/14/11 11:31	1
Trichloroethene	ND		0.10		ug/L			06/14/11 11:31	1
Bromobenzene	ND		0.10		ug/L			06/14/11 11:31	1
1,2-Dichloropropane	ND		0.10		ug/L			06/14/11 11:31	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/14/11 11:31	1
Ethylbenzene	ND		0.10		ug/L			06/14/11 11:31	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/14/11 11:31	1
Hexachlorobutadiene	ND		0.20		ug/L			06/14/11 11:31	1
1,1-Dichloroethane	ND		0.10		ug/L			06/14/11 11:31	1
Bromomethane	ND		0.10		ug/L			06/14/11 11:31	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/14/11 11:31	1
Methyl tert-butyl ether	ND		0.10		ug/L			06/14/11 11:31	1
Acetone	ND		2.0		ug/L			06/14/11 11:31	1
2-Butanone	ND		2.0		ug/L			06/14/11 11:31	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/14/11 11:31	1
Carbon disulfide	ND		0.10		ug/L			06/14/11 11:31	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	95		75 - 120		06/14/11 11:31	1
Ethylbenzene-d10	90		75 - 125		06/14/11 11:31	1
Fluorobenzene (Surr)	98		70 - 130		06/14/11 11:31	1
Trifluorotoluene (Surr)	122		80 - 125		06/14/11 11:31	1
Toluene-d8 (Surr)	95		75 - 125		06/14/11 11:31	1

Lab Sample ID: LCS 580-87872/5

Matrix: Water

Analysis Batch: 87872

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	5.00	5.21		ug/L		104	75 - 142
Toluene	5.00	5.31		ug/L		106	80 - 126
1,1-Dichloroethene	5.00	4.75		ug/L		95	78 - 151
Trichloroethene	5.00	5.09		ug/L		102	79 - 131

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-87872/5

Matrix: Water

Analysis Batch: 87872

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS		Limits
	% Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	100		75 - 120
Ethylbenzene-d10	96		75 - 125
Fluorobenzene (Surr)	101		70 - 130
Trifluorotoluene (Surr)	120		80 - 125
Toluene-d8 (Surr)	98		75 - 125

Lab Sample ID: LCSD 580-87872/6

Matrix: Water

Analysis Batch: 87872

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD	Limit
		Result	Qualifier				Limits	RPD		
Chlorobenzene	5.00	4.62		ug/L		92	71 - 140	2	20	
Benzene	5.00	5.21		ug/L		104	75 - 142	0	20	
Toluene	5.00	5.39		ug/L		108	80 - 126	1	20	
1,1-Dichloroethene	5.00	4.83		ug/L		97	78 - 151	2	20	
Trichloroethene	5.00	5.06		ug/L		101	79 - 131	1	20	

Surrogate	LCSD		Limits
	% Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	100		75 - 120
Ethylbenzene-d10	97		75 - 125
Fluorobenzene (Surr)	102		70 - 130
Trifluorotoluene (Surr)	119		80 - 125
Toluene-d8 (Surr)	99		75 - 125

Lab Sample ID: MB 580-88015/4

Matrix: Water

Analysis Batch: 88015

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dichlorobenzene	ND		0.20		ug/L		06/15/11 13:55	1	
2-Chlorotoluene	ND		0.10		ug/L		06/15/11 13:55	1	
1,2,3-Trichloropropane	ND		0.20		ug/L		06/15/11 13:55	1	
Carbon tetrachloride	ND		0.10		ug/L		06/15/11 13:55	1	
cis-1,3-Dichloropropene	ND		0.10		ug/L		06/15/11 13:55	1	
Chlorobenzene	ND		0.10		ug/L		06/15/11 13:55	1	
Vinyl chloride	ND		0.020		ug/L		06/15/11 13:55	1	
sec-Butylbenzene	ND		0.10		ug/L		06/15/11 13:55	1	
Dibromomethane	ND		0.10		ug/L		06/15/11 13:55	1	
m-Xylene & p-Xylene	ND		0.20		ug/L		06/15/11 13:55	1	
o-Xylene	ND		0.10		ug/L		06/15/11 13:55	1	
1,2,4-Trichlorobenzene	ND		0.20		ug/L		06/15/11 13:55	1	
Styrene	ND		0.10		ug/L		06/15/11 13:55	1	
Chlorobromomethane	ND		0.10		ug/L		06/15/11 13:55	1	
Dichlorobromomethane	ND		0.10		ug/L		06/15/11 13:55	1	
1,3-Dichlorobenzene	ND		0.20		ug/L		06/15/11 13:55	1	
Benzene	ND		0.10		ug/L		06/15/11 13:55	1	
Chloroethane	ND		0.25		ug/L		06/15/11 13:55	1	
trans-1,3-Dichloropropene	ND		0.10		ug/L		06/15/11 13:55	1	
1,2,3-Trichlorobenzene	ND		0.40		ug/L		06/15/11 13:55	1	

QC Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-88015/4

Matrix: Water

Analysis Batch: 88015

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
N-Propylbenzene	ND		0.10		ug/L			06/15/11 13:55	1
4-Isopropyltoluene	ND		0.20		ug/L			06/15/11 13:55	1
n-Butylbenzene	ND		0.10		ug/L			06/15/11 13:55	1
1,1-Dichloropropene	ND		0.10		ug/L			06/15/11 13:55	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/15/11 13:55	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/15/11 13:55	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/15/11 13:55	1
Toluene	ND		0.10		ug/L			06/15/11 13:55	1
Naphthalene	ND		0.40		ug/L			06/15/11 13:55	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/15/11 13:55	1
1,3-Dichloropropane	ND		0.10		ug/L			06/15/11 13:55	1
Chloroform	ND		0.10		ug/L			06/15/11 13:55	1
4-Chlorotoluene	ND		0.20		ug/L			06/15/11 13:55	1
Chlorodibromomethane	ND		0.10		ug/L			06/15/11 13:55	1
Dichlorodifluoromethane	ND		0.40		ug/L			06/15/11 13:55	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/15/11 13:55	1
tert-Butylbenzene	ND		0.10		ug/L			06/15/11 13:55	1
Chloromethane	ND		0.10		ug/L			06/15/11 13:55	1
Methylene Chloride	ND		0.50		ug/L			06/15/11 13:55	1
1,1-Dichloroethene	ND		0.10		ug/L			06/15/11 13:55	1
Isopropylbenzene	ND		0.10		ug/L			06/15/11 13:55	1
1,2-Dichloroethane	ND		0.10		ug/L			06/15/11 13:55	1
Tetrachloroethene	ND		0.10		ug/L			06/15/11 13:55	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/15/11 13:55	1
2,2-Dichloropropane	ND		0.10		ug/L			06/15/11 13:55	1
1,2-Dibromoethane	ND		0.10		ug/L			06/15/11 13:55	1
Bromoform	ND		0.10		ug/L			06/15/11 13:55	1
1,2-Dibromo-3-Chloropropane	ND		0.40		ug/L			06/15/11 13:55	1
Trichlorofluoromethane	ND		0.10		ug/L			06/15/11 13:55	1
Trichloroethene	ND		0.10		ug/L			06/15/11 13:55	1
Bromobenzene	ND		0.10		ug/L			06/15/11 13:55	1
1,2-Dichloropropane	ND		0.10		ug/L			06/15/11 13:55	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/15/11 13:55	1
Ethylbenzene	ND		0.10		ug/L			06/15/11 13:55	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/15/11 13:55	1
Hexachlorobutadiene	ND		0.20		ug/L			06/15/11 13:55	1
1,1-Dichloroethane	ND		0.10		ug/L			06/15/11 13:55	1
Bromomethane	ND		0.10		ug/L			06/15/11 13:55	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/15/11 13:55	1
Methyl tert-butyl ether	ND		0.10		ug/L			06/15/11 13:55	1
Acetone	ND		2.0		ug/L			06/15/11 13:55	1
2-Butanone	ND		2.0		ug/L			06/15/11 13:55	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/15/11 13:55	1
Carbon disulfide	ND		0.10		ug/L			06/15/11 13:55	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	103		75 - 120		06/15/11 13:55	1
Ethylbenzene-d10	94		75 - 125		06/15/11 13:55	1
Fluorobenzene (Surr)	103		70 - 130		06/15/11 13:55	1

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-88015/4
Matrix: Water
Analysis Batch: 88015

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
Trifluorotoluene (Surr)	116		80 - 125		06/15/11 13:55	1
Toluene-d8 (Surr)	98		75 - 125		06/15/11 13:55	1

Lab Sample ID: LCS 580-88015/5
Matrix: Water
Analysis Batch: 88015

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	RPD
Chlorobenzene	5.00	4.49		ug/L		90	71 - 140	
Benzene	5.00	5.27		ug/L		105	75 - 142	
Toluene	5.00	5.21		ug/L		104	80 - 126	
1,1-Dichloroethene	5.00	5.29		ug/L		106	78 - 151	
Trichloroethene	5.00	5.27		ug/L		105	79 - 131	

Surrogate	LCS LCS		Limits
	% Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	99		75 - 120
Ethylbenzene-d10	95		75 - 125
Fluorobenzene (Surr)	101		70 - 130
Trifluorotoluene (Surr)	115		80 - 125
Toluene-d8 (Surr)	97		75 - 125

Lab Sample ID: LCSD 580-88015/6
Matrix: Water
Analysis Batch: 88015

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD LCSD		Unit	D	% Rec	% Rec.		RPD	
		Result	Qualifier				Limits	RPD	Limit	
Chlorobenzene	5.00	4.66		ug/L		93	71 - 140	4	20	
Benzene	5.00	5.03		ug/L		101	75 - 142	5	20	
Toluene	5.00	5.02		ug/L		100	80 - 126	4	20	
1,1-Dichloroethene	5.00	5.22		ug/L		104	78 - 151	1	20	
Trichloroethene	5.00	4.82		ug/L		96	79 - 131	9	20	

Surrogate	LCSD LCSD		Limits
	% Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	95		75 - 120
Ethylbenzene-d10	93		75 - 125
Fluorobenzene (Surr)	97		70 - 130
Trifluorotoluene (Surr)	102		80 - 125
Toluene-d8 (Surr)	97		75 - 125

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-205505/24
Matrix: Water
Analysis Batch: 205505

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ethane	ND		1.1		ug/L		06/09/11 11:19	1	
Ethylene	ND		1.0		ug/L		06/09/11 11:19	1	
Methane	ND		0.58		ug/L		06/09/11 11:19	1	

TestAmerica Seattle

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: LCS 680-205505/22
Matrix: Water
Analysis Batch: 205505

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Ethane	282	326		ug/L		116	75 - 125	
Ethylene	271	328		ug/L		121	75 - 125	
Methane	153	183		ug/L		120	75 - 125	

Lab Sample ID: LCSD 680-205505/23
Matrix: Water
Analysis Batch: 205505

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD	
		Result	Qualifier				Limits	RPD	Limit	
Ethane	282	306		ug/L		108	75 - 125	7	30	
Ethylene	271	305		ug/L		113	75 - 125	7	30	
Methane	153	171		ug/L		112	75 - 125	7	30	

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-87465/1-A
Matrix: Water
Analysis Batch: 87537

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87465

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aldrin	ND		0.010		ug/L		06/08/11 09:32	06/08/11 23:41	1
alpha-BHC	ND		0.010		ug/L		06/08/11 09:32	06/08/11 23:41	1
beta-BHC	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
delta-BHC	ND		0.010		ug/L		06/08/11 09:32	06/08/11 23:41	1
gamma-BHC (Lindane)	ND		0.010		ug/L		06/08/11 09:32	06/08/11 23:41	1
4,4'-DDD	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
4,4'-DDE	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
4,4'-DDT	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
Dieldrin	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
Endosulfan I	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
Endosulfan II	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
Endosulfan sulfate	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
Endrin	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
Endrin aldehyde	ND		0.050		ug/L		06/08/11 09:32	06/08/11 23:41	1
Heptachlor	ND		0.010		ug/L		06/08/11 09:32	06/08/11 23:41	1
Heptachlor epoxide	ND		0.010		ug/L		06/08/11 09:32	06/08/11 23:41	1
Methoxychlor	ND		0.10		ug/L		06/08/11 09:32	06/08/11 23:41	1
Endrin ketone	ND		0.020		ug/L		06/08/11 09:32	06/08/11 23:41	1
Toxaphene	ND		1.0		ug/L		06/08/11 09:32	06/08/11 23:41	1
alpha-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/08/11 23:41	1
gamma-Chlordane	ND		0.010		ug/L		06/08/11 09:32	06/08/11 23:41	1
Surrogate	MB MB		Limits				Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier							
Tetrachloro-m-xylene	63		18 - 181				06/08/11 09:32	06/08/11 23:41	1
DCB Decachlorobiphenyl	69		53 - 122				06/08/11 09:32	06/08/11 23:41	1

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-87465/2-A
Matrix: Water
Analysis Batch: 87537

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87465

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Aldrin	0.200	0.180		ug/L		90	44 - 139	
alpha-BHC	0.200	0.208		ug/L		104	41 - 133	
beta-BHC	0.200	0.202		ug/L		101	54 - 130	
delta-BHC	0.200	0.197		ug/L		98	7 - 169	
gamma-BHC (Lindane)	0.200	0.217		ug/L		108	53 - 134	
4,4'-DDD	0.200	0.249		ug/L		125	40 - 152	
4,4'-DDE	0.200	0.228		ug/L		114	43 - 148	
4,4'-DDT	0.200	0.192		ug/L		96	37 - 162	
Dieldrin	0.200	0.247		ug/L		124	46 - 145	
Endosulfan I	0.200	0.237		ug/L		118	49 - 132	
Endosulfan II	0.200	0.268		ug/L		134	54 - 138	
Endosulfan sulfate	0.200	0.231		ug/L		116	48 - 130	
Endrin	0.200	0.257		ug/L		129	51 - 142	
Endrin aldehyde	0.200	0.235		ug/L		118	27 - 183	
Heptachlor	0.200	0.243		ug/L		122	53 - 130	
Heptachlor epoxide	0.200	0.237		ug/L		118	54 - 125	
Methoxychlor	0.200	0.250		ug/L		125	47 - 167	
Endrin ketone	0.200	0.253		ug/L		127	48 - 134	
alpha-Chlordane	0.200	0.226		ug/L		113	40 - 131	
gamma-Chlordane	0.200	0.227		ug/L		114	46 - 131	

Surrogate	LCS		Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	62		18 - 181
DCB Decachlorobiphenyl	64		53 - 122

Lab Sample ID: LCSD 580-87465/3-A
Matrix: Water
Analysis Batch: 87537

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87465

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD	Limit
		Result	Qualifier				Limits			
Aldrin	0.200	0.200		ug/L		100	44 - 139	11	38	
alpha-BHC	0.200	0.218		ug/L		109	41 - 133	5	41	
beta-BHC	0.200	0.211		ug/L		106	54 - 130	4	34	
delta-BHC	0.200	0.204		ug/L		102	7 - 169	3	49	
gamma-BHC (Lindane)	0.200	0.223		ug/L		112	53 - 134	3	42	
4,4'-DDD	0.200	0.266		ug/L		133	40 - 152	7	47	
4,4'-DDE	0.200	0.259		ug/L		130	43 - 148	13	43	
4,4'-DDT	0.200	0.210		ug/L		105	37 - 162	9	49	
Dieldrin	0.200	0.260		ug/L		130	46 - 145	5	39	
Endosulfan I	0.200	0.249		ug/L		124	49 - 132	5	40	
Endosulfan II	0.200	0.260		ug/L		130	54 - 138	3	37	
Endosulfan sulfate	0.200	0.240		ug/L		120	48 - 130	4	34	
Endrin	0.200	0.269		ug/L		135	51 - 142	5	41	
Endrin aldehyde	0.200	0.236		ug/L		118	27 - 183	0	43	
Heptachlor	0.200	0.259		ug/L		130	53 - 130	6	39	
Heptachlor epoxide	0.200	0.249		ug/L		124	54 - 125	5	35	
Methoxychlor	0.200	0.260		ug/L		130	47 - 167	4	37	
Endrin ketone	0.200	0.270	*	ug/L		135	48 - 134	7	37	
alpha-Chlordane	0.200	0.243		ug/L		122	40 - 131	7	43	

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 580-87465/3-A
Matrix: Water
Analysis Batch: 87537

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87465

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	Limit
							Limits	RPD		
gamma-Chlordane	0.200	0.245		ug/L		122	46 - 131	8		40
Surrogate										
		LCSD	LCSD				% Recovery	Qualifier	Limits	
Tetrachloro-m-xylene							73		18 - 181	
DCB Decachlorobiphenyl							78		53 - 122	

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 580-87431/9-C
Matrix: Water
Analysis Batch: 87959

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 87862

Analyte	Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/14/11 09:50	06/14/11 15:30	5
Antimony	ND		0.0020		mg/L		06/14/11 09:50	06/14/11 15:30	5
Cadmium	ND		0.0020		mg/L		06/14/11 09:50	06/14/11 15:30	5
Copper	ND		0.0050		mg/L		06/14/11 09:50	06/14/11 15:30	5
Lead	ND		0.0020		mg/L		06/14/11 09:50	06/14/11 15:30	5
Manganese	ND		0.0020		mg/L		06/14/11 09:50	06/14/11 15:30	5
Zinc	ND		0.0070		mg/L		06/14/11 09:50	06/14/11 15:30	5

Lab Sample ID: LCS 580-87862/24-A
Matrix: Water
Analysis Batch: 87959

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 87862

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	RPD
Arsenic	4.00	4.06		mg/L		101	80 - 120	
Antimony	3.00	2.78		mg/L		93	80 - 120	
Cadmium	0.100	0.0994		mg/L		99	80 - 120	
Copper	0.500	0.509		mg/L		102	80 - 120	
Lead	1.00	0.988		mg/L		99	80 - 120	
Manganese	1.00	1.01		mg/L		101	80 - 120	
Zinc	1.00	1.04		mg/L		104	80 - 120	

Lab Sample ID: LCSD 580-87862/25-A
Matrix: Water
Analysis Batch: 87959

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 87862

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	Limit
							Limits	RPD		
Arsenic	4.00	4.00		mg/L		100	80 - 120	1		20
Antimony	3.00	2.75		mg/L		92	80 - 120	1		20
Cadmium	0.100	0.0983		mg/L		98	80 - 120	1		20
Copper	0.500	0.505		mg/L		101	80 - 120	1		20
Lead	1.00	0.987		mg/L		99	80 - 120	0		20
Manganese	1.00	1.01		mg/L		101	80 - 120	0		20
Zinc	1.00	1.02		mg/L		102	80 - 120	2		20

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSSRM 580-87862/26-A
Matrix: Water
Analysis Batch: 87959

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 87862

Analyte	Spike Added	LCSSRM		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Arsenic	4.00	4.08		mg/L		102	80 - 120	
Antimony	3.00	2.81		mg/L		94	80 - 120	
Cadmium	0.100	0.106		mg/L		106	80 - 120	
Copper	0.500	0.508		mg/L		102	80 - 120	
Lead	1.00	1.01		mg/L		101	80 - 120	
Manganese	1.00	1.02		mg/L		102	80 - 120	
Zinc	1.00	1.00		mg/L		100	80 - 120	

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-87513/20-A
Matrix: Water
Analysis Batch: 87619

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87513

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 12:09	1

Lab Sample ID: LCS 580-87513/21-A
Matrix: Water
Analysis Batch: 87619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87513

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Mercury	0.00200	0.00213		mg/L		106	80 - 120	

Lab Sample ID: LCSD 580-87513/22-A
Matrix: Water
Analysis Batch: 87619

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87513

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD	Limit
		Result	Qualifier				Limits	RPD		
Mercury	0.00200	0.00214		mg/L		107	80 - 120	0	20	

Lab Sample ID: LCSSRM 580-87513/23-A
Matrix: Water
Analysis Batch: 87619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87513

Analyte	Spike Added	LCSSRM		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Mercury	0.00200	0.00216		mg/L		108	75 - 125	

Lab Sample ID: LCS 580-87518/17-A
Matrix: Water
Analysis Batch: 87619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87518

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Mercury	0.00200	0.00218		mg/L		109	80 - 120	

Lab Sample ID: LCSD 580-87518/18-A
Matrix: Water
Analysis Batch: 87619

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 87518

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD	Limit
		Result	Qualifier				Limits	RPD		
Mercury	0.00200	0.00218		mg/L		109	80 - 120	0	20	

QC Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Lab Sample ID: LCSSRM 580-87518/19-A
Matrix: Water
Analysis Batch: 87619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87518

Analyte	Spike Added	LCSSRM	LCSSRM	Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Mercury	0.00200	0.00221		mg/L		110	75 - 125	

Lab Sample ID: MB 580-87431/9-B
Matrix: Water
Analysis Batch: 87619

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 87518

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.00020		mg/L		06/09/11 08:30	06/09/11 12:58	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-87485/5
Matrix: Water
Analysis Batch: 87485

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	ND		0.90		mg/L			06/03/11 11:31	1
Sulfate	ND		1.2		mg/L			06/03/11 11:31	1

Lab Sample ID: LCS 580-87485/6
Matrix: Water
Analysis Batch: 87485

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Chloride	5.00	4.84		mg/L		97	90 - 110	
Sulfate	15.0	14.8		mg/L		99	90 - 110	

Lab Sample ID: 580-26540-7 MS
Matrix: Water
Analysis Batch: 87485

Client Sample ID: BLIND
Prep Type: Total/NA

Analyte	Sample		Spike Added	MS	MS	Unit	D	% Rec	% Rec.	
	Result	Qualifier		Result	Qualifier				Limits	
Chloride	19		40.0	61.7		mg/L		107	90 - 110	
Sulfate	160		40.0	204	4	mg/L		108	90 - 110	

Lab Sample ID: 580-26540-7 DU
Matrix: Water
Analysis Batch: 87485

Client Sample ID: BLIND
Prep Type: Total/NA

Analyte	Sample		Spike Added	DU	DU	Unit	D	RPD	RPD	
	Result	Qualifier		Result	Qualifier				Limit	
Chloride	21		40.0	21.3		mg/L		0.1	10	

Lab Sample ID: 580-26540-7 DU
Matrix: Water
Analysis Batch: 87485

Client Sample ID: BLIND
Prep Type: Total/NA

Analyte	Sample		Spike Added	DU	DU	Unit	D	RPD	RPD	
	Result	Qualifier		Result	Qualifier				Limit	
Sulfate	160		40.0	161		mg/L		0.4	10	

QC Sample Results

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 580-87486/5
Matrix: Water
Analysis Batch: 87486

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Nitrate as N	ND		0.90		mg/L			06/03/11 11:31	1

Lab Sample ID: LCS 580-87486/6
Matrix: Water
Analysis Batch: 87486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec Limits

Lab Sample ID: 580-26540-7 MS
Matrix: Water
Analysis Batch: 87486

Client Sample ID: BLIND
Prep Type: Total/NA

Analyte	Sample Sample		Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec Limits
	Result	Qualifier							
Nitrate as N	ND		4.00	ND		mg/L		95	90 - 110

Lab Sample ID: 580-26540-7 DU
Matrix: Water
Analysis Batch: 87486

Client Sample ID: BLIND
Prep Type: Total/NA

Analyte	Sample Sample		DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
	Result	Qualifier						
Nitrate as N	ND		ND		mg/L		NC	10

Method: 310.1 - Alkalinity

Lab Sample ID: MB 580-87824/1
Matrix: Water
Analysis Batch: 87824

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Alkalinity	ND		5.0		mg/L			06/13/11 17:08	1

Lab Sample ID: LCS 580-87824/2
Matrix: Water
Analysis Batch: 87824

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec Limits

Method: 415.1 - TOC

Lab Sample ID: MB 580-88007/5
Matrix: Water
Analysis Batch: 88007

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Organic Carbon	ND		1.0		mg/L			06/13/11 14:00	1

QC Sample Results

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Method: 415.1 - TOC (Continued)

Lab Sample ID: LCS 580-88007/6
Matrix: Water
Analysis Batch: 88007

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Total Organic Carbon	15.0	14.8		mg/L		99	85 - 115

Lab Sample ID: 580-26540-3 MS
Matrix: Water
Analysis Batch: 88007

Client Sample ID: MW-7A-060211
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Total Organic Carbon	7.8		10.0	17.0		mg/L		91	85 - 115

Lab Sample ID: 580-26540-3 DU
Matrix: Water
Analysis Batch: 88007

Client Sample ID: MW-7A-060211
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	7.8		7.77		mg/L		1	20

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Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-11-060211

Lab Sample ID: 580-26540-1

Date Collected: 06/02/11 07:18

Matrix: Water

Date Received: 06/03/11 10:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	87710	06/11/11 03:31	SK	TAL SEA
Total/NA	Prep	3510C			87465	06/08/11 09:32	DB	TAL SEA
Total/NA	Analysis	8081A		1	87537	06/09/11 01:57	BT	TAL SEA
Total/NA	Prep	7470A			87513	06/09/11 08:30	ZF	TAL SEA
Total/NA	Analysis	7470A		1	87619	06/09/11 12:34	FCW	TAL SEA
Dissolved	Prep	7470A			87518	06/09/11 08:30	ZF	TAL SEA
Dissolved	Analysis	7470A		1	87619	06/09/11 13:22	FCW	TAL SEA
Total Recoverable	Prep	3005A			87862	06/14/11 09:39	ZF	TAL SEA
Total Recoverable	Analysis	6020		5	87959	06/14/11 16:56	FCW	TAL SEA
Dissolved	Prep	3005A			87862	06/14/11 09:39	ZF	TAL SEA
Dissolved	Analysis	6020		5	87959	06/14/11 17:41	FCW	TAL SEA

Client Sample ID: MW-7B-060211

Lab Sample ID: 580-26540-2

Date Collected: 06/02/11 08:18

Matrix: Water

Date Received: 06/03/11 10:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	87710	06/11/11 03:58	SK	TAL SEA
Total/NA	Prep	3510C			87465	06/08/11 09:32	DB	TAL SEA
Total/NA	Analysis	8081A		1	87537	06/09/11 02:17	BT	TAL SEA
Total/NA	Prep	7470A			87513	06/09/11 08:30	ZF	TAL SEA
Total/NA	Analysis	7470A		1	87619	06/09/11 12:36	FCW	TAL SEA
Dissolved	Prep	7470A			87518	06/09/11 08:30	ZF	TAL SEA
Dissolved	Analysis	7470A		1	87619	06/09/11 13:24	FCW	TAL SEA
Total Recoverable	Prep	3005A			87862	06/14/11 09:39	ZF	TAL SEA
Total Recoverable	Analysis	6020		5	87959	06/14/11 17:01	FCW	TAL SEA
Dissolved	Prep	3005A			87862	06/14/11 09:39	ZF	TAL SEA
Dissolved	Analysis	6020		5	87959	06/14/11 17:46	FCW	TAL SEA

Client Sample ID: MW-7A-060211

Lab Sample ID: 580-26540-3

Date Collected: 06/02/11 09:22

Matrix: Water

Date Received: 06/03/11 10:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	87710	06/11/11 04:24	SK	TAL SEA
Total/NA	Analysis	RSK-175		1	205505	06/09/11 15:42	AGM	TAL SAV
Total/NA	Prep	3510C			87465	06/08/11 09:32	DB	TAL SEA
Total/NA	Analysis	8081A		1	87537	06/09/11 02:36	BT	TAL SEA
Total/NA	Prep	7470A			87513	06/09/11 08:30	ZF	TAL SEA
Total/NA	Analysis	7470A		1	87619	06/09/11 12:38	FCW	TAL SEA
Dissolved	Prep	7470A			87518	06/09/11 08:30	ZF	TAL SEA
Dissolved	Analysis	7470A		1	87619	06/09/11 13:26	FCW	TAL SEA
Total Recoverable	Prep	3005A			87862	06/14/11 09:39	ZF	TAL SEA
Total Recoverable	Analysis	6020		5	87959	06/14/11 17:06	FCW	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-7A-060211

Lab Sample ID: 580-26540-3

Date Collected: 06/02/11 09:22

Matrix: Water

Date Received: 06/03/11 10:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			87862	06/14/11 09:39	ZF	TAL SEA
Dissolved	Analysis	6020		5	87959	06/14/11 17:51	FCW	TAL SEA
Total/NA	Analysis	300.0		1	87485	06/03/11 16:20	AM	TAL SEA
Total/NA	Analysis	300.0		10	87485	06/14/11 14:58	AM	TAL SEA
Total/NA	Analysis	300.0		1	87486	06/03/11 16:20	AM	TAL SEA
Total/NA	Analysis	310.1		1	87824	06/13/11 17:08	SH	TAL SEA
Total/NA	Analysis	415.1		1	88007	06/13/11 14:00	AM	TAL SEA

Client Sample ID: MW-10-060211

Lab Sample ID: 580-26540-4

Date Collected: 06/02/11 10:28

Matrix: Water

Date Received: 06/03/11 10:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	87710	06/11/11 04:49	SK	TAL SEA
Total/NA	Prep	3510C			87465	06/08/11 09:32	DB	TAL SEA
Total/NA	Analysis	8081A		1	87537	06/09/11 05:31	BT	TAL SEA
Total/NA	Prep	7470A			87513	06/09/11 08:30	ZF	TAL SEA
Total/NA	Analysis	7470A		1	87619	06/09/11 12:39	FCW	TAL SEA
Dissolved	Prep	7470A			87518	06/09/11 08:30	ZF	TAL SEA
Dissolved	Analysis	7470A		1	87619	06/09/11 13:27	FCW	TAL SEA
Total Recoverable	Prep	3005A			87862	06/14/11 09:39	ZF	TAL SEA
Total Recoverable	Analysis	6020		5	87959	06/14/11 17:11	FCW	TAL SEA
Dissolved	Prep	3005A			87862	06/14/11 09:39	ZF	TAL SEA
Dissolved	Analysis	6020		5	87959	06/14/11 17:56	FCW	TAL SEA

Client Sample ID: MW-1-060211

Lab Sample ID: 580-26540-5

Date Collected: 06/02/11 11:42

Matrix: Water

Date Received: 06/03/11 10:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	88015	06/15/11 16:28	SK	TAL SEA
Total/NA	Analysis	RSK-175		1	205505	06/09/11 15:55	AGM	TAL SAV
Total/NA	Prep	3510C			87465	06/08/11 09:32	DB	TAL SEA
Total/NA	Analysis	8081A		1	87537	06/09/11 05:50	BT	TAL SEA
Total/NA	Prep	7470A			87513	06/09/11 08:30	ZF	TAL SEA
Total/NA	Analysis	7470A		1	87619	06/09/11 12:41	FCW	TAL SEA
Dissolved	Prep	7470A			87518	06/09/11 08:30	ZF	TAL SEA
Dissolved	Analysis	7470A		1	87619	06/09/11 13:29	FCW	TAL SEA
Total Recoverable	Prep	3005A			87862	06/14/11 09:39	ZF	TAL SEA
Total Recoverable	Analysis	6020		5	87959	06/14/11 17:16	FCW	TAL SEA
Dissolved	Prep	3005A			87862	06/14/11 09:39	ZF	TAL SEA
Dissolved	Analysis	6020		5	87959	06/14/11 18:01	FCW	TAL SEA
Total/NA	Analysis	300.0		1	87485	06/03/11 16:37	AM	TAL SEA
Total/NA	Analysis	300.0		1	87486	06/03/11 16:37	AM	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: MW-1-060211

Lab Sample ID: 580-26540-5

Date Collected: 06/02/11 11:42

Matrix: Water

Date Received: 06/03/11 10:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	310.1		1	87824	06/13/11 17:08	SH	TAL SEA
Total/NA	Analysis	415.1		1	88007	06/13/11 14:00	AM	TAL SEA

Client Sample ID: WDOE-6-060211

Lab Sample ID: 580-26540-6

Date Collected: 06/02/11 12:46

Matrix: Water

Date Received: 06/03/11 10:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	87710	06/11/11 05:15	SK	TAL SEA
Total/NA	Analysis	8260B	DL	10	87872	06/14/11 18:07	SK	TAL SEA
Total/NA	Analysis	RSK-175		1	205505	06/09/11 16:08	AGM	TAL SAV
Total/NA	Prep	3510C			87465	06/08/11 09:32	DB	TAL SEA
Total/NA	Analysis	8081A		1	87537	06/09/11 06:09	BT	TAL SEA
Total/NA	Prep	7470A			87513	06/09/11 08:30	ZF	TAL SEA
Total/NA	Analysis	7470A		1	87619	06/09/11 12:43	FCW	TAL SEA
Dissolved	Prep	7470A			87518	06/09/11 08:30	ZF	TAL SEA
Dissolved	Analysis	7470A		1	87619	06/09/11 13:31	FCW	TAL SEA
Total Recoverable	Prep	3005A			87862	06/14/11 09:39	ZF	TAL SEA
Total Recoverable	Analysis	6020		5	87959	06/14/11 17:21	FCW	TAL SEA
Dissolved	Prep	3005A			87862	06/14/11 09:50	ZF	TAL SEA
Dissolved	Analysis	6020		5	87959	06/14/11 18:06	FCW	TAL SEA
Total/NA	Analysis	300.0		1	87485	06/03/11 16:53	AM	TAL SEA
Total/NA	Analysis	300.0		10	87485	06/14/11 15:15	AM	TAL SEA
Total/NA	Analysis	300.0		1	87486	06/03/11 16:53	AM	TAL SEA
Total/NA	Analysis	310.1		1	87824	06/13/11 17:08	SH	TAL SEA
Total/NA	Analysis	415.1		1	88007	06/13/11 14:00	AM	TAL SEA

Client Sample ID: BLIND

Lab Sample ID: 580-26540-7

Date Collected: 06/02/11 13:16

Matrix: Water

Date Received: 06/03/11 10:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	87710	06/11/11 05:40	SK	TAL SEA
Total/NA	Analysis	8260B	DL	10	87872	06/14/11 18:33	SK	TAL SEA
Total/NA	Analysis	RSK-175		1	205505	06/09/11 16:21	AGM	TAL SAV
Total/NA	Prep	3510C			87465	06/08/11 09:32	DB	TAL SEA
Total/NA	Analysis	8081A		1	87537	06/09/11 06:29	BT	TAL SEA
Total/NA	Prep	7470A			87513	06/09/11 08:30	ZF	TAL SEA
Total/NA	Analysis	7470A		1	87619	06/09/11 12:44	FCW	TAL SEA
Dissolved	Prep	7470A			87518	06/09/11 08:30	ZF	TAL SEA
Dissolved	Analysis	7470A		1	87619	06/09/11 13:32	FCW	TAL SEA
Total Recoverable	Prep	3005A			87862	06/14/11 09:39	ZF	TAL SEA
Total Recoverable	Analysis	6020		5	87959	06/14/11 17:26	FCW	TAL SEA

Lab Chronicle

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Client Sample ID: BLIND

Lab Sample ID: 580-26540-7

Date Collected: 06/02/11 13:16

Matrix: Water

Date Received: 06/03/11 10:13

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared Or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Dissolved	Prep	3005A			87862	06/14/11 09:50	ZF	TAL SEA
Dissolved	Analysis	6020		5	87959	06/14/11 18:11	FCW	TAL SEA
Total/NA	Analysis	300.0		1	87485	06/03/11 17:09	AM	TAL SEA
Total/NA	Analysis	300.0		10	87485	06/14/11 15:31	AM	TAL SEA
Total/NA	Analysis	300.0		1	87486	06/03/11 17:09	AM	TAL SEA
Total/NA	Analysis	310.1		1	87824	06/13/11 17:08	SH	TAL SEA
Total/NA	Analysis	415.1		1	88007	06/13/11 14:00	AM	TAL SEA

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310



Certification Summary

Client: Farallon Consulting LLC
 Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022
TestAmerica Seattle	Alaska	TA-Port Heiden Mobile Lab	10	UST-093
TestAmerica Seattle	California	NELAC	9	1115CA
TestAmerica Seattle	Florida	NELAC	4	E871074
TestAmerica Seattle	L-A-B	DoD ELAP		L2236
TestAmerica Seattle	L-A-B	ISO/IEC 17025		L2236
TestAmerica Seattle	Louisiana	NELAC	6	05016
TestAmerica Seattle	Montana	MT DEQ UST	8	N/A
TestAmerica Seattle	Oregon	NELAC	10	WA100007
TestAmerica Seattle	USDA	USDA		P330-11-00222
TestAmerica Seattle	Washington	State Program	10	C553
TestAmerica Savannah	A2LA	DoD ELAP		0399-01
TestAmerica Savannah	A2LA	ISO/IEC 17025		399.01
TestAmerica Savannah	Alabama	State Program	4	41450
TestAmerica Savannah	Arkansas	Arkansas DOH	6	N/A
TestAmerica Savannah	Arkansas	State Program	6	88-0692
TestAmerica Savannah	California	NELAC	9	3217CA
TestAmerica Savannah	Colorado	State Program	8	N/A
TestAmerica Savannah	Connecticut	State Program	1	PH-0161
TestAmerica Savannah	Delaware	State Program	3	N/A
TestAmerica Savannah	Florida	NELAC	4	E87052
TestAmerica Savannah	Georgia	Georgia EPD	4	N/A
TestAmerica Savannah	Georgia	State Program	4	803
TestAmerica Savannah	Guam	State Program	9	09-005r
TestAmerica Savannah	Hawaii	State Program	9	N/A
TestAmerica Savannah	Illinois	NELAC	5	200022
TestAmerica Savannah	Indiana	State Program	5	N/A
TestAmerica Savannah	Iowa	State Program	7	353
TestAmerica Savannah	Kansas	NELAC	7	E-10322
TestAmerica Savannah	Kentucky	Kentucky UST	4	18
TestAmerica Savannah	Kentucky	State Program	4	90084
TestAmerica Savannah	Louisiana	NELAC	6	LA100015
TestAmerica Savannah	Louisiana	NELAC	6	30690
TestAmerica Savannah	Maine	State Program	1	GA00006
TestAmerica Savannah	Maryland	State Program	3	250
TestAmerica Savannah	Massachusetts	State Program	1	M-GA006
TestAmerica Savannah	Michigan	State Program	5	9925
TestAmerica Savannah	Mississippi	State Program	4	N/A
TestAmerica Savannah	Montana	State Program	8	CERT0081
TestAmerica Savannah	Nebraska	State Program	7	TestAmerica-Savannah
TestAmerica Savannah	Nevada	State Program	9	GA6
TestAmerica Savannah	New Jersey	NELAC	2	GA769
TestAmerica Savannah	New Mexico	State Program	6	N/A
TestAmerica Savannah	New York	NELAC	2	10842
TestAmerica Savannah	North Carolina	North Carolina DENR	4	269
TestAmerica Savannah	North Carolina	North Carolina PHL	4	13701
TestAmerica Savannah	Oklahoma	State Program	6	9984
TestAmerica Savannah	Pennsylvania	NELAC	3	68-00474
TestAmerica Savannah	Puerto Rico	State Program	2	GA00006
TestAmerica Savannah	Rhode Island	State Program	1	LAO00244
TestAmerica Savannah	South Carolina	State Program	4	98001
TestAmerica Savannah	Tennessee	State Program	4	TN02961
TestAmerica Savannah	Texas	NELAC	6	T104704185-08-TX
TestAmerica Savannah	USDA	USDA		SAV 3-04

Certification Summary

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Savannah	Vermont	State Program	1	87052
TestAmerica Savannah	Virginia	State Program	3	302
TestAmerica Savannah	Washington	State Program	10	C1794
TestAmerica Savannah	West Virginia	West Virginia DEP	3	94
TestAmerica Savannah	West Virginia	West Virginia DHHR (DW)	3	9950C
TestAmerica Savannah	Wisconsin	State Program	5	999819810
TestAmerica Savannah	Wyoming	State Program	8	8TMS-Q

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.



Sample Summary

Client: Farallon Consulting LLC
Project/Site: YSF Yakima Steel

TestAmerica Job ID: 580-26540-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-26540-1	MW-11-060211	Water	06/02/11 07:18	06/03/11 10:13
580-26540-2	MW-7B-060211	Water	06/02/11 08:18	06/03/11 10:13
580-26540-3	MW-7A-060211	Water	06/02/11 09:22	06/03/11 10:13
580-26540-4	MW-10-060211	Water	06/02/11 10:28	06/03/11 10:13
580-26540-5	MW-1-060211	Water	06/02/11 11:42	06/03/11 10:13
580-26540-6	WDOE-6-060211	Water	06/02/11 12:46	06/03/11 10:13
580-26540-7	BLIND	Water	06/02/11 13:16	06/03/11 10:13

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Rush

Short Hold

Chain of Custody Record

Client Furukawa		Client Contact Brett Comp		Date 6-2-11	Chain of Custody Number 11303
Address		Telephone Number (Area Code)/Fax Number (425) 245-0800		Lab Number 26540	Page 1 of 1

City Issaquah	State WA	Zip Code 98027	Sampler R. Hibbs	Lab Contact	Analysis (Attach list if more space is needed)
Project Name and Location (State) YSF Yukon WA			Billing Contact		

Contract/Purchase Order/Quote No.
765-001

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives							Special Instructions/ Conditions of Receipt										
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	100%		Original Container Packed with matrix	Matrix 100%	Alkalinity	Sulfate	Nitrate	TOC	Chloride	Mercury, Ethanol		
MW-11-060211	6-2-11	0718	X				X ³	X ¹	X ³	X ¹			X	X	X									
MW-7B-060211		0818					3	1	3	1			X	X	X									
MW-7A-060211		0922					3	1	6	1			X	X	X	X	X	X	X	X				
MW-10-060211		1028					3	1	3	1			X	X	X									
MW-1-060211		1142					3	1	6	1			X	X	X	X	X	X	X	X				
MW-100E-6-060211		1246					3	1	6	1			X	X	X	X	X	X	X	X				
Blind		1316					3	1	6	1			X	X	X	X	X	X	X	X				
Trip Blank										3														

Cooler (TB) Dig/IR cor 1.3 unc 1.3 Cooler Dsc Lg Gr/blv @ Lab Wet/Packs Packing bubble #2 w/o	Cooler (TB) Dig/IR cor 0.7 unc 0.7 Cooler Dsc Lg Gr/bl @ Lab Wet/Packs Packing bubble	Cooler (TB) Dig/IR cor 1.9 unc 1.9 Cooler Dsc Lg Bly/wh @ Lab Wet/Packs Packing bubble
--	---	--

Yes No Cooler Temp: _____ Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown
 Return To Client Archive For _____ Months Sample Disposal: Disposal By Lab (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): 24 Hours 48 Hours 5 Days 10 Days 15 Days Other _____

1. Relinquished By Sign/Print		Date	Time	1. Received By Sign/Print		Date	Time
Ryan Hibbs		6-3-11	1013	Tom [Signature] / Blankinship		6/3/11	1013
2. Relinquished By Sign/Print		Date	Time	2. Received By Sign/Print		Date	Time
3. Relinquished By Sign/Print		Date	Time	3. Received By Sign/Print		Date	Time

Comments: **Dissolved metals not filtered**

Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-26540-1

Login Number: 26540

List Source: TestAmerica Seattle

List Number: 1

Creator: Blankinship, Tom

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-26540-1

Login Number: 26540
List Number: 1
Creator: Barnett, Eddie T

List Source: TestAmerica Savannah
List Creation: 06/07/11 12:16 PM

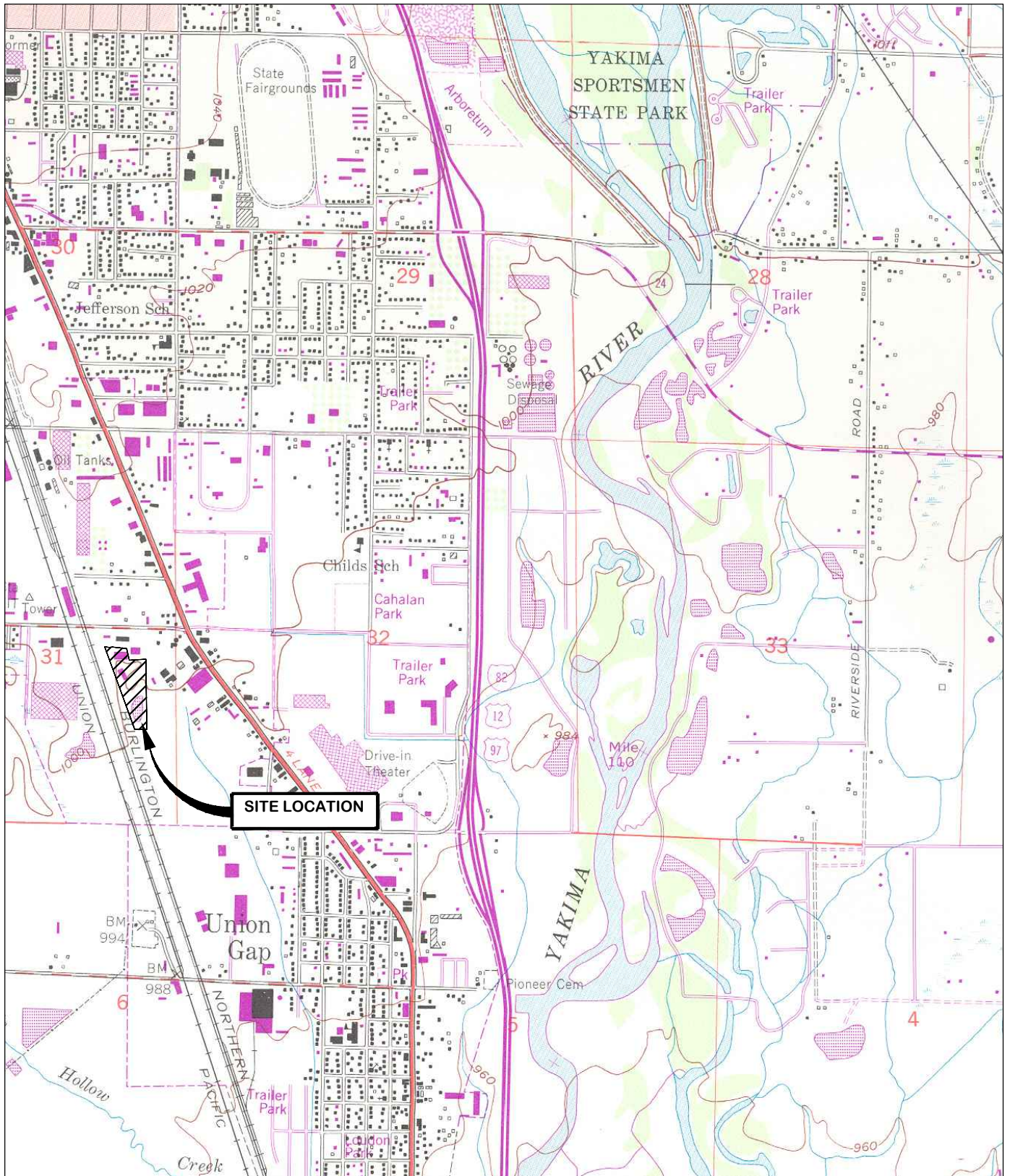
Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the sample IDs on the containers and the COC.	False	Received Trip Blank(s) & vials for -5 not listed on COC.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ATTACHMENT C
WETLAND EVALUATION TM FIGURES AND TABLES

CONCEPTUAL SITE MODEL TECHNICAL MEMORANDUM
Agri-Tech and Yakima Steel Fabricators Site
Yakima Steel Fabricators
Yakima, Washington

Farallon PN: 765-001



REFERENCE: 7.5 MINUTE USGS QUADRANGLE YAKIMA SOUTH, WASHINGTON. DATED 1953 AND PHOTOREVISED 1981



WASHINGTON




Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

California
Oakland | Sacramento | Irvine

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FIGURE 1

SITE VICINITY MAP
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001






Drawn By: DEW

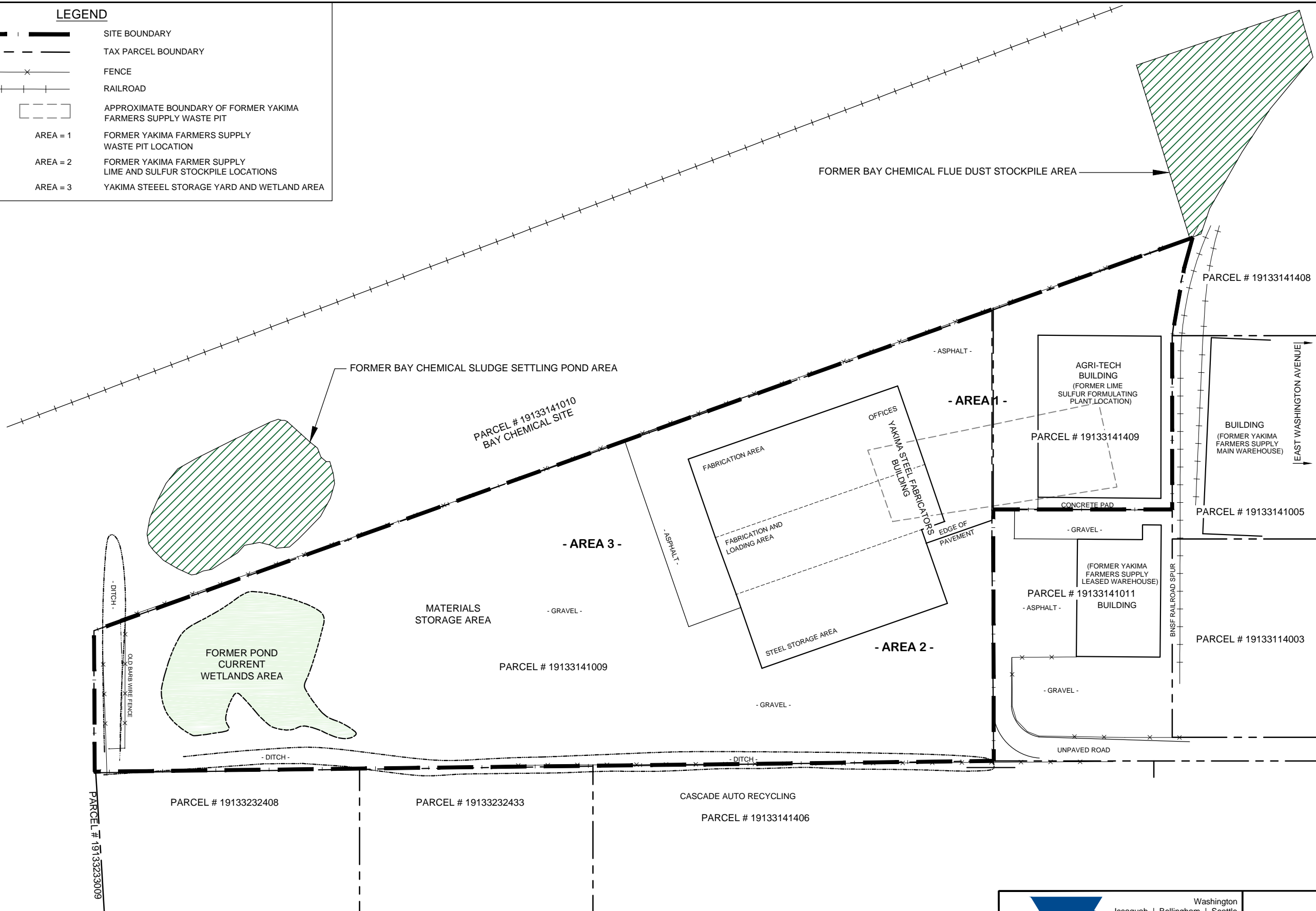
Checked By: HC

Date: 1/25/2016

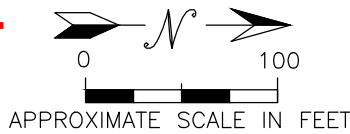
Disk Reference: 765001a

LEGEND

-  SITE BOUNDARY
-  TAX PARCEL BOUNDARY
-  FENCE
-  RAILROAD
-  APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA = 1 FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA = 2 FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA = 3 YAKIMA STEEL STORAGE YARD AND WETLAND AREA



DRAFT




Washington
Issaquah | Bellingham | Seattle

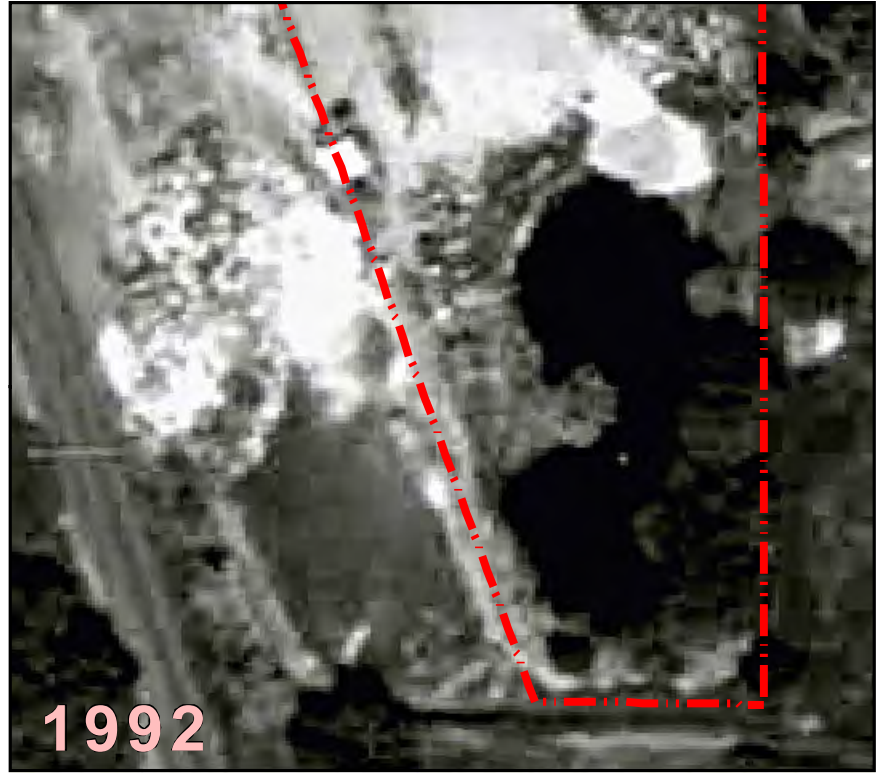
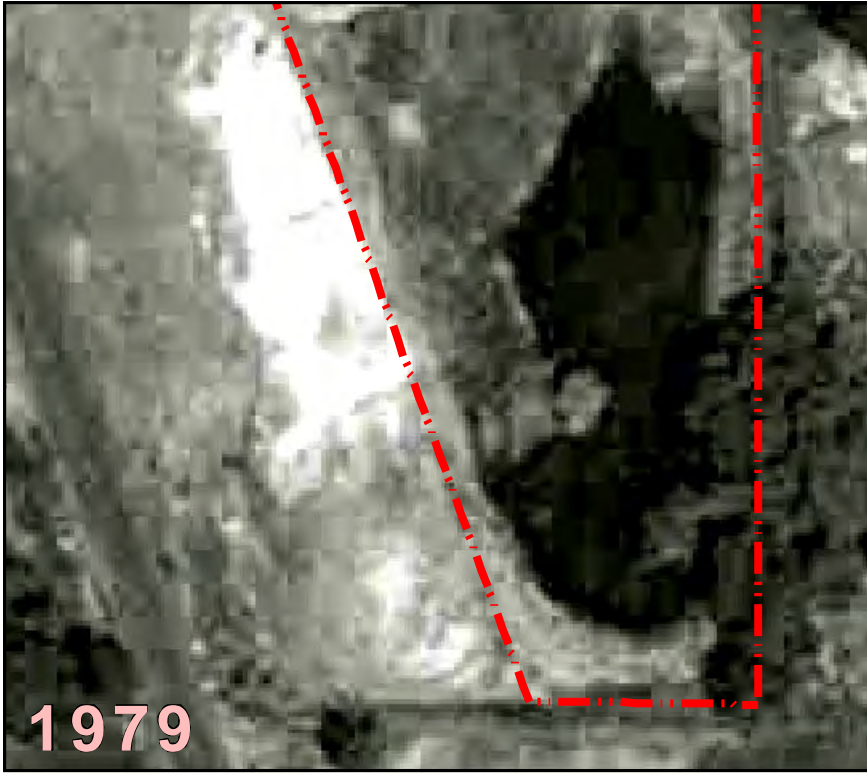
Oregon
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FIGURE 2
SITE PLAN AND TAX PARCEL LOCATIONS
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON



LEGEND

 SITE BOUNDARY

0 100
SCALE IN FEET




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Drawn By: ebuer

Checked By: JC

Date: 1/31/2017

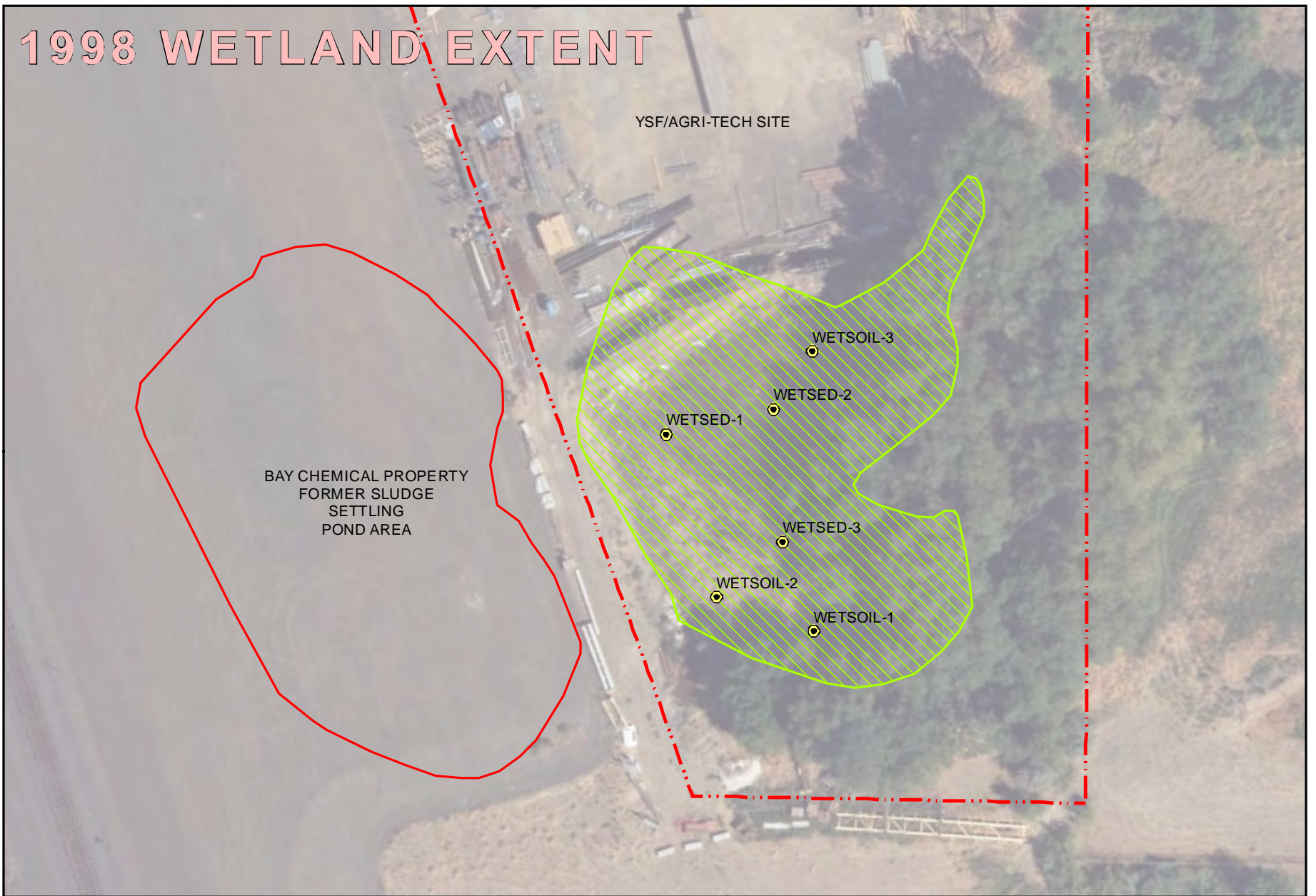
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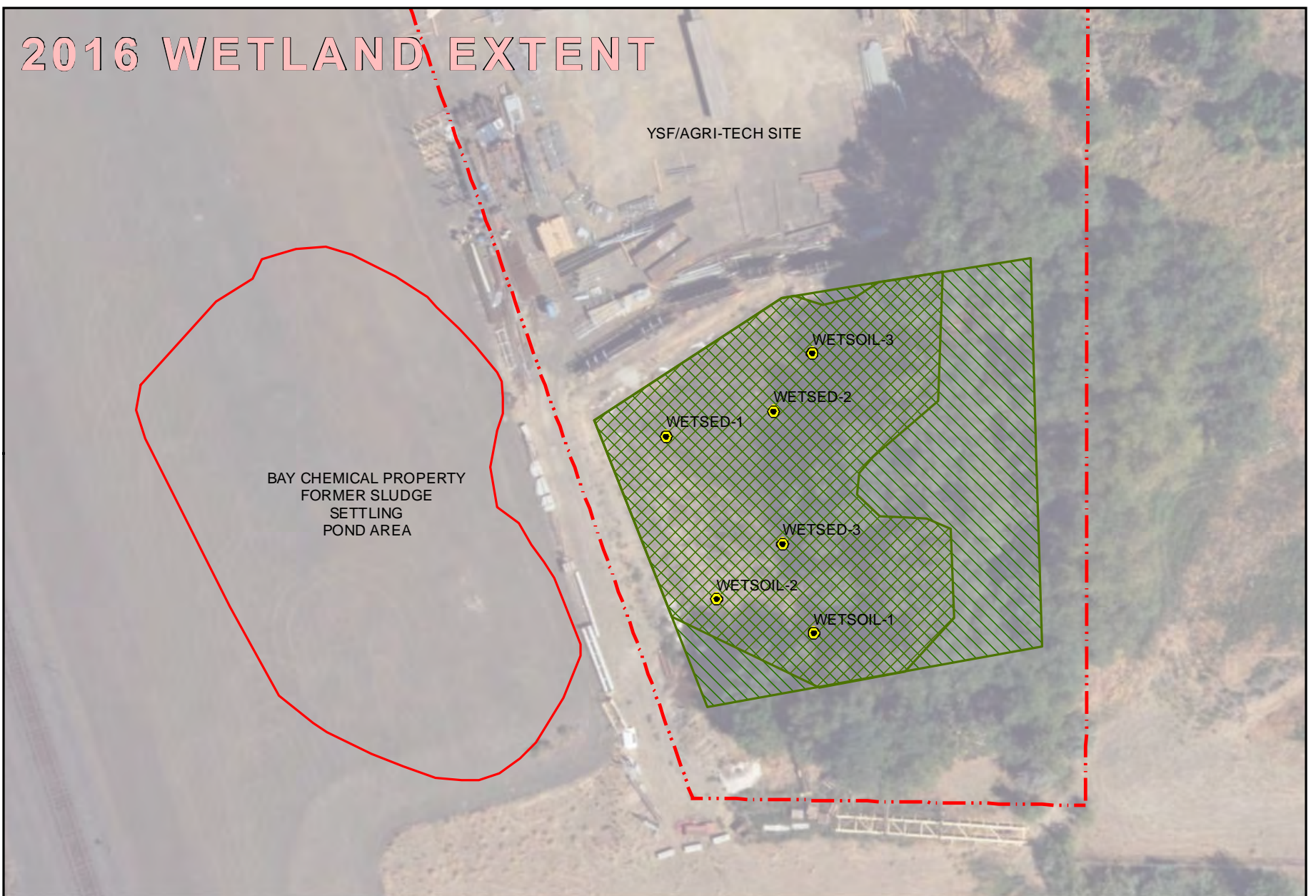
FIGURE 3
HISTORICAL WETLAND EXTENT
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001







1998 WETLAND EXTENT



2016 WETLAND EXTENT



LEGEND

-  SAMPLE LOCATION
-  FORMER SLUDGE SETTLING POND AREA
-  YSF/AGRI-TECH SITE
-  1998 WETLAND EXTENT
-  2016 EMERGENT WETLAND
-  2016 WETLAND EXTENT




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FIGURE 4
WETLAND BOUNDARIES
YSF/AGRI-TECH SITE
6 AND 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 555-001

Drawn By: ebuer

Checked By: JC

Date: 1/31/2017

Disc Reference:

Document Path: G:\Projects\765001 Yakima Steel Fab\GISMapfiles\Wetland\Figure_03.mxd

Table 1
Analytical Results for Metals
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Farallon PN: 765-001

Grid	Test Pit	Sample Identification	Laboratory Report	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²							
						Antimony ³	Arsenic ³	Cadmium ⁴	Copper ³	Lead ³	Manganese ³	Mercury ⁴	Zinc ³
Wetland Samples													
E	WetSoil-1	E-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<5.1	<5.1	3.7	39	110	190	0.14	1,700
		E-wetsoil-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<2.4	<2.4	<0.40	17	4.2	160	0.043	310
	WetSoil-2	E-wetsoil-2-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<3.4	<3.4	1.6	19	19	250	0.071	670
		E-wetsoil-2-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<3.0	<3.0	1.8	20	4.4	270	0.059	870
	WetSed-1	E-wetsed-1-053111	580-26360-1	5/23/2011	0.5	<5.8	<5.8	9.2	36	190	210	–	2,700
	WetSed-2	E-wetsed-2-053111	580-26360-1	5/23/2011	0.5	<6.9	7.6	6.8	41	150	220	–	2,800
WetSed-3	E-wetsed-3-053111	580-26360-1	5/23/2011	0.5	<6.1	8.5	7.8	52	180	270	–	2,700	
G	WetSoil-3	G-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<2.4	<2.4	<0.40	16	3.5	210	0.044	41
		G-wetsoil-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<4.2	<4.2	1.5	40	80	470	0.14	510
Sediment Cleanup Objective⁵						--	14	2.1	400	360	--	0.7	3,200
Sediment Cleanup Screening Level⁵						--	120	5.4	1,200	1,300	--	0.8	4,200

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.

Result exceeds the sediment cleanup objective.

Result exceeds the sediment cleanup screening level.

– = denotes sample not analyzed

< denotes analyte not detected at or exceeding the laboratory reporting limit listed.

¹ Depth in feet below ground surface.

² Analyzed by U.S. Environmental Protection Agency Methods 6000/6010/7000 Series.

³ Constituent was not retained as a COPC following completion of the *Revised Remedial Investigation Report, Agri-Tech & Yakima Steel Fabricators*, 6 and 10 1/2 East Washington Avenue, Yakima, Washington dated June 10, 2004, prepared by Farallon Consulting, L.L.C. (Revised RI Report).

⁴ Identified and retained as COPC in the Revised RI Report.

⁵ Table VI, *Freshwater Sediment Cleanup Objectives and Cleanup Screening Levels Chemical Criteria*, of Section 563 of Chapter 173-204 of the Washington Administrative Code (WAC 173-204-563).

COPC = constituent of potential concern

L = a negative instrument reading had an absolute value greater than the reporting limit

Table 2
Analytical Results for Petroleum Hydrocarbons
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Farallon PN: 765-001

Grid	Test Pit	Sample Identification	Lab Report	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram)						
						GRO ²	DRO ³	ORO ³	Benzene ³	Toluene ³	Ethylbenzene ³	Xylenes ³
Wetland Samples												
E	Wetsoil-1	E-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<36	<90	<180	<0.0019	<0.0038	<0.0019*	<0.0047*
		E-wetsoil-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<22	<54	<110	<0.0012 ^H	<0.0024 ^H	<0.0012 ^H	<0.0036 ^H
	Wetsoil-2	E-wetsoil-2-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<22	<55	<110	<0.00091 ^H	<0.0018 ^H	<0.00091 ^H	<0.00271 ^H
		E-wetsoil-2-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<23	<58	<120	<0.0013 ^H	<0.0026 ^H	<0.0013 ^H	<0.0039 ^H
	WetSed-1	E-wetsed-1-052311	580-26502-1	5/23/2011	0.5	--	-	-	<0.0027	<0.0054	<0.0027	<0.0081
	WetSed-2	E-wetsed-2-052311	580-26502-1	5/23/2011	0.5	--	-	-	<0.0026	<0.0052	<0.0026	<0.0078
WetSed-3	E-wetsed-3-052311	580-26502-1	5/23/2011	0.5	--	-	-	<0.0033	<0.0066	<0.0033	<0.0099	
G	Wetsoil-3	G-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<24	<60	<120	<0.0013 ^H	<0.0025 ^H	<0.0013 ^H	<0.0038 ^H
		G-wetsoil-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<30	<74	<150	<0.00094	<0.0019	<0.00094	<0.00284
Sediment Cleanup Objective⁴						--	340	3,600	--	--	--	--
Sediment Cleanup Screening Level⁴						--	510	4,400	--	--	--	--

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.

< denotes analyte not detected at or exceeding the laboratory reporting limit listed.

¹ Depth in feet below ground surface.

² Analyzed by Northwest Method NWTPH-HCID.

³ Analyzed by Northwest Method NWTPH-Dx.

⁴ Table VI, *Freshwater Sediment Cleanup Objectives and Cleanup Screening Levels Chemical Criteria*, of Section 563 of Chapter 173-204 of the Washington Administrative Code (WAC 173-204-563).

COPC = constituent of potential concern

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics

ORO = TPH as oil-range organics

H = sample was prepared or analyzed beyond the specified holding time

Table 3
Analytical Results for Volatile Organic Compounds
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Farallon PN: 765-001

Grid	Test Pit	Sample Identification	Lab Report	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²													
						Benzene ³	Ethyl-benzene ³	m,p-Xylene ³	o-Xylene ³	Toluene ³	Naphthalene ³	n-Butylbenzene ³	Sec-Butylbenzene ³	Isopropylbenzene ³	Methylene Chloride ³	4-Methyl-2-Pentanone ³	4-Isopropyltoluene ³	n-Propylbenzene ³	
Wetland Samples																			
E	Wetsoil-1	E-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<0.0019	<0.0019*	<0.0038 *	<0.0019 *	<0.0038	<0.0094 *	<0.0038 *	<0.0038 *	<0.0038 *	<0.028	<0.0094	<0.0038 *	<0.0019 *	
		E-wetsoil-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<0.0012 H	<0.0012 H	<0.0024 H	<0.0012 H	<0.0024 H	<0.0060 H	<0.0024 H	<0.0024 H	<0.0024 H	<0.018 H	<0.0060 H	<0.0024 H	<0.0012 H	
	Wetsoil-2	E-wetsoil-2-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<0.00091 H	<0.00091 H	<0.0018 H	<0.00091 H	<0.0018 H	<0.0045 H	<0.0018 H	<0.0018 H	<0.0018 H	<0.014 H	<0.0045 H	<0.0018 H	<0.00091 H	
		E-wetsoil-2-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<0.0013 H	<0.0013 H	<0.0026 H	<0.0013 H	<0.0026 H	<0.0065 H	<0.0026 H	<0.0026 H	<0.0026 H	<0.019 H	<0.0065 H	<0.0026 H	<0.0013 H	
	WetSed-1	E-wetsed-1-053111	580-26502-1	5/23/2011	0.5	<0.0027	<0.0027	<0.0054	<0.0027	<0.0054	<0.014	<0.0054	<0.0054	<0.054	<0.041	<0.014	<0.0054	<0.0027	
	WetSed-2	E-wetsed-2-053111	580-26502-1	5/23/2011	0.5	<0.0026	<0.0026	<0.0052	<0.0026	<0.0052	<0.013	<0.0052	<0.0052	<0.0052	<0.039	<0.013	<0.0052	<0.0026	
WetSed-3	E-wetsed-3-053111	580-26502-1	5/23/2011	0.5	<0.0033	<0.0033	<0.0066	<0.0033	<0.0066	<0.017	<0.0066	<0.0066	<0.0066	<0.050	<0.017	<0.0066	<0.0033		
G	Wetsoil-3	G-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<0.0013 H	<0.0013 H	<0.0025 H	<0.0013 H	<0.0025 H	<0.0064 H	<0.0025 H	<0.0025 H	<0.0025 H	<0.019 H	<0.0064 H	<0.0025 H	<0.0013 H	
		G-wetsoil-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<0.00094	<0.00094	<0.0019	<0.00094	<0.0019	<0.0047	<0.0019	<0.0019	<0.0019	<0.014	<0.0047	<0.0019	<0.00094	
Sediment Cleanup Objective⁵						--	--	--	--	--	--	--	--	--	--	--	--	--	
Sediment Cleanup Screening Level⁵						--	--	--	--	--	--	--	--	--	--	--	--	--	--

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

-- Denotes the initial calibration curve was outside acceptance criteria for Carbon Disulfide. As Carbon Disulfide was not a requested analyte at the time of sample analysis, it cannot be reported.

* Denotes Internal Standard response or retention time outside acceptable limits.

¹ Depth in feet below ground surface.

² Analyzed by U.S. Environmental Protection Agency Method 8260B.

³ Compound was not retained as a COPC following completion of the *Revised Remedial Investigation Report, Agri-Tech & Yakima Steel Fabricators, 6 and 10 1/2 East Washington Avenue, Yakima, Washington* dated June 10, 2004, prepared by Farallon Consulting, L.L.C. (Revised RI Report).

⁴ Identified and retained as a COPC in the Revised RI Report.

⁵ Table VI, *Freshwater Sediment Cleanup Objectives and Cleanup Screening Levels Chemical Criteria*, of Section 563 of Chapter 173-204 of the Washington Administrative Code (WAC 173-204-563).

COPC = constituent of potential concern

H = sample was prepared or analyzed beyond specified holding time

MEK = 2-butanone

NE = not established

PCE = tetrachloroethene

TCE = trichloroethene

VOCs = volatile organic compounds

**Table 3
Analytical Results for Volatile Organic Compounds
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Farallon PN: 765-001**

Grid	Test Pit	Sample Identification	Lab Report	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²											
						Acetone ³	1,2,4-Trimethylbenzene ³	1,3,5-Trimethylbenzene ³	Carbon Disulfide ³	1,2-Dichloropropane ⁴	MEK ³	Chloroform ³	Tetrachloroethene ⁴	Trichloroethene ⁴	1,1-Dichloroethene ³	(cis) 1,2-Dichloroethene ⁴	tert-Butylbenzene ³
						Wetland Samples											
E	Wetsoil-1	E-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	0.094	<0.0038 *	<0.0094 *	0.0064	<0.0019	0.010	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0038 *
		E-wetsoil-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	<0.018 H	<0.0024 H	<0.0060 H	<0.0012 H	<0.0012 H	<0.0060 H	<0.0012 H	<0.0012 H	<0.0012 H	<0.0012 H	<0.0012 H	<0.0024 H
	Wetsoil-2	E-wetsoil-2-052611-0.5-1.0	580-26451-1	5/26/2011	1.0	0.029 H	<0.0018 H	<0.0045 H	0.0010 H	<0.00091 H	<0.0045 H	<0.00091 H	<0.00091 H	<0.00091 H	<0.00091 H	<0.00091 H	<0.0018 H
		E-wetsoil-2-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	0.038 H	<0.0026 H	<0.0065 H	<0.0013 H	<0.0013 H	<0.0065 H	<0.0013 H	<0.0013 H	<0.0013 H	<0.0013 H	<0.0026 H	
	WetSed-1	E-wetsed-1-053111	580-26502-1	5/23/2011	0.5	0.082	<0.0054	<0.014	<0.0027	<0.0027	<0.014	<0.0027	<0.0027	<0.0027	<0.0027	<0.014	<0.0054
	WetSed-2	E-wetsed-2-053111	580-26502-1	5/23/2011	0.5	<0.039	<0.0052	<0.013	0.0032	<0.0026	<0.013	<0.0026	<0.0026	<0.0026	<0.0026	<0.013	<0.0052
WetSed-3	E-wetsed-3-053111	580-26502-1	5/23/2011	0.5	0.110	<0.0066	<0.017	<0.0033	<0.0033	0.025	<0.0033	<0.0033	<0.0033	<0.0033	<0.017	<0.0066	
G	Wetsoil-3	G-wetsoil-052611-0.0-0.5	580-26451-1	5/26/2011	0.5	<0.019 H	<0.0025 H	<0.0013 H	<0.0013 H	<0.0013 H	<0.0064 H	<0.0013 H	<0.0013 H	<0.0013 H	<0.0064 H	<0.0013 H	<0.0025 H
		G-wetsoil-052611-1.0-2.0	580-26451-1	5/26/2011	2.0	<0.014	<0.0019	<0.0047	<0.00094	<0.00094	<0.0047	<0.00094	<0.00094	<0.00094	<0.00094	<0.0047	<0.0019
Sediment Cleanup Objective⁵						--	--	--	--	--	--	--	--	--	--	--	
Sediment Cleanup Screening Level⁵						--	--	--	--	--	--	--	--	--	--	--	--

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

-- Denotes the initial calibration curve was outside acceptance criteria for Carbon Disulfide. As Carbon Disulfide was not a requested analyte at the time of sample analysis, it cannot be reported.

* Denotes Internal Standard response or retention time outside acceptable limits.

¹ Depth in feet below ground surface.

² Analyzed by U.S. Environmental Protection Agency Method 8260B.

³ Compound was not retained as a COPC following completion of the *Revised Remedial Investigation Report, Agri-Tech & Yakima Steel Fabricators, 6 and 10 1/2 East Washington Avenue, Yakima, Washington* dated June 10, 2004, prepared by Farallon Consulting, L.L.C. (Revised RI Report).

⁴ Identified and retained as a COPC in the Revised RI Report.

⁵ Table VI, *Freshwater Sediment Cleanup Objectives and Cleanup Screening Levels Chemical Criteria*, of Section 563 of Chapter 173-204 of the Washington Administrative Code (WAC 173-204-563).

COPC = constituent of potential concern

H = sample was prepared or analyzed beyond specified holding time

MEK = 2-butanone

NE = not established

PCE = tetrachloroethene

TCE = trichloroethene

VOCs = volatile organic compounds

**Table 4
Analytical Results for Pesticides
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Farallon PN: 765-001**

Grid	Test Pit	Lab Report	Sample Identification	Sample Date	Sample Depth (feet) ¹	Analytical Results (milligrams per kilogram) ²													
						Aldrin ³	Alpha Chlordane ⁴	4,4'-DDD ⁴	4,4'-DDE ⁴	4,4'-DDT ³	Dieldrin ⁴	Endosulfan Sulfate ³	Endrin ⁴	Heptachlor Epoxide ⁴	Endrin Aldehyde ³	Gamma Chlordane ³	Heptachlor ³	Endosulfan II	
Wetland Samples																			
E	WetSoil-1	580-26451-1	E-wetsoil-052611-0.0-0.5	5/26/2011	0.5	<0.0019	<0.0019	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0019	<0.0038	<0.0019	<0.0019	<0.0038	
			E-wetsoil-052611-0.5-1.0	5/26/2011	1.0	<0.0011	<0.0011	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0011	<0.0022	<0.0011	<0.0011	<0.0022
	WetSoil-2	580-26451-1	E-wetsoil-2-052611-0.5-1.0	5/26/2011	1.0	<0.0011	<0.0011	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0011	<0.0023	<0.0011	<0.0011	<0.0023	
			E-wetsoil-2-052611-1.0-2.0	5/26/2011	2.0	<0.0011	<0.0011	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0011	<0.0023	<0.0011	<0.0011	<0.0023	
	WetSed-1	580-26360-1	E-wetsed-1-053111	5/23/2011	0.5	<0.0021 H	<0.0021 H	<0.0042 H	<0.0042 H	<0.0042 H	<0.0042 H	<0.0042 H	<0.0042 H	<0.0021 H*	<0.0042 H	<0.0021 H	<0.0021 H	<0.0042 H	
WetSed-2	580-26360-1	E-wetsed-2-053111	5/23/2011	0.5	<0.0022 H	<0.0022 H	<0.0044 H	<0.0044 H	<0.0044 H	<0.0044 H	<0.0044 H	<0.0044 H	<0.0022 H*	<0.0044 H	<0.0022 H	<0.0022 H	<0.0044 H		
WetSed-3	580-26360-1	E-wetsed-3-053111	5/23/2011	0.5	<0.0023 H	<0.0023 H	<0.0047 H	<0.0047 H	<0.0047 H	<0.0047 H	<0.0047 H	<0.0047 H	<0.0023 H*	<0.0047 H	<0.0023 H	<0.0023 H	<0.0047 H		
G	WetSoil-3	580-26451-1	G-wetsoil-052611-0.0-0.5	5/26/2011	0.5	<0.0012	<0.0012	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0012	<0.0024	<0.0012	<0.0012	<0.0024	
			G-wetsoil-052611-1.0-2.0	5/26/2011	2.0	<0.0016	<0.0016	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0016	<0.0031	<0.0016	<0.0016	<0.0031	
Sediment Cleanup Objective⁵						--	--	0.31	0.31	0.10	4.9	--	--	--	--	--	--	--	
Sediment Cleanup Screening Level⁵						--	--	0.86	0.9	8.1	9.3	--	--	--	--	--	--	--	

NOTES:

Results in **bold** denote concentrations at or exceeding the Preliminary Screening Level indicated.

< denotes analyte not detected at or above the reporting limit listed.

¹ Depth in feet below ground surface.

² Analyzed by U.S. Environmental Protection Agency Method 8081.

³ Constituent was not retained as a COPC following completion of the *Revised Remedial Investigation Report, Agri-Tech & Yakima Steel*

Fabricators, 6 and 10 1/2 East Washington Avenue, Yakima, Washington dated June 10, 2004, prepared by Farallon Consulting, L.L.C. (Revised RI Report).

⁴ Identified and retained as a COPC in the Revised RI Report.

⁵ Table VI, *Freshwater Sediment Cleanup Objectives and Cleanup Screening Levels Chemical Criteria*, of Section 563 of Chapter 173-204 of the Washington Administrative Code (WAC 173-204-563).

* = Response or retention time outside acceptable limits.

COPC = constituent of potential concern

H = sample was prepared or analyzed beyond the specified holding time

NE = not established

Table 5
Bioassay Results Summary
Agri-Tech and Yakima Steel Fabricators Site
Yakima, Washington
Farallon PN: 765-001

Bioassay Evaluation	Screening Criteria		WETSED-1		WETSED-2		WETSED-3	
	SCO	CSL	Nautilus	Environ	Nautilus	Environ	Nautilus	Environ
10-day <i>H. azteca</i> Mortality ($M_T - M_C$)	>15%	>25%	100%	91%	14%	-4%	4%	-4%
20-day <i>C. dilutus</i> Mortality ($M_T - M_C$)	>15%	>25%	15%	14%	18%	17%	58%	20%
20-day <i>C. dilutus</i> Growth ($MIG_C - MIG_T$)/ MIG_C	>0.25	>0.40	-0.22	0.12	0.04	-0.31	0.34	-0.01

Table based on Attachment C, Table 24, Summary of Sediment Chemistry and Test Results, Agri-Tech/YSF, 2011 and 2013.

NOTES:

Result exceeds sediment cleanup objective.

Result exceeds sediment cleanup screening level.

CSL = Cleanup Screening Level

Environ = Ramboll-Environ Corporation

M_C = Control group mortality

MIG_C = Control group mean individual growth

MIG_T = Test group mean individual growth

M_T = Test group mortality

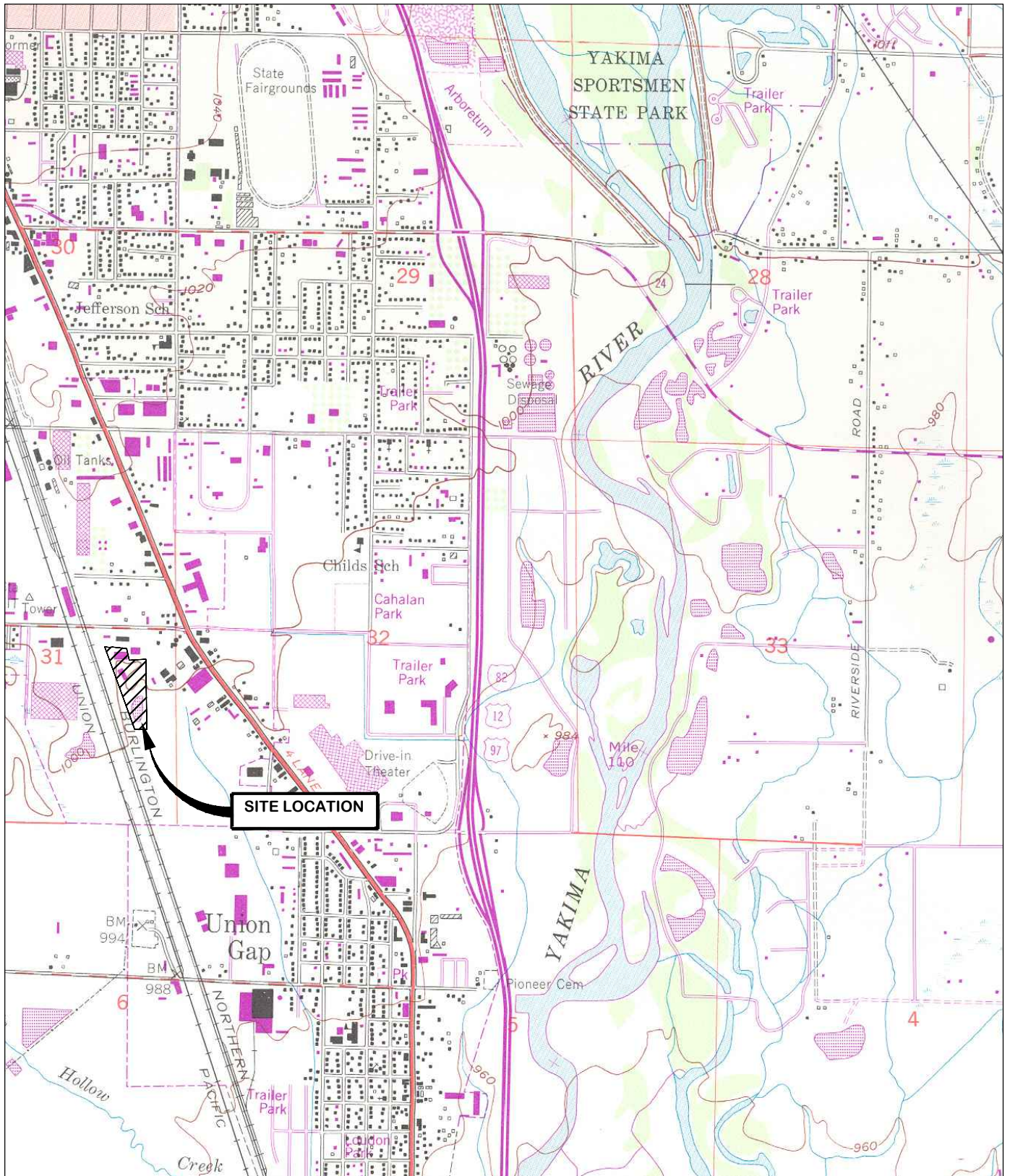
Nautilus = Nautilus Environmental

SCO = Sediment Cleanup Objective

ATTACHMENT D
METALS SOURCE TM FIGURES AND TABLES

CONCEPTUAL SITE MODEL TECHNICAL MEMORANDUM
Agri-Tech and Yakima Steel Fabricators Site
Yakima Steel Fabricators
Yakima, Washington

Farallon PN: 765-001



REFERENCE: 7.5 MINUTE USGS QUADRANGLE YAKIMA SOUTH, WASHINGTON. DATED 1953 AND PHOTOREVISED 1981



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FIGURE 1

SITE VICINITY MAP
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

Drawn By: DEW





Checked By: HC

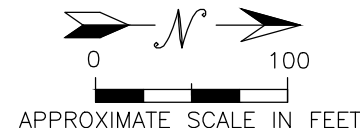
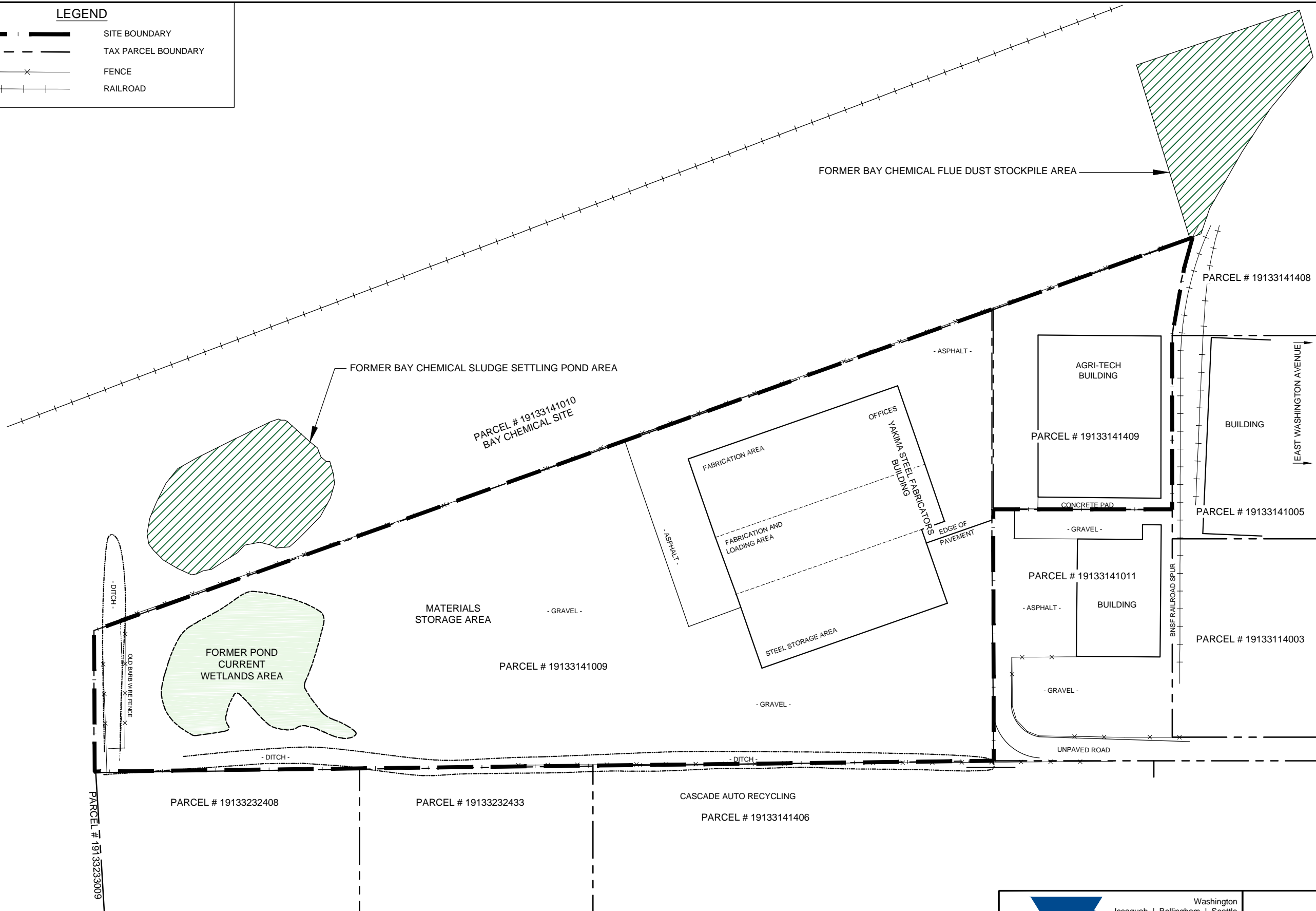
Date: 1/25/2016

Disk Reference: 765001a

FARALLON PN: 765-001

LEGEND

-  SITE BOUNDARY
-  TAX PARCEL BOUNDARY
-  FENCE
-  RAILROAD




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FIGURE 2
SITE PLAN AND TAX PARCEL LOCATIONS
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

LEGEND

- APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA 1** FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA 2** FORMER YAKIMA FARMERS SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA 3** YAKIMA STEEL STORAGE YARD AND WETLAND AREA
- SITE BOUNDARY
- TAX PARCEL BOUNDARY
- FENCE
- RAILROAD
- WASHINGTON STATE DEPARTMENT OF ECOLOGY (ECOLOGY) TEST PIT (JULY 2007)
- ENVIRONMENTAL PARTNERS, INC. TEST PIT (2007)
- DIRECT PUSH SOIL BORING LOCATION AGRA EARTH AND ENVIRONMENTAL INC. (1997)
- ECOLOGY SAMPLING GRID DESIGNATION
- BOLD** = INDICATES CONCENTRATION EXCEEDS WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION METHOD B CLEANUP LEVELS PRESENTED IN THE REMEDIAL INVESTIGATION REPORT (FARALLON 2004)
- <=** = INDICATES CONCENTRATIONS NOT DETECTED AT OR ABOVE THE STATED LABORATORY PRACTICAL QUANTITATION LIMIT
- NA = NOT ANALYZED

BAY CHEMICAL CLEANUP AREA
APPROXIMATE EXCAVATION DEPTH IN FEET BELOW GROUND SURFACE

- Sb = ANTIMONY
 - As = ARSENIC
 - Cd = CADMIUM
 - Cu = COPPER
 - Pb = LEAD
 - Mn = MANGANESE
 - Hg = MERCURY
 - Ni = NICKEL
 - Ag = SILVER
 - Tl = THALLIUM
 - Zn = ZINC
- | | |
|--|-----|
| | 0-2 |
| | 2-4 |
| | 4-6 |
| | >6 |
- NOTE:**
- LOCATIONS OF ALL TEST PITS BY ECOLOGY ARE APPROXIMATED. COORDINATES PROVIDED BY ECOLOGY DID NOT PLOT IN CORRESPONDING SAMPLING GRID IN ALL CASES. FARALLON SHIFTED TEST PIT LOCATIONS TO THE APPROPRIATE SAMPLING GRID AND ESTIMATED THE TEST PIT LOCATION ON BEST AVAILABLE INFORMATION.
 - FIGURE INCLUDES INFORMATION PRESENTED IN COLOR. PHOTOCOPYING MAY NOT BE APPROPRIATE.

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
0	NA	2.9	15.3	NA	57.9	762	515	NA	NA	NA	NA	3,100
24"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
24"	NA	<5.0	330	NA	1,820	22,500	12,500	NA	NA	NA	NA	123,000
26"	65	<5.0	310	490	2,000	27,000	NA	14	110	43	39	140,000

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
6"	NA	13	7.6	NA	944	674	645	NA	NA	NA	NA	2,200
28"	<3.0	<5.0	2.0	6.7	35	300	NA	0.09	18	<5.0	<10	150
6"	NA	13.0	4.22	NA	136	290	524	NA	NA	NA	NA	1,200
16"	<3.0	<5.0	6.9	16	51	630	NA	0.26	18	<5.0	<10	2,100

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
24"	NA	11.9	5.38	NA	79.8	439	569	NA	NA	NA	NA	1,710
24"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
24"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
24"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

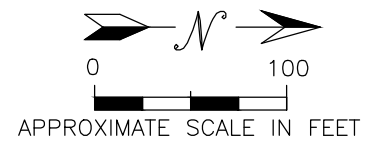
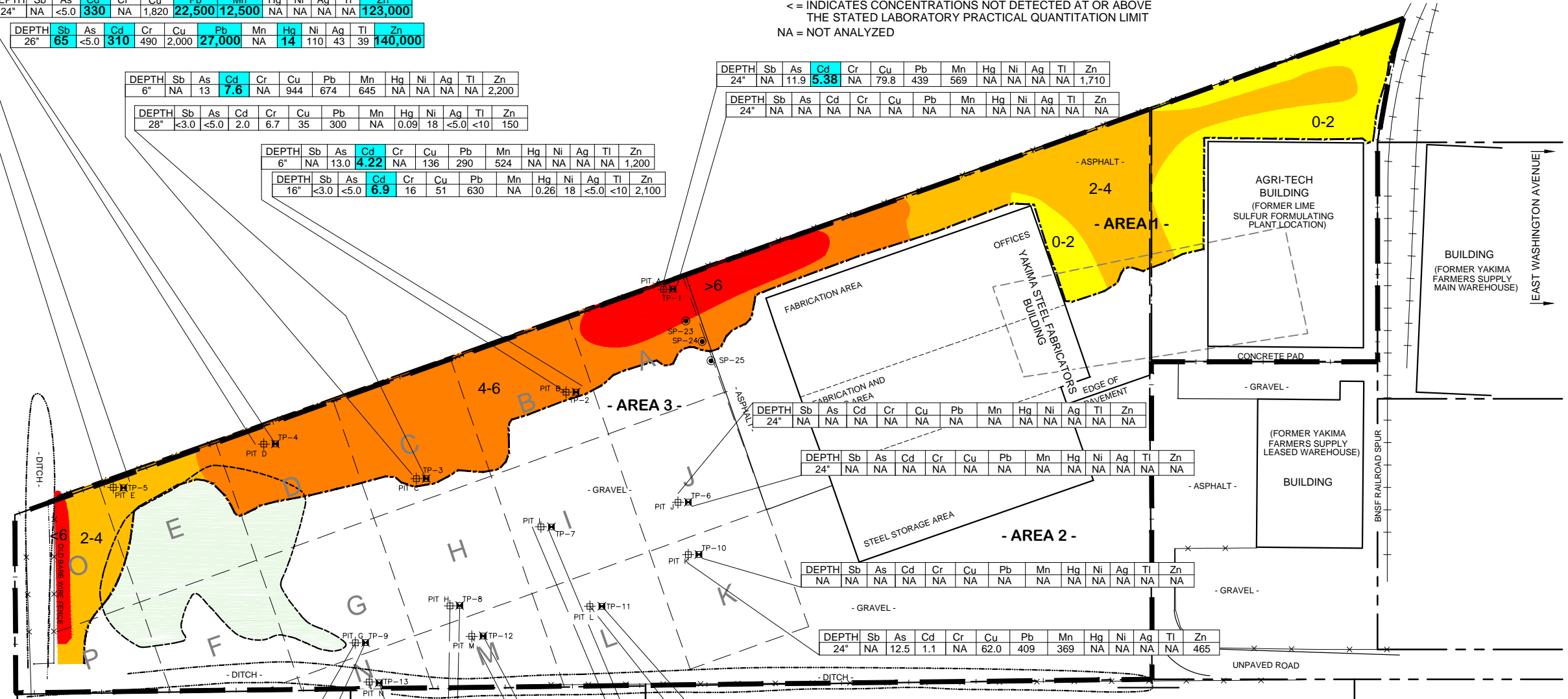
DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
24"	NA	12.5	1.1	NA	62.0	409	369	NA	NA	NA	NA	465
24"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
6"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
18"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
0	NA	1.5	<0.10	NA	77.4	5.67	160	NA	NA	NA	NA	69
0	<3.0	<5.0	1.2	8.6	21	31	NA	0.04	21	<5.0	<10	99

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
0.5"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12"	<0.3	<5.0	2.9	15	82	2,800	NA	0.09	22	<5.0	<10	1,700

DEPTH	Sb	As	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Ag	Tl	Zn
18"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
18"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0	NA	8.12	4.3	NA	5,560	433	2,270	NA	NA	NA	NA	995



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FIGURE 3

PRE-2011 SAMPLING LOCATIONS AND
BAY CHEMICAL SOIL REMOVAL AREA
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001

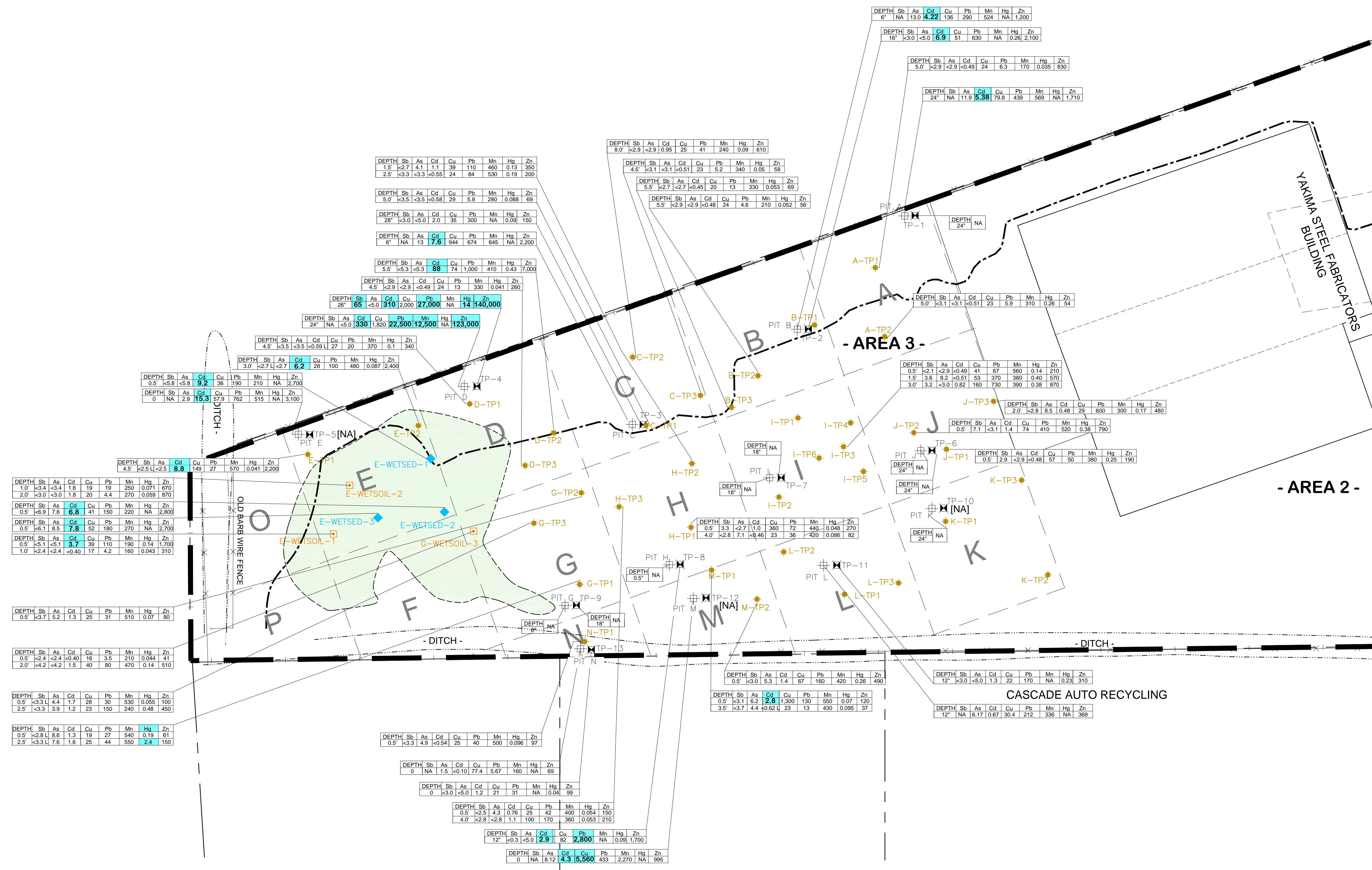
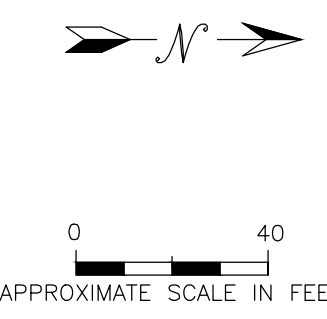
LEGEND

- APPROXIMATE BOUNDARY OF FORMER YAKIMA FARMERS SUPPLY WASTE PIT
- AREA 1** FORMER YAKIMA FARMERS SUPPLY WASTE PIT LOCATION
- AREA 2** FORMER YAKIMA FARMER SUPPLY LIME AND SULFUR STOCKPILE LOCATIONS
- AREA 3** YAKIMA STEEL STORAGE YARD AND WETLAND AREA
- SITE BOUNDARY
- TAX PARCEL BOUNDARY
- FENCE
- RAILROAD
- BAY CHEMICAL CLEANUP AREA
- D-TP3 TEST PIT LOCATION FARALLON CONSULTING (2011)
- E-WETSSED-1 WET SEDIMENT SAMPLE LOCATION FARALLON CONSULTING (2011)
- E-WETSSED-2 WET SOIL SAMPLE LOCATION FARALLON CONSULTING (2011)
- PIT B WASHINGTON STATE DEPARTMENT OF ECOLOGY (ECOLOGYS) TEST PIT (2007)
- TP-2 ENVIRONMENTAL PARTNERS, INC. TEST PIT (2007)
- M ECOLOGY SAMPLING GRID DESIGNATION
- ESTIMATED LATERAL EXTENT OF TYPE 3 WETLAND (EXISTING POND)

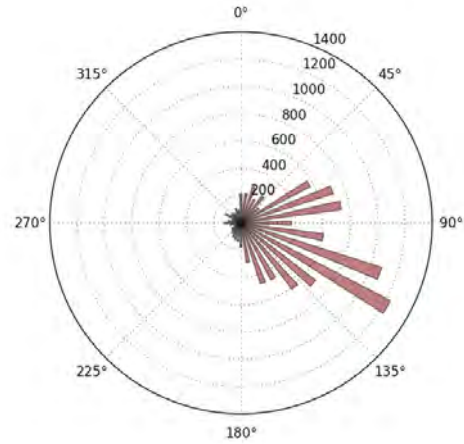
Sb = ANTIMONY
 As = ARSENIC
 Cd = CADMIUM
 Cu = COPPER
 Pb = LEAD
 Mn = MANGANESE
 Hg = MERCURY
 Zn = ZINC
 NA = NOT ANALYZED
 <= INDICATES CONCENTRATIONS NOT DETECTED AT OR ABOVE THE STATED LABORATORY PRACTICAL QUANTIFICATION LIMIT
 SOIL ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM DEPTH IN INCHES BELOW GROUND SURFACE

Sb	As	Cd	Cu	Pb	Mn	Hg	Zn
32	20	2,960	1,000	11,000	2.0	24,000	

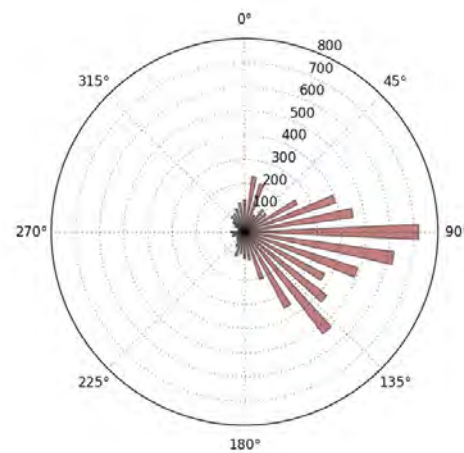
ANALYTE HIGHLIGHTED IN BLUE EXCEEDS PRELIMINARY SCREENING LEVEL INDICATED IN TABLE ABOVE.



**WIND 1-MINUTE MAXIMUM SPEED
PLOT OF DIRECTION OF TRANSPORT**



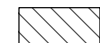

**WIND 2-MINUTE MAXIMUM SPEED
PLOT OF DIRECTION OF TRANSPORT**

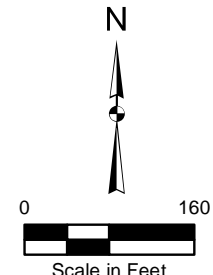


NOTE:
ROSE DIAGRAMS SHOW THE DIRECTION OF TRANSPORT FOR THE FASTEST 1- AND 2-MINUTE WIND INTERVAL RECORDED EACH DAY. 1-MINUTE DATA COVERS THE PERIOD FROM 1965 TO 2015. 2-MINUTE DATA COVERS THE PERIOD FROM 1995 TO 2015. THE LENGTH OF EACH PETAL ON THE ROSE REFLECTS THE TOTAL NUMBER OF DAYS THE MAXIMUM WIND WAS RECORDED BLOWING THAT DIRECTION.



LEGEND

-  FORMER BAY CHEMICAL SITE FEATURES
-  YAKIMA STEEL FABRICATORS/AGRI-TECH APPROXIMATE SITE BOUNDARY




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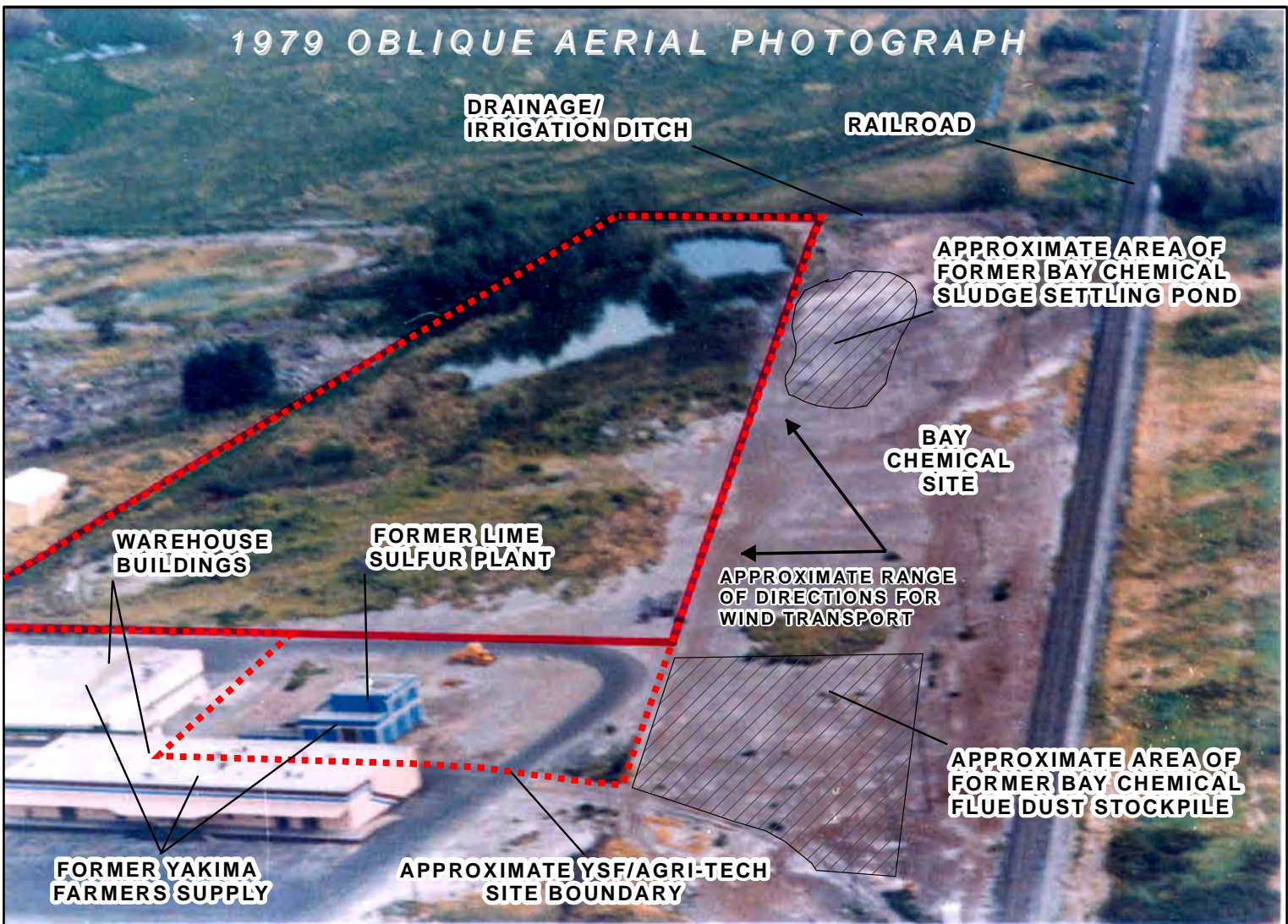
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FIGURE 5
WIND TRANSPORT DATA FOR SITE VICINITY
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001

1979 OBLIQUE AERIAL PHOTOGRAPH



LEGEND

 APPROXIMATE SITE BOUNDARY



NOT TO SCALE



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Drawn By: tperrin

Checked By: HC

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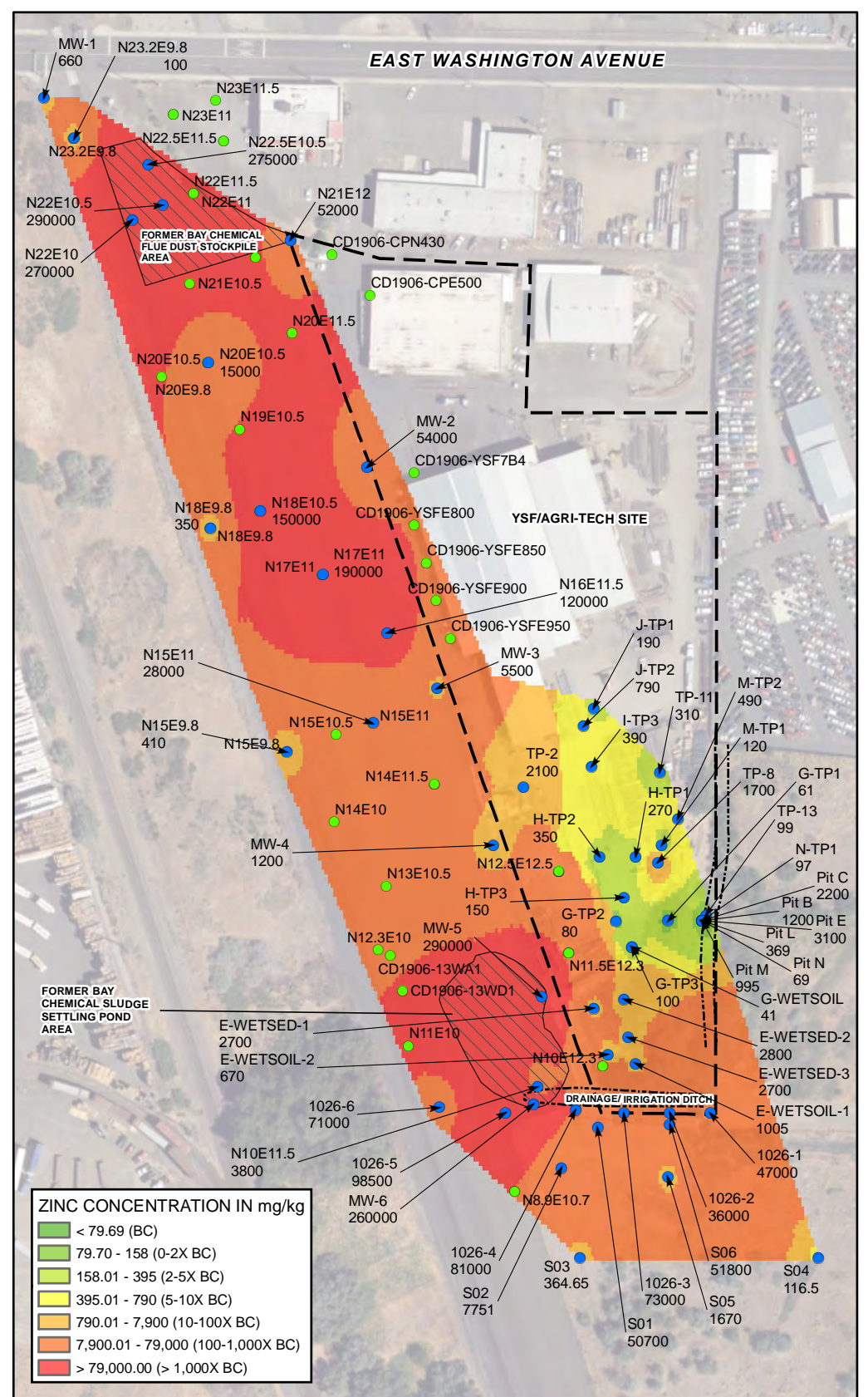
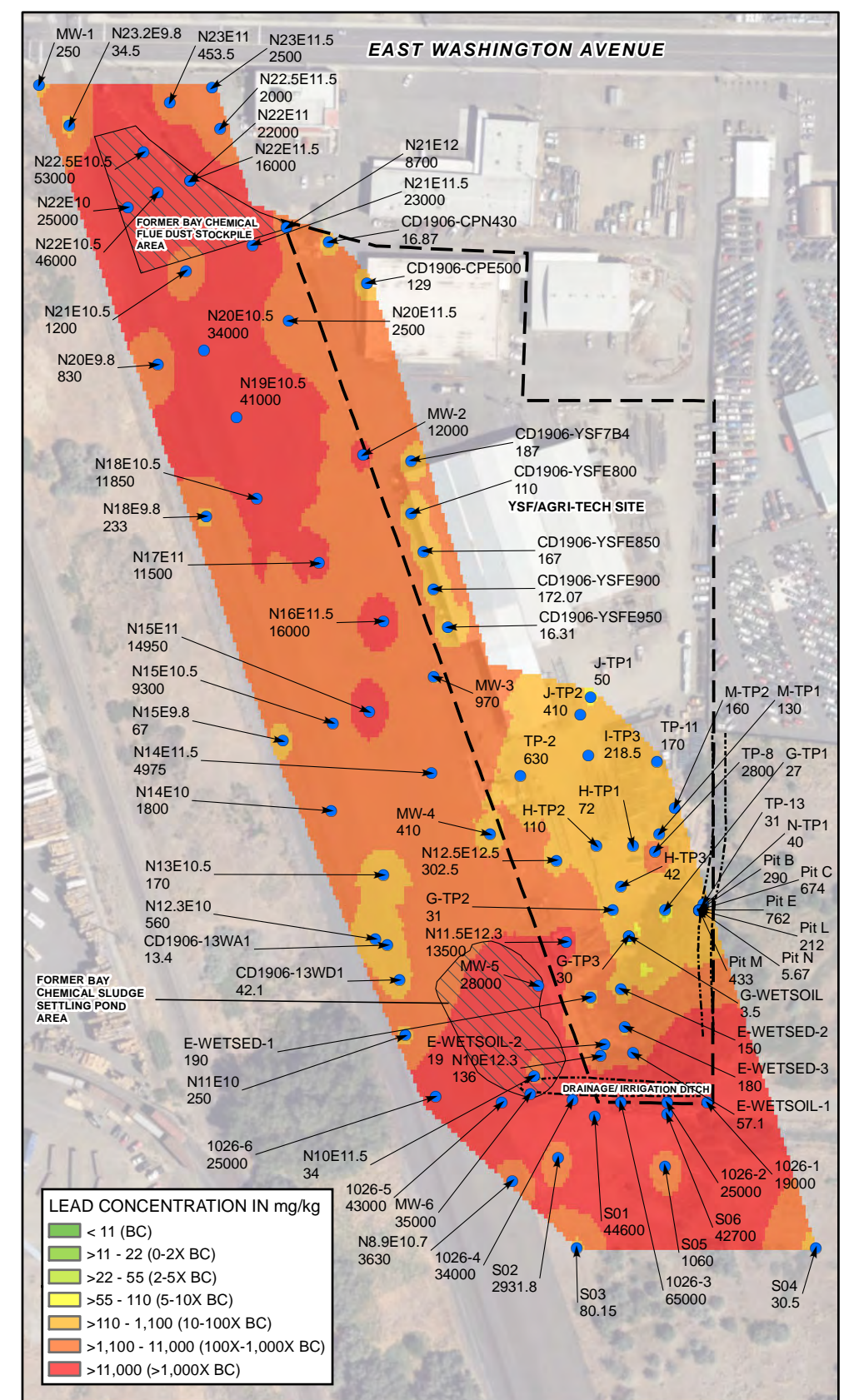
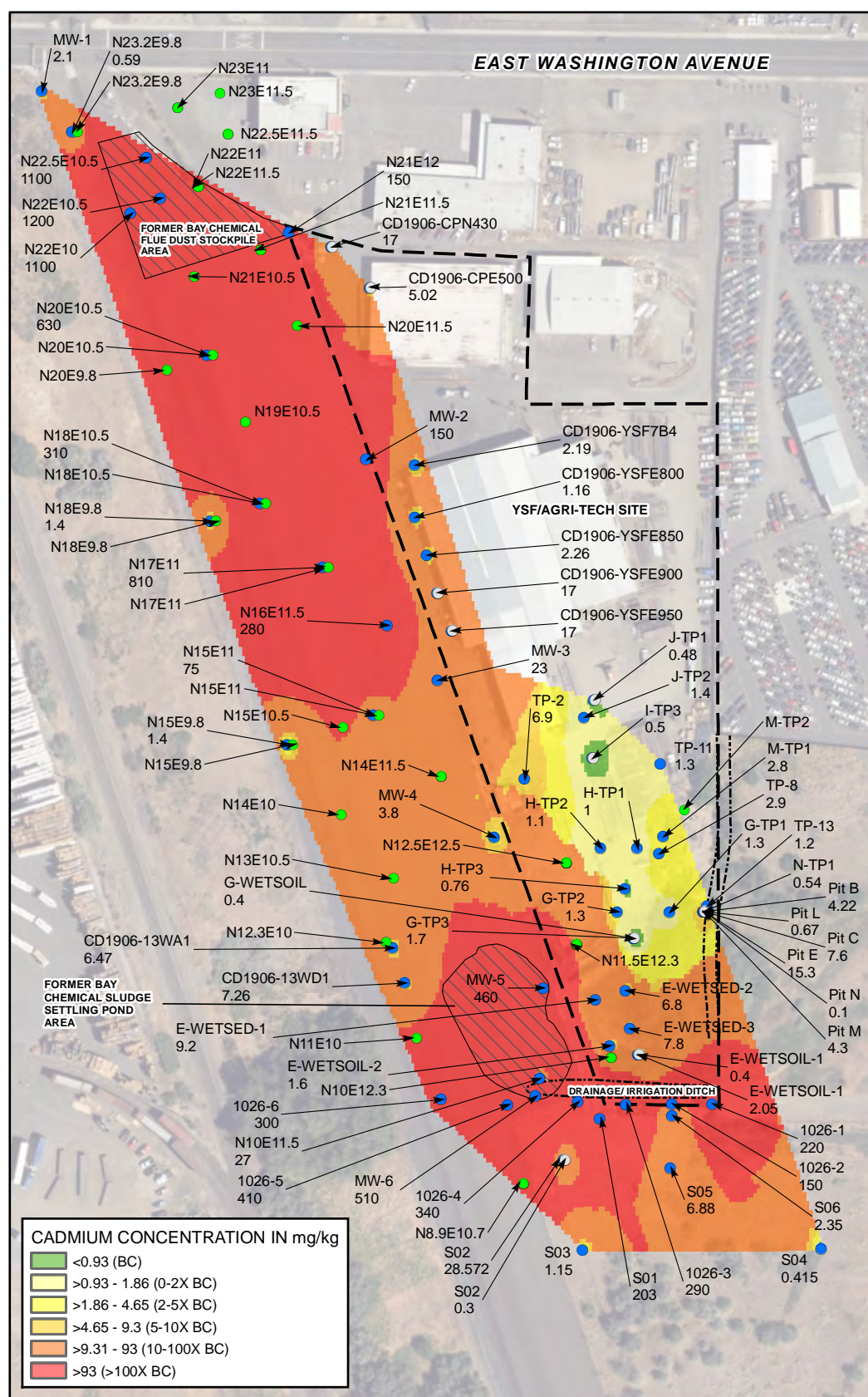
FIGURE 6

1979 OBLIQUE AERIAL PHOTOGRAPH OF SITE
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001

Date: 1/25/2016

Disc Reference:
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LEGEND

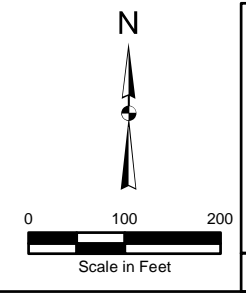
- YAKIMA STEEL FABRICATORS/AGRI-TECH SAMPLE LOCATION
- NON DETECT SAMPLE
- NO DATA SAMPLE
- ▭ FORMER BAY CHEMICAL SITE FEATURES
- ▭ YAKIMA STEEL FABRICATORS/AGRI-TECH APPROXIMATE SITE BOUNDARY

BC - BACKGROUND CONCENTRATION
mg/kg - MILLIGRAMS PER KILOGRAM

NATURAL BACKGROUND CONCENTRATIONS *

	0	2X	5X	10X	100X
CADMIUM	0.93	1.86	4.65	9.3	93
LEAD	11	22	55	110	1,100
ZINC	79	158	395	790	7,900

* FROM NATURAL BACKGROUND SOIL METALS CONCENTRATIONS IN WASHINGTON STATE, WASHINGTON STATE DEPARTMENT OF ECOLOGY PUBLICATION NO. 94-115, (OCTOBER 1994).



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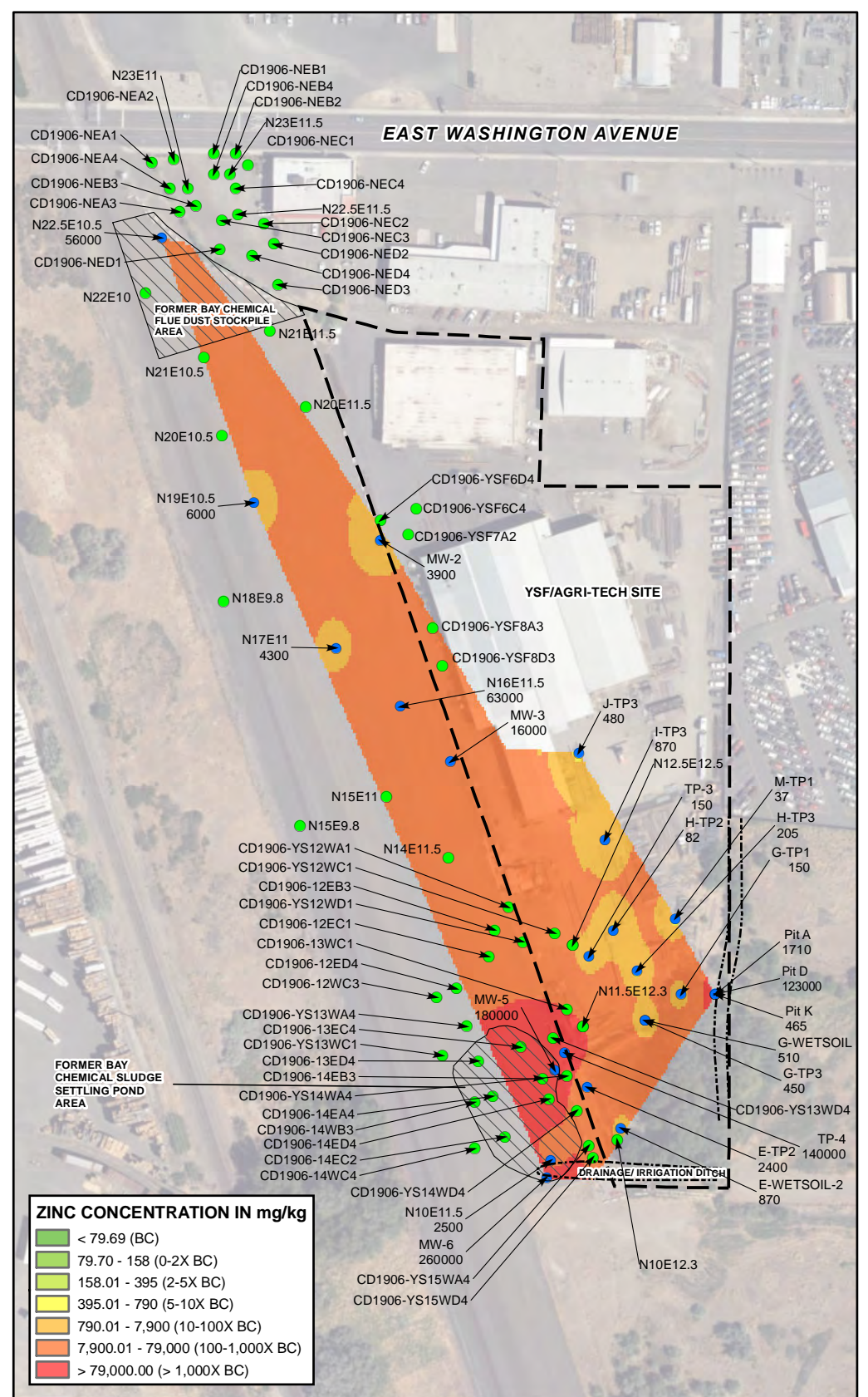
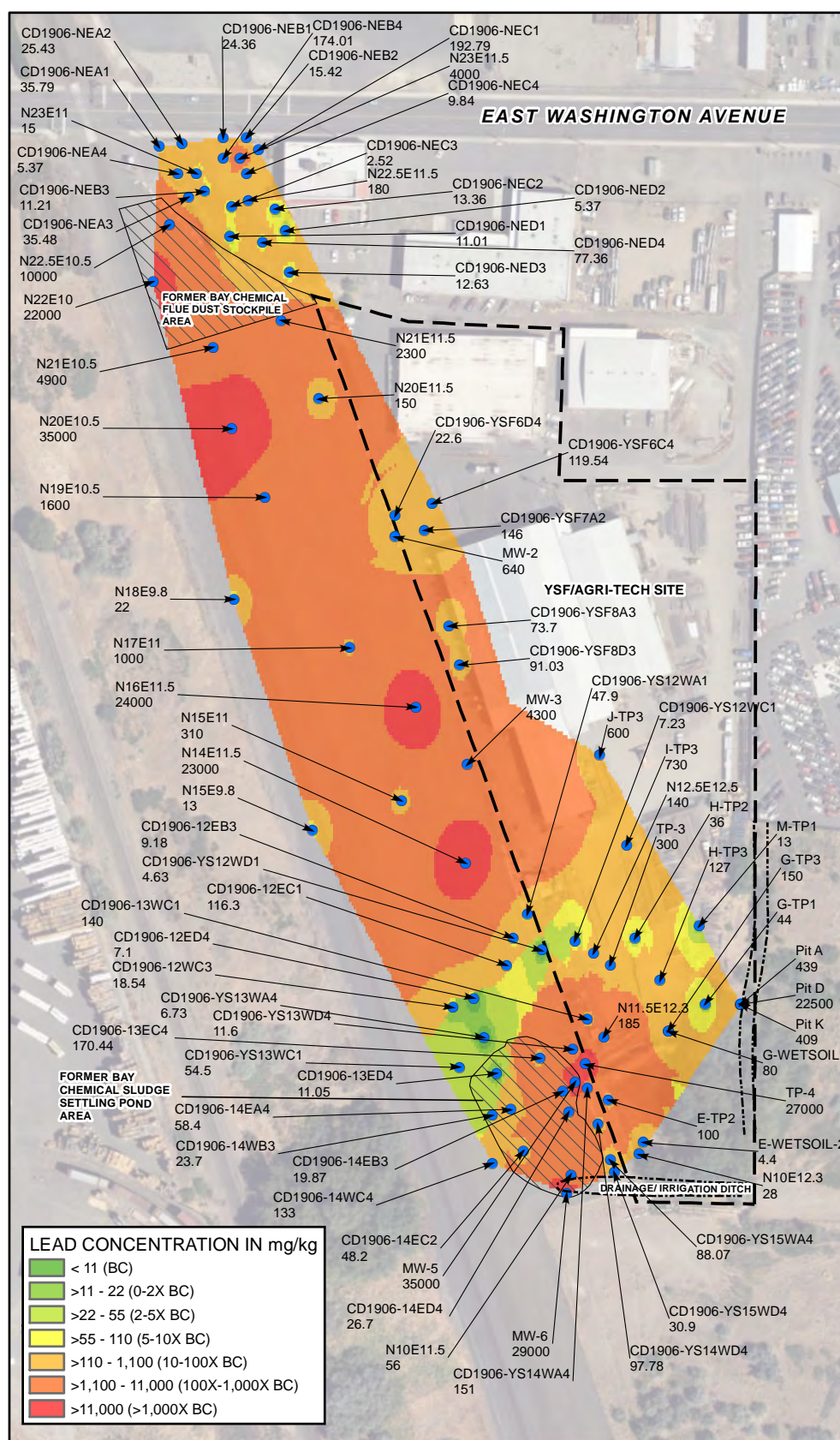
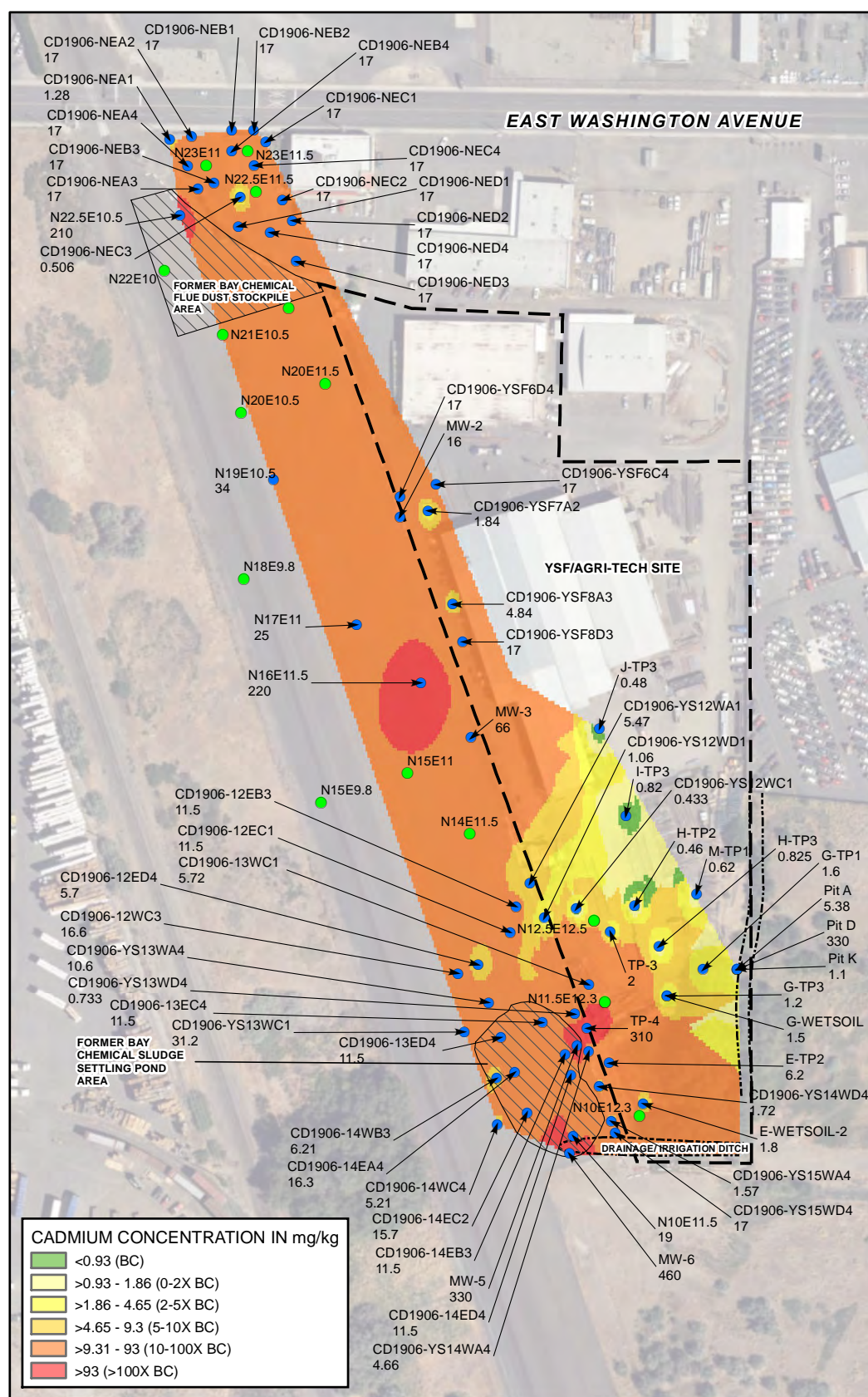
FIGURE 7A

CADMIUM, LEAD, AND ZINC ESTIMATED DISTRIBUTION IN SOIL 0 - 2 FT BGS
YSF/AGRI-TECH SITE

6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001

Disc Reference:
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LEGEND

- YAKIMA STEEL FABRICATORS/AGRI-TECH SAMPLE LOCATION
- NON DETECT SAMPLE
- NO DATA SAMPLE
- FORMER BAY CHEMICAL SITE FEATURES
- YAKIMA STEEL FABRICATORS/AGRI-TECH APPROXIMATE SITE BOUNDARY

BC - BACKGROUND CONCENTRATION
mg/kg - MILLIGRAMS PER KILOGRAM

NATURAL BACKGROUND CONCENTRATIONS *					
	0	2X	5X	10X	100X
CADMIUM	0.93	1.86	4.65	9.3	93
LEAD	11	22	55	110	1,100
ZINC	79	158	395	790	7,900

* FROM NATURAL BACKGROUND SOIL METALS CONCENTRATIONS IN WASHINGTON STATE, WASHINGTON STATE DEPARTMENT OF ECOLOGY PUBLICATION NO. 94-115, (OCTOBER 1994).

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FIGURE 7B

CADMIUM, LEAD, AND ZINC ESTIMATED DISTRIBUTION IN SOIL 2 - 4 FT BGS
YSF/AGRI-TECH SITE
6 & 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

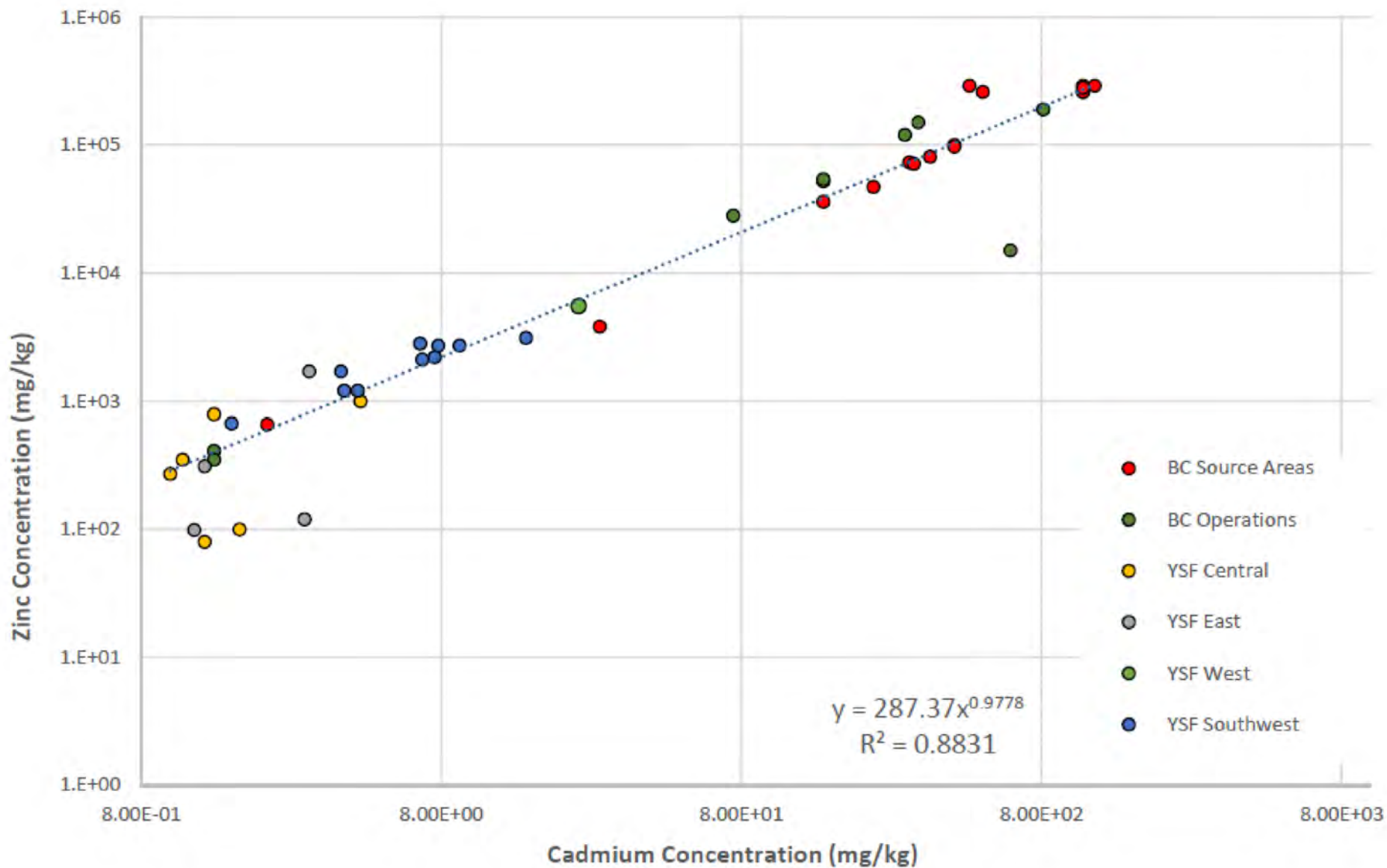
FARALLON PN: 765-001

Drawn By: tperrin

Checked By: JK

Date: 8/30/2016

Disc Reference:



NOTES:

mg/kg = MILLIGRAMS PER KILOGRAM

BC = BAY CHEMICAL SITE

BGS = BELOW GROUND SURFACE

YSF = YAKIMA STEEL FABRICATORS / AGRI-TECH SITE

SOURCE AREA DATA INCLUDES BAY CHEMICAL FLUE DUST AREA, SLUDGE SETTLING POND, AND SLUDGE SEDIMENT



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FIGURE 8A

RATIO OF CADMIUM TO ZINC IN SOIL 0-2 FEET BGS
YSF/AGRI-TECH SITE
6 AND 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001

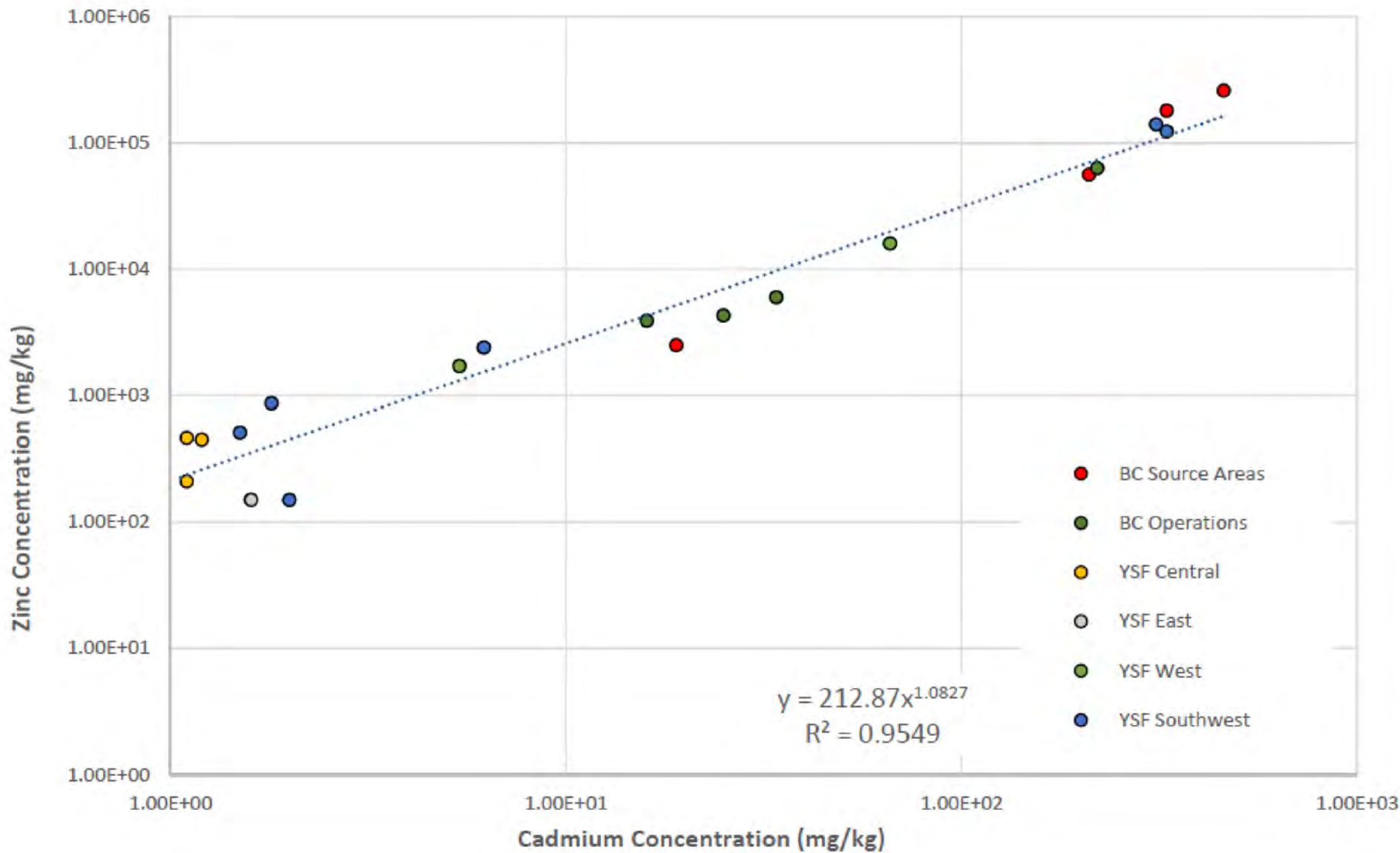
Drawn By: tperrin

Checked By: JK

Date: 9/23/2016

Disc Reference:

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NOTES:

mg/kg = MILLIGRAMS PER KILOGRAM

BC = BAY CHEMICAL SITE

BGS = BELOW GROUND SURFACE

YSF = YAKIMA STEEL FABRICATORS / AGRI-TECH SITE

SOURCE AREA DATA INCLUDES BAY CHEMICAL FLUE DUST AREA, SLUDGE SETTLING POND, AND SLUDGE SEDIMENT



FIGURE 8B
RATIO OF CADMIUM TO ZINC IN SOIL 2-4 FEET BGS
YSF/AGRI-TECH SITE
6 AND 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON

FARALLON PN: 765-001

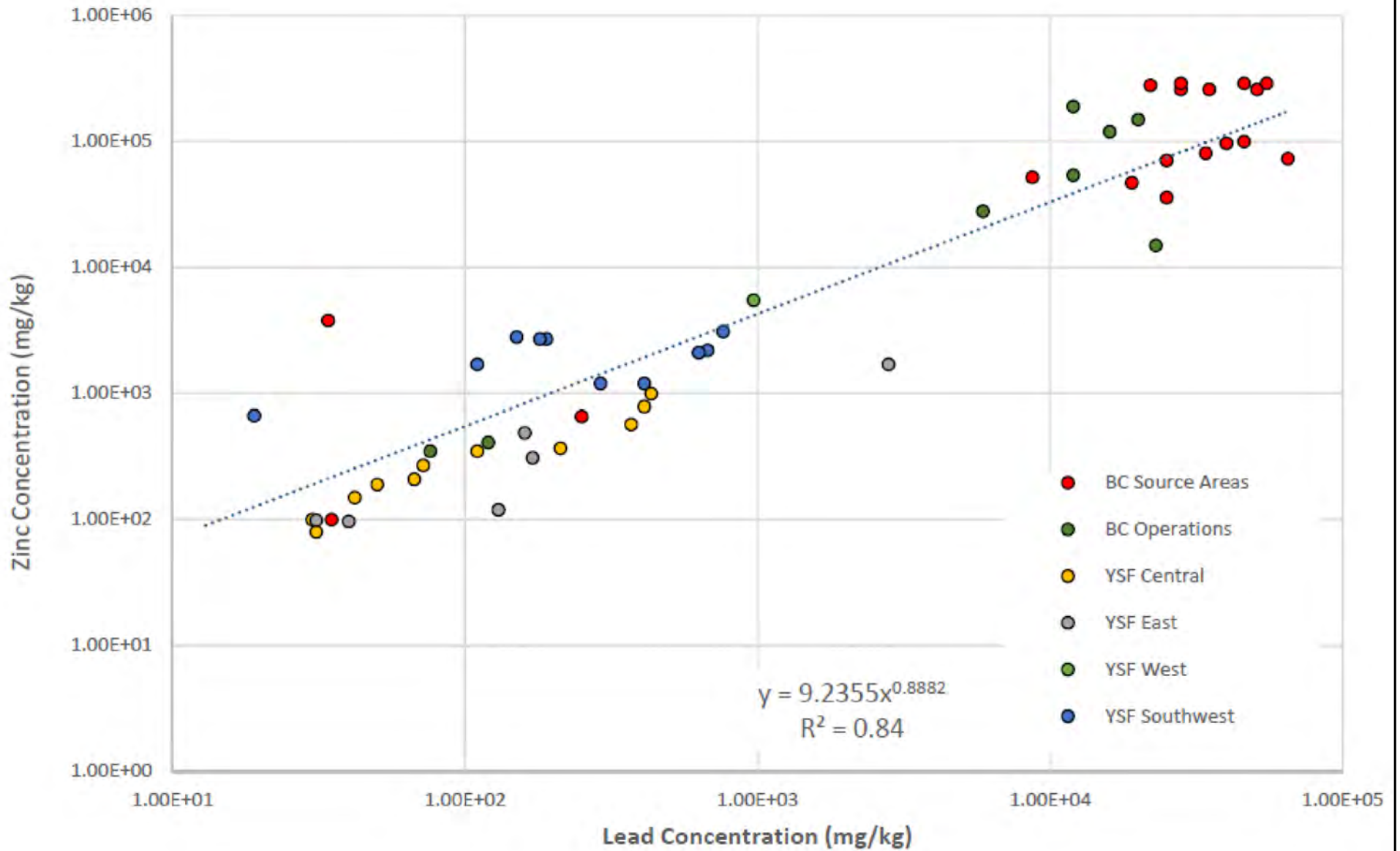
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Checked By: JK

Date: 9/23/2016

Disc Reference:

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NOTES:

mg/kg = MILLIGRAMS PER KILOGRAM

BC = BAY CHEMICAL SITE

BGS = BELOW GROUND SURFACE

YSF = YAKIMA STEEL FABRICATORS / AGRI-TECH SITE

SOURCE AREA DATA INCLUDES BAY CHEMICAL FLUE DUST AREA, SLUDGE SETTLING POND, AND SLUDGE SEDIMENT



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FIGURE 9A

**RATIO OF LEAD TO ZINC IN SOIL 0-2 FEET BGS
YSF/AGRI-TECH SITE
6 AND 10 1/2 EAST WASHINGTON AVENUE
YAKIMA, WASHINGTON**

FARALLON PN: 765-001

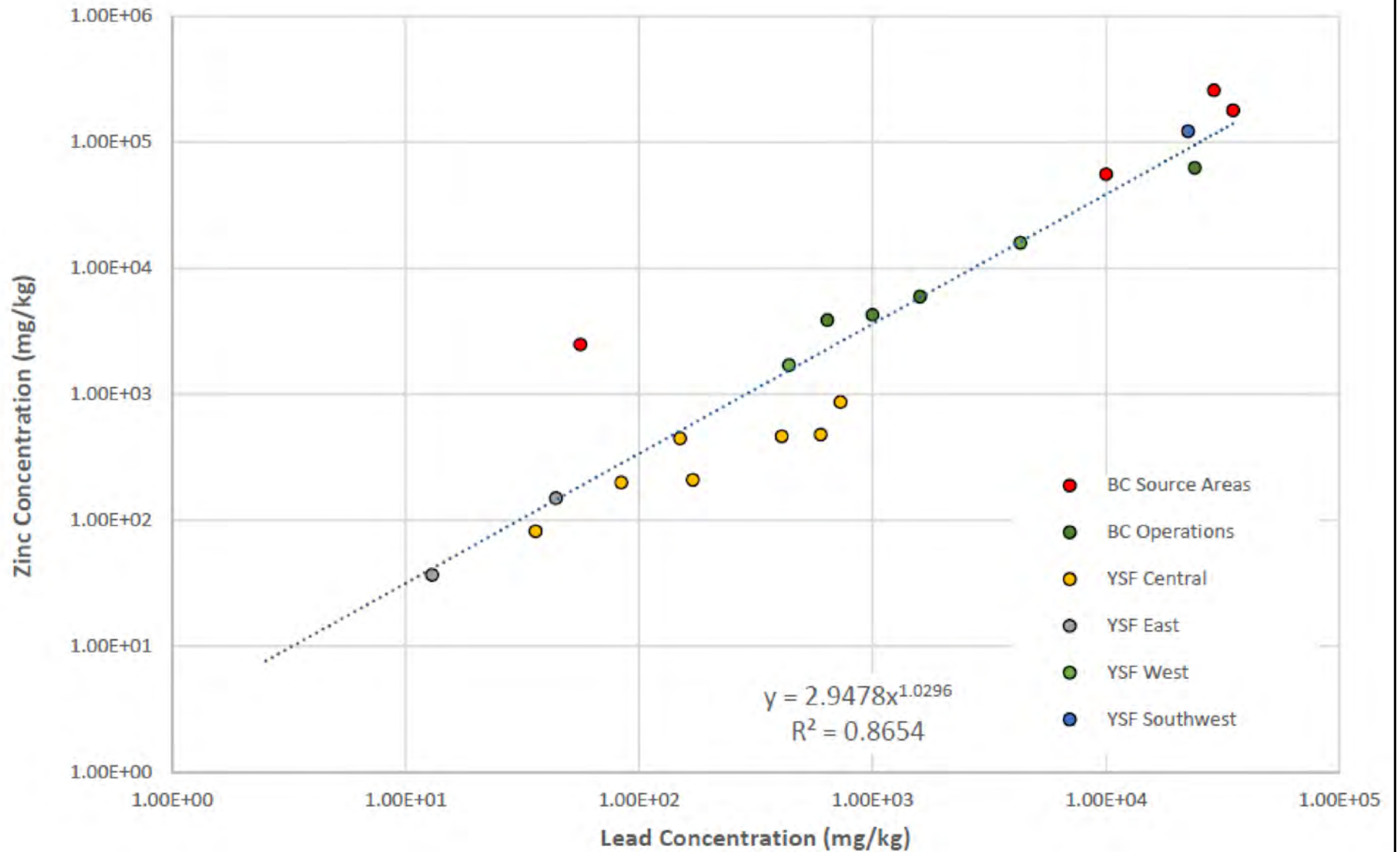
Drawn By: tperrin

Checked By: JC

Date: 9/23/2016

Disc Reference:

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NOTES:

mg/kg = MILLIGRAMS PER KILOGRAM
 BC = BAY CHEMICAL SITE
 BGS = BELOW GROUND SURFACE
 YSF = YAKIMA STEEL FABRICATORS / AGRI-TECH SITE
 SOURCE AREA DATA INCLUDES BAY CHEMICAL FLUE DUST AREA,
 SLUDGE SETTLING POND, AND SLUDGE SEDIMENT



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FIGURE 9B

**RATIO OF LEAD TO ZINC IN SOIL 2-4 FEET BGS
 YSF/AGRI-TECH SITE
 6 AND 10 1/2 EAST WASHINGTON AVENUE
 YAKIMA, WASHINGTON**

FARALLON PN: 765-001

Drawn By: tperrin

Checked By: JC

Date: 9/23/2016

Disc Reference:

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**Table B-1
Yakima Steel Facility and Bay Chemical Site Metals Data
Agri-Tech and Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001**

Data Source ¹	Sample Location	Sample ID	Sample Date	Sample Depth (Feet bgs) ²	Analytical Results (micrograms per gram) ³									Longitude (Decimal Degrees)	Latitude (Decimal Degrees)	Sample Excluded ⁴	Zone Assigned in Ratio Analysis ⁵
					Antimony	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Zinc				
Bay_Chem_RI	MW-1	MW-1-0	3/28/94	0	3.6	<2.8	2.1	20	40	250	510	0.075	660	-120.493009	46.570363	0	Flue Dust Area
Bay_Chem_RI	MW-1	MW-1-5.0	3/28/94	5	2.3	3.6	1.2	19	36	130	480	0.061	340	-120.493009	46.570363	0	Flue Dust Area
Bay_Chem_RI	MW-1	MW-1-7.5	3/28/94	7.5	<1.4	<2	0.41	25	19	14	380	0.041	56	-120.493009	46.570363	0	Flue Dust Area
Bay_Chem_RI	MW-2	MW-2-0	3/28/94	0	27	<29	150	220	650	12,000	4,300	6.23	54,000	-120.491402	46.569091	0	BC Operations Area
Bay_Chem_RI	MW-2	MW-2-2.5	3/28/94	2.5	<1.5	<2.3	16	28	150	640	690	0.453	3,900	-120.491402	46.569091	0	BC Operations Area
Bay_Chem_RI	MW-2	MW-2-7.5	3/28/94	7.5	<1.5	<2.2	2.3	92	67	18	460	0.078	640	-120.491402	46.569091	0	BC Operations Area
Bay_Chem_RI	MW-3	MW-3-0	3/28/94	0	37	210	23	59	410	970	800	0.22	5,500	-120.491046	46.56833	0	YSF West
Bay_Chem_RI	MW-3	MW-3-2.5	3/28/94	2.5	27	110	66	100	410	4,300	1,800	1.65	16,000	-120.491046	46.56833	0	YSF West
Bay_Chem_RI	MW-3	MW-3-5.0	3/28/94	5	<45	<68	2,000	180	320	2,300	2,300	0.123	68,000	-120.491046	46.56833	0	YSF West
Bay_Chem_RI	MW-4	MW-4-0	3/28/94	0	2.6	4.6	3.8	24	51	410	650	0.234	1,200	-120.49077	46.567794	0	YSF Southwest
Bay_Chem_RI	MW-4	MW-4-7.5	3/28/94	7.5	<1.5	3.9	3.7	14	21	49	390	0.047	1,700	-120.49077	46.567794	0	YSF Southwest
Bay_Chem_RI	MW-4	MW-4-10.0	3/28/94	10	2.1	<2.7	9.7	24	110	740	740	0.312	3,700	-120.49077	46.567794	0	YSF Southwest
Bay_Chem_RI	MW-4	MW-4-D	3/28/94	15	2.1	7.3	5	30	79	650	790	0.218	1,800	-120.49077	46.567794	0	YSF Southwest
Bay_Chem_RI	MW-5	MW-5-0	3/28/94	0	140	<140	460	760	2,300	28,000	23,000	0.423	290,000	-120.490528	46.567272	0	Settling Pond
Bay_Chem_RI	MW-5	MW-5-2.5	3/28/94	2.5	82	<36	330	640	1,800	35,000	13,000	8.4	180,000	-120.490528	46.567272	0	Settling Pond
Bay_Chem_RI	MW-5	MW-5-7.5	3/28/94	7.5	3.4	<1.9	30	52	130	1,700	1,300	0.357	14,000	-120.490528	46.567272	0	Settling Pond
Bay_Chem_RI	MW-6	MW-6-0	3/28/94	0	140	<170	510	900	2,700	35,000	17,000	17.4	260,000	-120.490565	46.566905	0	Settling Pond
Bay_Chem_RI	MW-6	MW-6-2.5	3/28/94	2.5	210	<170	460	880	2,600	29,000	18,000	14.6	260,000	-120.490565	46.566905	0	Settling Pond
Bay_Chem_RI	MW-6	MW-6-5.0	3/28/94	5	<78	<110	77	140	680	8,700	3,700	1.99	43,000	-120.490565	46.566905	0	Settling Pond
Bay_Chem_RI	N10E11.5	N10E11.5-1	11/8/95	1	<2.3	<3.4	27	19	29	34	54	<1.1	3,800B	-120.490547	46.566958	0	Settling Pond
Bay_Chem_RI	N10E11.5	N10E11.5-2	11/8/95	2	<1.7	<2.5	19	15	20	56	340	<0.83	2,500B	-120.490547	46.566958	0	Settling Pond
Bay_Chem_RI	N10E12.3	N10E12.3(0-0.5)	10/3/96	0	--	--	--	--	--	190	--	--	--	-120.490218	46.567034	0	YSF Southwest
Bay_Chem_RI	N10E12.3	N10E12.3(1.5-2)	10/3/96	1.5	--	--	--	--	--	82	--	--	--	-120.490218	46.567034	0	YSF Southwest
Bay_Chem_RI	N10E12.3	N10E12.3(3.5-4)	10/3/96	3.5	--	--	--	--	--	28	--	--	--	-120.490218	46.567034	0	YSF Southwest
Bay_Chem_RI	N10E12.3	N10E12.3(5.5-6)	10/3/96	5.5	--	--	--	--	--	51	--	--	--	-120.490218	46.567034	0	YSF Southwest
Bay_Chem_RI	N11.5E12.3	N11.5E12.3(0-0.5)	10/3/96	0	--	--	--	--	--	24,000	--	--	--	-120.49039	46.567422	0	YSF Southwest
Bay_Chem_RI	N11.5E12.3	N11.5E12.3(0-0.5) SPLIT	10/3/96	0	--	--	--	--	--	27,000	--	--	--	-120.49039	46.567422	0	YSF Southwest
Bay_Chem_RI	N11.5E12.3	N11.5E12.3(1.5-2)	10/3/96	1.5	--	--	--	--	--	1,700	--	--	--	-120.49039	46.567422	0	YSF Southwest
Bay_Chem_RI	N11.5E12.3	N11.5E12.3(1.5-2) SPLIT	10/3/96	1.5	--	--	--	--	--	1,300	--	--	--	-120.49039	46.567422	0	YSF Southwest
Bay_Chem_RI	N11.5E12.3	N11.5E12.3(3.5-4)	10/3/96	3.5	--	--	--	--	--	160	--	--	--	-120.49039	46.567422	0	YSF Southwest
Bay_Chem_RI	N11.5E12.3	N11.5E12.3(3.5-4) SPLIT	10/3/96	3.5	--	--	--	--	--	210	--	--	--	-120.49039	46.567422	0	YSF Southwest
Bay_Chem_RI	N11.5E12.3	N11.5E12.3(5.5-6)	10/3/96	5.5	--	--	--	--	--	44	--	--	--	-120.49039	46.567422	0	YSF Southwest
Bay_Chem_RI	N11.5E12.3	N11.5E12.3(5.5-6) SPLIT	10/3/96	5.5	--	--	--	--	--	45	--	--	--	-120.49039	46.567422	0	YSF Southwest
Bay_Chem_RI	N11E10	N11E10-0	5/20/94	0	1.9	--	--	--	--	250	--	--	--	-120.491191	46.567095	0	BC Operations Area
Bay_Chem_RI	N12.3E10	N12.3E10-0	5/20/94	0	--	--	--	--	--	560	--	--	--	-120.491343	46.56743	0	BC Operations Area
Bay_Chem_RI	N12.5E12.5	N12.5E12.5(0-0.5)	10/4/96	0	--	--	--	--	--	420	--	--	--	-120.490442	46.567703	0	YSF Southwest
Bay_Chem_RI	N12.5E12.5	N12.5E12.5(0-0.5) SPLIT	10/4/96	0	--	--	--	--	--	510	--	--	--	-120.490442	46.567703	0	YSF Southwest
Bay_Chem_RI	N12.5E12.5	N12.5E12.5(1.5-2)	10/4/96	1.5	--	--	--	--	--	140	--	--	--	-120.490442	46.567703	0	YSF Southwest
Bay_Chem_RI	N12.5E12.5	N12.5E12.5(1.5-2) SPLIT	10/4/96	1.5	--	--	--	--	--	140	--	--	--	-120.490442	46.567703	0	YSF Southwest
Bay_Chem_RI	N12.5E12.5	N12.5E12.5(3.5-4)	10/4/96	3.5	--	--	--	--	--	130	--	--	--	-120.490442	46.567703	0	YSF Southwest
Bay_Chem_RI	N12.5E12.5	N12.5E12.5(3.5-4) SPLIT	10/4/96	3.5	--	--	--	--	--	150	--	--	--	-120.490442	46.567703	0	YSF Southwest
Bay_Chem_RI	N12.5E12.5	N12.5E12.5(5.5-6)	10/4/96	5.5	--	--	--	--	--	20	--	--	--	-120.490442	46.567703	0	YSF Southwest
Bay_Chem_RI	N12.5E12.5	N12.5E12.5(5.5-6) SPLIT	10/4/96	5.5	--	--	--	--	--	11	--	--	--	-120.490442	46.567703	0	YSF Southwest
Bay_Chem_RI	N13E10.5	N13E10.5-0	5/20/94	0	--	--	--	--	--	170	--	--	--	-120.491302	46.56765	0	BC Operations Area
Bay_Chem_RI	N14E10	N14E10-0	5/20/94	0	--	--	--	--	--	1,800	--	--	--	-120.491558	46.567872	0	BC Operations Area
Bay_Chem_RI	N14E11.5	N14E11.5-0	5/20/94	0	--	--	--	--	--	850	--	--	--	-120.491059	46.567996	0	BC Operations Area
Bay_Chem_RI	N14E11.5	N14E11.5-E-1.5	10/25/94	1.5	<20	<31	--	--	--	9,100	--	0.648	--	-120.491059	46.567996	0	BC Operations Area
Bay_Chem_RI	N14E11.5	N14E11.5-E-3.5	10/25/94	3.5	--	--	--	--	--	23,000	--	--	--	-120.491059	46.567996	0	BC Operations Area
Bay_Chem_RI	N14E11.5	N14E11.5-E-5.5	10/25/94	5.5	<22	<31	78	20	57	120	490	0.097	8,600	-120.491059	46.567996	0	BC Operations Area
Bay_Chem_RI	N15E10.5	N15E10.5-0	5/20/94	0	--	--	--	--	--	9,300	--	--	--	-120.491554	46.56817	0	BC Operations Area
Bay_Chem_RI	N15E11	N15E11-0	5/20/94	0	--	--	--	--	--	24,000	--	--	--	-120.491365	46.568214	0	BC Operations Area
Bay_Chem_RI	N15E11	N15E11-N-1.5	10/25/94	1.5	<20	<30	75	110	340	5,900	2,800	1.01	28,000	-120.491365	46.568214	0	BC Operations Area
Bay_Chem_RI	N15E11	N15E11-N-3.5	10/25/94	3.5	--	--	--	--	--	310	--	--	--	-120.491365	46.568214	0	BC Operations Area
Bay_Chem_RI	N15E11	N15E11-N-5.5	10/25/94	5.5	--	--	--	--	--	97	--	--	--	-120.491365	46.568214	0	BC Operations Area
Bay_Chem_RI	N15E9.8	N15E9.8(0-0.5)	10/4/96	0	0.95	2.4	1.4	14	37	120	410	0.04	410	-120.491803	46.568113	0	BC Operations Area
Bay_Chem_RI	N15E9.8	N15E9.8(1.5-2)	10/4/96	1.5	--	--	--	--	--	14	--	--	--	-120.491803	46.568113	0	BC Operations Area
Bay_Chem_RI	N15E9.8	N15E9.8(3.5-4)	10/4/96	3.5	--	--	--	--	--	13	--	--	--	-120.491803	46.568113	0	BC Operations Area

**Table B-1
Yakima Steel Facility and Bay Chemical Site Metals Data
Agri-Tech and Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001**

Data Source ¹	Sample Location	Sample ID	Sample Date	Sample Depth (Feet bgs) ²	Analytical Results (micrograms per gram) ³									Longitude (Decimal Degrees)	Latitude (Decimal Degrees)	Sample Excluded ⁴	Zone Assigned in Ratio Analysis ⁵
					Antimony	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Zinc				
Bay_Chem_RI	N15E9.8	N15E9.8(5.5-6)	10/4/96	5.5	--	--	--	--	--	12	--	--	--	-120.491803	46.568113	0	BC Operations Area
Bay_Chem_RI	N16E10	N16E10-0	5/20/94	20	14	--	--	--	--	6,700	--	1.58	--	-120.491811	46.568387	0	BC Operations Area
Bay_Chem_RI	N16E11.5	N16E11.5-0	5/20/94	1.5	33	<3.8	280	480	1,300	16,000	9,400	5	120,000	-120.491302	46.568518	0	BC Operations Area
Bay_Chem_RI	N16E11.5	N16E11.5-3.5	10/25/94	3.5	36	<31	220	380	1,300	24,000	7,200	54.4	63,000	-120.491302	46.568518	0	BC Operations Area
Bay_Chem_RI	N16E11.5	N16E11.5-5.5	10/25/94	5.5	<19	<29	18	30	100	940	1000	2.6	3,400	-120.491302	46.568518	0	BC Operations Area
Bay_Chem_RI	N16E11.5	N16E11.5-6.5	10/25/94	6.5	<17	<26	--	--	--	200	--	6.93	--	-120.491302	46.568518	0	BC Operations Area
Bay_Chem_RI	N17E11	N17E11-0	5/20/94	0	69	<3	810	780	2,100	12,000	17,000	7.24	190,000	-120.491622	46.568718	0	BC Operations Area
Bay_Chem_RI	N17E11	N17E11-W-1.5	10/25/94	1.5	--	--	--	--	--	11,000	--	--	--	-120.491622	46.568718	0	BC Operations Area
Bay_Chem_RI	N17E11	N17E11-W-3.5	10/25/94	3.5	<20	<30	25	34	100	1000	840	1.22	4,300	-120.491622	46.568718	0	BC Operations Area
Bay_Chem_RI	N17E11	N17E11-W-6.5	10/25/94	6.5	<17	<24	17	28	87	810	870	41	3,300	-120.491622	46.568718	0	BC Operations Area
Bay_Chem_RI	N18E10.5	N18E10.5-0	5/20/94	0	110	<3.9	310	520	1,700	20,000	13,000	5.23	150,000	-120.491929	46.56894	0	BC Operations Area
Bay_Chem_RI	N18E10.5	N18E11.5-0	5/20/94	0	--	--	--	--	--	3,700	--	--	--	-120.491929	46.56894	0	BC Operations Area
Bay_Chem_RI	N18E9.8	N18E9.8(0-0.5)	10/4/96	0	--	--	--	--	--	390	--	--	--	-120.492182	46.568878	0	BC Operations Area
Bay_Chem_RI	N18E9.8	N18E9.8(1.5-2.0)	10/4/96	1.5	0.35	2.4	1.4	13	22	76	500	<0.01	350	-120.492182	46.568878	0	BC Operations Area
Bay_Chem_RI	N18E9.8	N18E9.8(3.5-4)	10/4/96	3.5	--	--	--	--	--	22	--	--	--	-120.492182	46.568878	0	BC Operations Area
Bay_Chem_RI	N18E9.8	N18E9.8(5.5-6)	10/4/96	5.5	0.13	1.4	0.33	16	14	19	320	<0.02	66	-120.492182	46.568878	0	BC Operations Area
Bay_Chem_RI	N19E10.5	N19E10.5-1	11/8/95	1	--	--	--	--	--	41,000	--	--	--	-120.492027	46.569217	0	BC Operations Area
Bay_Chem_RI	N19E10.5	N19E10.5-2	11/8/95	2	<2.3	<3.5	34	39	120	1,600	1000	<1.2	6,000	-120.492027	46.569217	0	BC Operations Area
Bay_Chem_RI	N20E10.5	N20E10.5-0	5/20/94	0	100	<3.5	--	--	--	45,000	--	--	--	-120.492186	46.569445	0	BC Operations Area
Bay_Chem_RI	N20E10.5	N20E10.5-S-1.5	10/25/94	1.5	130	<37	630	840	2,700	23,000	16,000	102	15,000	-120.492186	46.569445	0	BC Operations Area
Bay_Chem_RI	N20E10.5	N20E10.5-S-3.5	10/25/94	3.5	--	--	--	--	--	35,000	--	--	--	-120.492186	46.569445	0	BC Operations Area
Bay_Chem_RI	N20E10.5	N20E10.5-S-6	10/25/94	6	<19	<30	28	69	260	3,900	1,400	20.2	8,600	-120.492186	46.569445	0	BC Operations Area
Bay_Chem_RI	N20E11.5	N20E11.5-1	11/8/95	1	--	--	--	--	--	2,500	--	--	--	-120.491772	46.56955	0	BC Operations Area
Bay_Chem_RI	N20E11.5	N20E11.5-2	11/8/95	2	--	--	--	--	--	150	--	--	--	-120.491772	46.56955	0	BC Operations Area
Bay_Chem_RI	N20E9.8	N20E9.8(0-0.5)	10/4/96	0	--	--	--	--	--	830	--	--	--	-120.492424	46.569401	0	BC Operations Area
Bay_Chem_RI	N21E10.5	N21E10.5-1	11/8/95	1	--	--	--	--	--	1,200	--	--	--	-120.492283	46.569723	0	Flue Dust Area
Bay_Chem_RI	N21E10.5	N21E10.5-2	11/8/95	2	--	--	--	--	--	4,900	--	--	--	-120.492283	46.569723	0	Flue Dust Area
Bay_Chem_RI	N21E11.5	N21E11.5-0	5/20/94	0	160	<3.8	--	--	--	22,000	--	2.52	--	-120.491952	46.569813	0	Flue Dust Area
Bay_Chem_RI	N21E11.5	N21E11.5-W-1.5	10/25/94	1.5	100	<31	--	--	--	24,000	--	10.6	--	-120.491952	46.569813	0	Flue Dust Area
Bay_Chem_RI	N21E11.5	N21E11.5-W-3.5	10/25/94	3.5	<18	<28	--	--	--	2,300	--	1.19	--	-120.491952	46.569813	0	Flue Dust Area
Bay_Chem_RI	N21E12	N21E12-0	5/20/94	0	24	<4.3	150	150	480	8,700	3,800	5.1	52,000	-120.491778	46.569867	0	Flue Dust Area
Bay_Chem_RI	N22.5E11.5	N22.5E11.5 (0-0.5)	10/3/96	0	--	--	--	--	--	2,000	--	--	--	-120.49211	46.570211	0	Flue Dust Area
Bay_Chem_RI	N22.5E11.5	N22.5E11.5 (1.5-2)	10/3/96	1.5	--	--	--	--	--	2,000	--	--	--	-120.49211	46.570211	0	Flue Dust Area
Bay_Chem_RI	N22.5E11.5	N22.5E11.5 (3.5-4)	10/3/96	3.5	--	--	--	--	--	180	--	--	--	-120.49211	46.570211	0	Flue Dust Area
Bay_Chem_RI	N22.5E11.5	N22.5E11.5 (5.5-6)	10/3/96	5.5	--	--	--	--	--	23	--	--	--	-120.49211	46.570211	0	Flue Dust Area
Bay_Chem_RI	N22.5E10.5	N22.5E10.5	11/7/95	0	<49	<74	1,100	850	2,600	510,00J	5,100	<25	260,000B	-120.49249	46.570127	0	Flue Dust Area
Bay_Chem_RI	N22.5E10.5	N22.5E10.5-1	11/7/95	1	<48	<72	1,100	930	2,800	55,000J	23,000	<24	290,000B	-120.49249	46.570127	0	Flue Dust Area
Bay_Chem_RI	N22.5E10.5	N22.5E10.5-2	11/7/95	2	<45	<67	210	170	520	10,000J	4,900	<22	560,000B	-120.49249	46.570127	0	Flue Dust Area
Bay_Chem_RI	N22E10	N22E10-0	5/20/94	0	110	<4.2	1,100	870	2,400	28,000	27,000	0.42	260,000	-120.492568	46.569935	0	Flue Dust Area
Bay_Chem_RI	N22E10	N22E10E-1.5	10/25/94	1.5	60	<28	1,100	790	2,500	22,000	21,000	0.706	280,000	-120.492568	46.569935	0	Flue Dust Area
Bay_Chem_RI	N22E10	N22E10E-3	10/25/94	3	<21	<32	--	--	--	22,000	--	0.323	--	-120.492568	46.569935	0	Flue Dust Area
Bay_Chem_RI	N22E10	N22E10-E-5.5	10/25/94	5.5	<17	<24	11	21	160	270	540	0.171	2,000	-120.492568	46.569935	0	Flue Dust Area
Bay_Chem_RI	N22E10.5	N22E10.5-1	11/7/95	0	<47	<71	1,200	960	2,800	46,000J	24,000	<24	290,000B	-120.492421	46.569994	0	Flue Dust Area
Bay_Chem_RI	N22E11	N22E11-0	5/20/94	0	--	--	--	--	--	22,000	--	--	--	-120.492263	46.57003	0	Flue Dust Area
Bay_Chem_RI	N22E11.5	N22E11.5(0-0.5)	10/3/96	0	--	--	--	--	--	16,000	--	--	--	-120.492263	46.57003	0	Flue Dust Area
Bay_Chem_RI	N23E11.5	N23E11.5(1.5-2)	10/3/96	1.5	--	--	--	--	--	2,500	--	--	--	-120.492151	46.570352	0	Flue Dust Area
Bay_Chem_RI	N23E11.5	N23E11.5(3.5-4)	10/3/96	3.5	--	--	--	--	--	4,000	--	--	--	-120.492151	46.570352	0	Flue Dust Area
Bay_Chem_RI	N23.2E9.8	N23.2E9.8(0-0.5)	10/4/96	0	--	--	--	--	--	34	--	--	--	-120.49286	46.570218	0	Flue Dust Area
Bay_Chem_RI	N23.2E9.8	N23.2E9.8(1.5-2)	10/4/96	1.5	0.51	2.9	0.59	21	21	35	650	<0.01	100	-120.49286	46.570218	0	Flue Dust Area
Bay_Chem_RI	N23E11	N23E11(0.5) DUPLICATE	10/3/96	0	--	--	--	--	--	810	--	--	--	-120.49236	46.570297	0	Flue Dust Area
Bay_Chem_RI	N23E11	N23E11(1.5-2)	10/3/96	1.5	--	--	--	--	--	97	--	--	--	-120.49236	46.570297	0	Flue Dust Area
Bay_Chem_RI	N23E11	N23E11(3.5-4)	10/3/96	3.5	--	--	--	--	--	15	--	--	--	-120.49236	46.570297	0	Flue Dust Area
Bay_Chem_RI	N23E11	N23E11(5.5-6)	10/3/96	5.5	--	--	--	--	--	11	--	--	--	-120.49236	46.570297	0	Flue Dust Area
Bay_Chem_RI	N8.9E10.7	N8.9E10.7-0	11/11/96	0	--	--	--	--	--	260	--	--	--	-120.490658	46.566596	0	BC South
Bay_Chem_RI	N8.9E10.7	N9.75E10.3-0	11/11/96	0	--	--	--	--	--	7,000	--	--	--	-120.490658	46.566596	0	BC South
Bay_Chem_RI	S01	S01A	1/31/96	0	16J	<8	203	705	--	44,600	11,300	--	50,700	-120.490251	46.566824	0	BC South

Table B-1
Yakima Steel Facility and Bay Chemical Site Metals Data
Agri-Tech and Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

Data Source ¹	Sample Location	Sample ID	Sample Date	Sample Depth (Feet bgs) ²	Analytical Results (micrograms per gram) ³									Longitude (Decimal Degrees)	Latitude (Decimal Degrees)	Sample Excluded ⁴	Zone Assigned in Ratio Analysis ⁵
					Antimony	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Zinc				
Bay_Chem_RI	S02	S02B	1/31/96	0	<4J	21	73.9	173	--	10,600	3,020	--	18,000	-120.490434	46.56668	0	BC South
Bay_Chem_RI	S02	S02A	1/31/96	0	<3J	<8	39.7	41.2	79.8	1,090	299	--	4,180	-120.490434	46.56668	0	BC South
Bay_Chem_RI	S02	S02B	1/31/96	0	<3J	10	0.39	13.8	28.4	23.2	191	--	520	-120.490434	46.56668	0	BC South
Bay_Chem_RI	S02	S02C	1/31/96	0	<4J	12	<0.3	14.8	28	14	583	--	8,304	-120.490434	46.56668	0	BC South
Bay_Chem_RI	S03	S03A	1/31/96	0	<3J	11	2	14.3	34.1	151	890	--	655	-120.490335	46.566366	0	BC South
Bay_Chem_RI	S03	S03B	1/31/96	0	<4J	11	0.3	14.8	26.9	9.3	410	--	74	-120.490335	46.566366	0	BC South
Bay_Chem_RI	S04	S04A	1/31/96	0	<3J	<8	0.53	12.3	23.7	48	749	--	126	-120.489147	46.566367	0	BC South
Bay_Chem_RI	S04	S04B	1/31/96	0	<3J	14	0.3	13.6	35.5	13	886	--	107	-120.489147	46.566367	0	BC South
Bay_Chem_RI	S05	S05A	1/31/96	0	<3J	12	6.88	23.9	--	1,060	--	--	1,670	-120.489905	46.566653	0	BC South
Bay_Chem_RI	S06	S06A	1/31/96	0	5.5J	<8	2.35	651	--	42,700	--	--	51,800	-120.489892	46.566827	0	BC South
Bay_Chem_RI	1026-1	SED1026-1	10/26/94	0	45	<20	220	630	1,400	19,000	9,800	9.94	47,000	-120.489687	46.566868	0	Sludge Sediment
Bay_Chem_RI	1026-2	SED1026-2	10/26/94	0	<32	<48	150	540	1,200	25,000	6,800	10	36,000	-120.489886	46.566865	0	Sludge Sediment
Bay_Chem_RI	1026-3	SED1026-3	10/26/94	0	<33	<50	290	1,100	2,700	65,000	18,000	27.3	73,000	-120.490118	46.566867	0	Sludge Sediment
Bay_Chem_RI	1026-4	SED1026-4	10/26/94	0	<140	<220	340	1,300	3,000	34,000	22,000	36	81,000	-120.490361	46.566878	0	Sludge Sediment
Bay_Chem_RI	1026-5	SED1026-5A	10/26/94	0	310	100	410	1,500	3,800	46,000	27,000	32.7	100,000	-120.49071	46.566869	0	Sludge Sediment
Bay_Chem_RI	1026-5	SED1026-5B	10/26/94	0	290	100	410	1,500	3,400	40,000	26,000	21.9	97,000	-120.49071	46.566869	0	Sludge Sediment
Bay_Chem_RI	1026-6	SED1026-6	10/26/94	0	170	<17	300	1,200	2,700	25,000	21,000	16.7	71,000	-120.491036	46.566894	0	Sludge Sediment
Farallon_Sup_RI	A-TP1	A-TP1-052711-5.0	5/27/11	5	<2.9	<2.9	<0.49	--	24	6.3	170	0.035	830	-120.4908	46.568129	0	YSF West
Farallon_Sup_RI	A-TP2	A-TP2-052711-5.0	5/27/11	5	<3.1	<3.1	<0.51	--	23	5.9	310	0.26	54	-120.4906	46.568145	0	YSF West
Farallon_Sup_RI	B-TP2	B-TP2-052611-5.5	5/26/11	5.5	<2.9	<2.9	<0.48	--	24	4.6	210	0.052	56	-120.490493	46.56789	0	YSF Southwest
Farallon_Sup_RI	B-TP3	B-TP3-052611-5.5	5/26/11	5.5	<2.7	<2.7	<0.45	--	20	13	330	0.053	69	-120.490403	46.567836	0	YSF Southwest
Farallon_Sup_RI	C-TP1	C-TP1-052611-5.0	5/26/11	5	<3.5	<3.5	<0.58	--	29	5.8	280	0.088	69	-120.490355	46.567665	0	YSF Southwest
Farallon_Sup_RI	C-TP2	C-TP2-052611-8.0	5/26/11	8	<2.9	<2.9	0.95	--	25	41	240	0.09	610	-120.490554	46.567641	0	YSF Southwest
Farallon_Sup_RI	C-TP3	C-TP3-052611-4.5	5/26/11	4.5	<3.1	<3.1	<0.51	--	23	5.2	340	0.05	58	-120.49044	46.567775	0	YSF Southwest
Farallon_Sup_RI	D-TP1	D-TP1-052511-4.5	5/25/11	4.5	<3.5	<3.5	<0.59L	--	27	20	370	0.1	340	-120.490427	46.567313	0	YSF Southwest
Farallon_Sup_RI	D-TP2	D-TP2-052511-5.5	5/25/11	5.5	<5.3	<5.3	88	--	74	1000	410	0.43	7,000	-120.490339	46.56748	0	YSF Southwest
Farallon_Sup_RI	D-TP3	D-TP3-052611-4.5	5/26/11	4.5	<2.9	<2.9	<0.49	--	24	13	330	0.041	260	-120.490246	46.567422	0	YSF Southwest
Farallon_Sup_RI	E-TP1	E-TP1-052511-4.5	5/25/11	4.5	<2.5L	<2.5	8.8	--	19	27	570	0.041	2,200	-120.49029	46.566988	0	YSF Southwest
Farallon_Sup_RI	E-TP2	E-TP2-052511-3.0	5/25/11	3	<2.7L	<2.7	6.2	--	28	100	480	0.087	2,400	-120.490367	46.56721	0	YSF Southwest
Farallon_Sup_RI	G-TP1	G-TP1-052511-0.0-0.5	5/25/11	0.5	<2.8L	8.6	1.3	--	19	27	540	0.19	61	-120.489899	46.567526	0	YSF East
Farallon_Sup_RI	G-TP1	G-TP1-052511-2.0-2.5	5/25/11	2.5	<3.3L	7.6	1.6	--	25	44	550	2.4	150	-120.489899	46.567526	0	YSF East
Farallon_Sup_RI	G-TP2	G-TP2-052511-0.0-0.5	5/25/11	0.5	<3.7	5.2	1.3	--	25	31	510	0.07	80	-120.490164	46.567533	0	YSF Central
Farallon_Sup_RI	G-TP3	G-TP3-052511-0.0-0.5	5/25/11	0.5	<3.3L	4.4	1.7	--	28	30	530	0.055	100	-120.490078	46.567437	0	YSF Central
Farallon_Sup_RI	G-TP3	G-TP3-052511-2.0-2.5	5/25/11	2.5	<3.3	3.9	1.2	--	23	150	240	0.48	450	-120.490078	46.567437	0	YSF Central
Farallon_Sup_RI	H-TP1	H-TP1-052611-0.0-0.5	5/26/11	0.5	3.3	<2.7	1	--	360	72	440	0.048	270	-120.490058	46.567751	0	YSF Central
Farallon_Sup_RI	H-TP2	H-TP1-052611-3.5-4.0	5/26/11	4	<2.8	7.1	<0.46	--	23	36	420	0.086	82	-120.490242	46.567755	0	YSF Central
Farallon_Sup_RI	H-TP2	H-TP2-052611-1.0-1.5	5/26/11	1.5	<2.7	4.1	1.1	--	39	110	460	0.13	350	-120.490242	46.567755	0	YSF Central
Farallon_Sup_RI	H-TP3	H-TP2-052611-2.0-2.5	5/26/11	2.5	<3.3	<3.3	<0.55	--	24	84	530	0.19	200	-120.490121	46.567608	0	YSF Central
Farallon_Sup_RI	H-TP3	H-TP3-052611-0.0-0.5	5/26/11	0.5	<2.5	4.3	0.76	--	25	42	400	0.054	150	-120.490121	46.567608	0	YSF Central
Farallon_Sup_RI	H-TP3	H-TP3-052611-3.5-4.0	5/26/11	4	<2.8	<2.8	1.1	--	100	170	360	0.053	210	-120.490121	46.567608	0	YSF Central
Farallon_Sup_RI	I-TP3	I-TP3-052411-0.0-0.5	5/24/11	0.5	<2.1	<2.9	<0.49	--	41	67	560	0.14	210	-120.490283	46.568058	0	YSF Central
Farallon_Sup_RI	I-TP3	I-TP3-052411-1.5	5/24/11	1.5	3.6	8.2	<0.51	--	53	370	380	0.4	570	-120.490283	46.568058	0	YSF Central
Farallon_Sup_RI	I-TP3	I-TP3-052411-3.0	5/24/11	3	3.2	<3	0.82	--	160	730	390	0.38	870	-120.490283	46.568058	0	YSF Central
Farallon_Sup_RI	J-TP1	J-TP1-052411-0.0-0.5	5/24/11	0.5	2.9	<2.9	<0.48	--	57	50	380	0.25	190	-120.49027	46.568264	0	YSF Central
Farallon_Sup_RI	J-TP2	J-TP2-052411-0.0-0.5	5/24/11	0.5	7.1	<3.1	1.4	--	74	410	520	0.38	790	-120.49032	46.568199	0	YSF Central
Farallon_Sup_RI	J-TP3	J-TP3-052511-1.5-2.0	5/25/11	2	<2.8	8.5	0.48	--	29	600	300	0.17	480	-120.490406	46.56836	0	YSF Central
Farallon_Sup_RI	M-TP1	M-TP1-052511-0.0-0.5	5/25/11	0.5	<3.1	6.2	2.8	--	1,300	130	550	0.07	120	-120.489933	46.56779	0	YSF East
Farallon_Sup_RI	M-TP1	M-TP1-052511-3.0-3.5	5/25/11	3.5	<3.7	4.4	<0.62L	--	23	13	430	0.095	37	-120.489933	46.56779	0	YSF East
Farallon_Sup_RI	M-TP2	M-TP2-052511-0.0-0.5	5/25/11	0.5	<3	5.3	--	--	67	160	420	0.26	490	-120.489846	46.56788	0	YSF East
Farallon_Sup_RI	N-TP1	N-TP1-052411-0.0-0.5	5/24/11	0.5	<3.3	4.9	<0.54L	--	25	40	500	0.096	97	-120.489733	46.567534	0	YSF East
ECY_EPI_Sampling	Pit A		7/9/07	2	--	11.9	5.38	79.8	--	439	569	--	1,710	-120.489733	46.567534	0	YSF West
ECY_EPI_Sampling	Pit B		7/9/07	0.5	--	13	4.22	136	--	290	524	--	1,200	-120.489733	46.567534	0	YSF Southwest
ECY_EPI_Sampling	Pit C		7/9/07	0.5	--	13	7.6	944	--	674	645	--	2,200	-120.489733	46.567534	0	YSF Southwest
ECY_EPI_Sampling	Pit D		7/9/07	2	--	55	330	1,820	--	22,500	12,500	--	123,000	-120.489733	46.567534	0	YSF Southwest
ECY_EPI_Sampling	Pit E		7/9/07	0	--	2.9	15.3	57.9	--	762	515J	--	3,100	-120.489733	46.567534	0	YSF Southwest
ECY_EPI_Sampling	Pit K		7/9/07	2	--	12.5	1.1	62	--	409	369	--	465	-120.489733	46.567534	0	YSF Central

Table B-1
Yakima Steel Facility and Bay Chemical Site Metals Data
Agri-Tech and Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

Data Source ¹	Sample Location	Sample ID	Sample Date	Sample Depth (Feet bgs) ²	Analytical Results (micrograms per gram) ³									Longitude (Decimal Degrees)	Latitude (Decimal Degrees)	Sample Excluded ⁴	Zone Assigned in Ratio Analysis ⁵
					Antimony	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Zinc				
ECY_EPI_Sampling	Pit L		7/9/07	1	--	6.17	0.67	30.4	--	212	336	--	369	-120.489733	46.567534	0	YSF Central
ECY_EPI_Sampling	Pit M		7/9/07	0	--	8.12	4.3	5,560	--	433	2,270	--	995	-120.489733	46.567534	0	YSF Central
ECY_EPI_Sampling	Pit N		7/9/07	0	--	1.5	<0.1	77.4J	--	5.67	160	--	69	-120.489733	46.567534	0	YSF Southwest
ECY_EPI_Sampling	TP-2		7/9/07	1.25	<3	<5	6.9	51	16	630	--	0.26	2,100	-120.490625	46.567993	0	YSF Southwest
ECY_EPI_Sampling	TP-3		7/9/07	2.25	<3	<5	2	35	6.7	300	--	0.09	150	-120.490358	46.567659	0	YSF Southwest
ECY_EPI_Sampling	TP-4		7/9/07	2	65	<5	310	2,000	490	27,000	--	14	140,000	-120.490478	46.567328	0	YSF Southwest
ECY_EPI_Sampling	TP-8		7/9/07	1	<3	<5	2.9	82	15	2,800	--	0.09	1,700	-120.489951	46.567728	0	YSF East
ECY_EPI_Sampling	TP-11		7/9/07	1	<3	<5	1.3	22	15	170	--	0.23	310	-120.48994	46.568041	0	YSF East
ECY_EPI_Sampling	TP-13		7/9/07	0	<3	<5	1.2	21	8.6	31	--	0.04	99	-120.489709	46.567547	0	YSF East
Farallon_Sup_RI	E-WETSOIL-1	E-wetsoil-052611-0.0-0.5	5/26/11	0.5	<5.1	<5.1	3.7	--	39	110	190	0.14	1,700	-120.490058	46.567036	0	YSF Southwest
Farallon_Sup_RI	E-WETSOIL-1	E-wetsoil-052611-0.5-1.0	5/26/11	1	<2.4	<2.4	<0.4	--	17	4.2	160	0.043	310	-120.490058	46.567036	0	YSF Southwest
Farallon_Sup_RI	E-WETSOIL-2	E-wetsoil-2-052611-0.5-1.0	5/26/11	1	<3.4	<3.4	1.6	--	19	19	250	0.071	670	-120.490198	46.56707	0	YSF Southwest
Farallon_Sup_RI	E-WETSOIL-2	E-wetsoil-2-052611-1.0-2.0	5/26/11	2	<3	<3	1.8	--	20	4.4	270	0.059	870	-120.490198	46.56707	0	YSF Southwest
Farallon_Sup_RI	E-WETSED-1	E-wetsed-1-053111	5/23/11	0.5	<5.8	<5.8	9.2	--	36	190	210	--	2,700	-120.490271	46.567233	0	YSF Southwest
Farallon_Sup_RI	E-WETSED-2	E-wetsed-2-053111	5/23/11	0.5	<6.9	7.6	6.8	--	41	150	220	--	2,800	-120.490116	46.567259	0	YSF Southwest
Farallon_Sup_RI	E-WETSED-3	E-wetsed-3-053111	5/23/11	0.5	<6.1	8.5	7.8	--	52	180	270	--	2,700	-120.490103	46.567126	0	YSF Southwest
Farallon_Sup_RI	G-WETSOIL	G-wetsoil-052611-0.0-0.5	5/26/11	0.5	<2.4	<2.4	<0.4	--	16	3.5	210	0.044	41	-120.490078	46.567437	0	YSF Southwest
Farallon_Sup_RI	G-WETSOIL	G-wetsoil-052611-1.0-2.0	5/26/11	2	<4.2	<4.2	1.5	--	40	80	470	0.14	510	-120.490078	46.567437	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YSF7B4	BC-082907-YSF-7B4	8/29/07	0	--	6.81	2.19	19.4	37.3	187	642	0.134	--	-120.4911566	46.56907284	0	YSF Northwest
YSF_Soil_Data_EIM	CD1906-YSFE800	BC-083007-YSF-E800	8/30/07	0	--	1.43	1.16	88.31	<19	110	500	5.44	--	-120.491161	46.5688865	0	YSF West
YSF_Soil_Data_EIM	CD1906-YSFE850	BC-083007-YSF-E850	8/30/07	0	--	6.26	2.26	165.62	43.1	167	420	0.175	--	-120.4911047	46.56875857	0	YSF West
YSF_Soil_Data_EIM	CD1906-YSFE900	BC-083007-YSF-E900	8/30/07	0	--	5.39	<17	78.52	40.94	172.07	438.53	<0.113	--	-120.4910484	46.56863173	0	YSF West
YSF_Soil_Data_EIM	CD1906-YSFE950	BC-083007-YSF-E950	8/30/07	0	--	3.57	<17	24.1	48.04	16.31	669.06	10.2	--	-120.4909803	46.56850162	0	YSF West
YSF_Soil_Data_EIM	CD1906-CP6A2	BC-091407-CP-6A2	9/14/07	0	--	8.37	<17	15	25	90.2	749	0.114	--	-120.491388	46.56935943	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CP6B3	BC-091407-CP-6B3	9/14/07	0	--	6.79	<5.44	104.95	13.7	11.2	1,317	<5	--	-120.4911987	46.56934918	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CPE650	BC-091407-CP-E650	9/14/07	0	--	<6	<6	42.2	77.9	1,169	417	0.819	--	-120.4910573	46.56935858	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CPE6A4	BC-091407-CP-E6A4	9/14/07	0	--	<5.4	<5.4	8.7	11.6	7.13	252	<5	--	-120.4910896	46.56936376	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CPN100	BC-091407-CP-N100	9/14/07	0	--	<5.14	<5.14	12.4	30.9	175	145	<5	--	-120.4911357	46.56939988	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CPN50	BC-091407-CP-N50	9/14/07	0	--	<5.38	<5.38	13.2	25	172.73	662	5.18	--	-120.4913308	46.56940224	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CPN75	BC-091407-CP-N75	9/14/07	0	--	<5.34	<17	18.8	31.23	231.71	444.23	5.38	--	-120.4912208	46.56939852	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CP5A1	BC-092107-CP-5A1	9/21/07	0	--	<5.36	<5.36	17.8	23.9	42.5	635	<5	--	-120.4915993	46.56959261	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CP5B1	BC-092107-CP-5B1	9/21/07	0	--	<6	<17	104.72	23.1	11.57	510.51	<5	--	-120.491421	46.5696315	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CP5D2	BC-092107-CP-5D2	9/21/07	0	--	<5.44	<5.44	14.8	31.61	<5.44	289	6.92	--	-120.4914535	46.56948485	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CP4B4	BC-092407-CP-4B4	9/24/07	0	--	<5.18	<5.18	15.8	<19	95.78	408	7.18	--	-120.4915052	46.56979152	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CP4C4	BC-092407-CP-4C4	9/24/07	0	--	<6	<17	15	25.8	123	448	0.286	--	-120.4914457	46.56970002	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-YSF7EB2	BC-092407-YSF-7EB2	9/24/07	0	--	<5.66	<17	61.94	20.92	75.92	738.56	0.156	--	-120.4909826	46.56919286	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CPE500	BC-092507-CP-E500	9/25/07	0	--	5.17	<5.02	20	<19	129	502	<0.0972	--	-120.4913777	46.56968257	0	YSF Northwest
YSF_Soil_Data_EIM	CD1906-CPN430	BC-092507-CP-N430	9/25/07	0	--	<5.24	<17	<55	<19	16.87	867.44	<5	--	-120.4915706	46.56981706	0	YSF Northwest
YSF_Soil_Data_EIM	CD1906-YSFE750	BC-092507-YSF-E750	9/25/07	0	--	<5.35	<5.35	15.9	12.5	21.8	430	<5	--	-120.491209	46.56901565	1	YSF West
YSF_Soil_Data_EIM	CD1906-YSE1425W	BC-092707-YS-E1425W	9/27/07	0	--	8.8	<4.81	97.16	29.2	74.4	431	<5	--	-120.4903222	46.56736712	1	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YSF758	BC-092807-YSF-S758	9/28/07	0	--	<6	<5.74	13.8	16.9	27.8	411	<5	--	-120.4910072	46.5691057	1	YSF Northwest
YSF_Soil_Data_EIM	CD1906-YS12WA1	BC-080307-YS-12W-A1	8/3/07	4	--	2.56	5.47	17	28.3	47.9	610	<0.112	--	-120.4907591	46.56782687	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YS12WC1	BC-080307-YS-12W-C1	8/3/07	4	--	2.64	<0.433	<55	<19	7.23	231	<0.118	--	-120.490527	46.56774259	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YS12WD1	BC-080307-YS-12W-D1	8/3/07	4	--	2.18	1.06	17.1	37.31	4.63	318	<0.114	--	-120.4906947	46.56770893	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YS13WD4	BC-080307-YS-13W-D4	8/3/07	4	--	1.65	0.733	18.3	30.8	11.6	382	<5	--	-120.4905443	46.5673754	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YS14WA4	BC-080307-YS-14W-A4	8/3/07	4	--	9.17	4.66	14.9	24.92	151	603	0.123	--	-120.490473	46.56724873	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YS14WD4	BC-080307-YS-14W-D4	8/3/07	4	--	2.85	1.72	78.04	<19	97.78	451	6.26	--	-120.4904157	46.56712926	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YS15WA4	BC-080307-YS-15W-A4	8/3/07	4	--	2.54	1.57	<55	26.6	88.07	334	<0.102	--	-120.4903602	46.56701448	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YS15WD4	BC-080307-YS-15W-D4	8/3/07	4	--	2.56	<17	17	21.8	30.9	449	11.23	--	-120.490339	46.5669706	0	YSF Southwest
YSF_Soil_Data_EIM	CD1906-YSF6C4	BC-082907-YSF-6C4	8/29/07	4	--	2.45	<17	108.93	<19	119.54	780.52	6.89	--	-120.4912205	46.56919869	0	YSF Northwest
YSF_Soil_Data_EIM	CD1906-YSF6D4	BC-082907-YSF-6D4	8/29/07	4	--	<6	<17	72.26	<19	22.6	820.4	<5	--	-120.491404	46.56916118	0	YSF Northwest
YSF_Soil_Data_EIM	CD1906-YSF7A2	BC-082907-YSF-7A2	8/29/07	4	--	19.88	1.84	15.9	28.1	146	670.53	0.0969	--	-120.4912637	46.56911166	0	YSF Northwest
YSF_Soil_Data_EIM	CD1906-YSF8A3	BC-083007-YSF-8A3	8/30/07	4	--	22.46	<4.84	16.9	28.2	73.7	884.31	10.43	--	-120.4911419	46.56878699	0	YSF West
YSF_Soil_Data_EIM	CD1906-YSF8D3	BC-083007-YSF-8D3	8/30/07	4	--	13.98	<17	127.04	<19	91.03	712	<5	--	-120.4910918	46.56866317	0	YSF West
YSF_Soil_Data_EIM	CD1906-YSF10B1	BC-090507-YSF-10B1	9/5/07	4	--	<5.57	<5.57	15.2	28.3	8.58	443	6.22	--	-120.4908464	46.56838123	1	YSF West
YSF_Soil_Data_EIM	CD1906-YSF10C4	BC-090507-YSF-10C4	9/5/07	4	--	<6	<6.17	13.3	26.5	14.4	312	<5	--	-120.4907552	46.56816853	1	YSF West
YSF_Soil_Data_EIM	CD1906-YSF11A2	BC-090507-YSF-11A2	9/5/07	4	--	7.82	<6.36	11.7	20.9	11.7	266	<0.139	--	-120.4908115	46.56809212	1	YSF West

Table B-1
Yakima Steel Facility and Bay Chemical Site Metals Data
Agri-Tech and Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001

Data Source ¹	Sample Location	Sample ID	Sample Date	Sample Depth (Feet bgs) ²	Analytical Results (micrograms per gram) ³									Longitude (Decimal Degrees)	Latitude (Decimal Degrees)	Sample Excluded ⁴	Zone Assigned in Ratio Analysis ⁵	
					Antimony	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Zinc					
YSF_Soil_Data_EIM	CD1906-YSFE1050	BC-090507-YSF-E1050	9/5/07	4	--	<5.86	<17	<55	27.73	162.07	508.37	<5	--	-120.4907609	46.56827109	1	YSF West	
YSF_Soil_Data_EIM	CD1906-YSFE1100	BC-090507-YSF-E1100	9/5/07	4	--	18.6	<5.5	10.4	24	92.7	696.77	<0.103	--	-120.4907209	46.56814643	1	YSF West	
YSF_Soil_Data_EIM	CD1906-YSF7D3	BC-090607-YSF-7D3	9/6/07	4	--	<5.46	<5.46	71.97	<19	11.51	563.07	<5	--	-120.4912149	46.56892619	1	YSF West	
YSF_Soil_Data_EIM	CD1906-YSF11A4	BC-091207-YSF-11A4	9/12/07	4	--	6.52	<5.6	17.5	26.5	10.6	423.34	<0.136	--	-120.4908456	46.5680069	1	YSF Southwest	
YSF_Soil_Data_EIM	CD1906-YSF11B4	BC-091207-YSF-11B4	9/12/07	4	--	<5.75	<5.75	101.84	24.9	<5.75	752.49	<0.124	--	-120.4906709	46.56804757	1	YSF Southwest	
YSF_Soil_Data_EIM	CD1906-YSF11D2	BC-091207-YSF-11D2	9/12/07	4	--	<5.68	<17	<55	28.5	16.87	402	<0.123	--	-120.4907474	46.56795415	1	YSF Southwest	
YSF_Soil_Data_EIM	CD1906-YSF12B4	BC-091207-YSF-12B4	9/12/07	4	--	<5.94	<5.94	17.6	20.41	<5.94	441.86	<5	--	-120.4905519	46.56780776	1	YSF Southwest	
YSF_Soil_Data_EIM	CD1906-YSFE1000	BC-091207-YSF-E1000	9/12/07	4	--	26.06	<17	16.8	<19	332.58	348.47	<5	--	-120.4908509	46.5684025	1	YSF West	
YSF_Soil_Data_EIM	CD1906-YSFE1150	BC-091207-YSF-E1150	9/12/07	4	--	<6	<17	<55	<19	116.13	309	0.324	--	-120.4906391	46.56803099	1	YSF Southwest	
YSF_Soil_Data_EIM	CD1906-CP6C1	BC-091407-CP-6C1	9/14/07	4	--	9.02	<5	12.6	30	138	800.6	0.205	--	-120.4912188	46.56924526	1	YSF Northwest	
YSF_Soil_Data_EIM	CD1906-CPE675	BC-091407-CP-E675	9/14/07	4	--	<5.41	<5.41	<55	68.3	379	349	0.349	--	-120.4910196	46.56929177	1	YSF Northwest	
YSF_Soil_Data_EIM	CD1906-CP5D4	BC-092107-CP-5D4	9/21/07	4	--	10.64	<5.09	16.4	26.1	79.9	520	0.128	--	-120.4915131	46.56941099	1	YSF Northwest	
YSF_Soil_Data_EIM	CD1906-CP6A1	BC-092107-CP-6A1	9/21/07	4	--	<6	<5.43	79.85	<19	45.15	563.17	<0.116	--	-120.4914741	46.56933734	1	YSF Northwest	
YSF_Soil_Data_EIM	CD1906-CP6A4	BC-092107-CP-6A4	9/21/07	4	--	<5.23	<17	166.46	<19	25.55	953.87	<0.1	--	-120.4914412	46.56927506	1	YSF Northwest	
YSF_Soil_Data_EIM	CD1906-CP4D2	BC-092407-CP-4D2	9/24/07	4	--	7.37	<17	99.46	<19	115.78	897.61	14.49	--	-120.4915684	46.56973678	1	YSF Northwest	
YSF_Soil_Data_EIM	CD1906-YS13WC1	BC-092707-YS-13W-C1	9/27/07	4	--	<8.95	31.2	14.1	20.15	54.5	409	<0.187	--	-120.4910878	46.56732118	0	BC Operations Area	
YSF_Soil_Data_EIM	CD1906-YS14WB1	BC-092707-YS-14W-B1	9/27/07	4	--	<10.3	<17	13.1	<19	142	345	<0.222	--	-120.4903546	46.56736604	1	YSF Southwest	
YSF_Soil_Data_EIM	CD1906-YSE1300W	BC-092707-YS-E1300W	9/27/07	4	--	7.88	<5.15	15.3	28	43.6	532	<5	--	-120.4904234	46.56765209	1	YSF Southwest	
YSF_Soil_Data_EIM	CD1906-YSE1350W	BC-092707-YS-E1350W	9/27/07	4	--	<6	<4.96	<4.96	27.5	5.95	2,233	<5	--	-120.4903881	46.56753241	1	YSF Southwest	
YSF_Soil_Data_EIM	CD1906-YSS14W60	BC-092707-YS-S14W-60	9/27/07	4	--	15.3	<17	<55	<19	62.7	552	<5	--	-120.4903275	46.56732738	1	YSF Southwest	
YSF_Soil_Data_EIM	CD1906-YS12WB2	BC-100407-YS-12W-B2	10/4/07	4	--	<5.78	<5.78	7.86	<19	7.4	138	<0.122	--	-120.490516	46.56787254	1	YSF Southwest	
YSF_Soil_Data_EIM	CD1906-YS12WB3	BC-100407-YS-12W-B3	10/4/07	4	--	19.85	<17	124.98	<19	123.24	287.25	<0.115	--	-120.4904834	46.56781486	1	YSF Southwest	
YSF_Soil_Data_EIM	CD1906-YS12WC2	BC-100407-YS-12W-C2	10/4/07	4	--	<6	<8.75	16.3	28.4	10.2	278.57	<0.165	--	-120.490443	46.56774873	1	YSF Southwest	
YSF_Soil_Data_EIM	CD1906-YS12WC3	BC-100407-YS-12W-C3	10/4/07	4	--	<6	<7.53	21.7	<19	7.05	276	<5	--	-120.4904268	46.56771721	1	YSF Southwest	
YSF_Soil_Data_EIM	CD1906-YS13WA4	BC-100507-YS-13W-A4	10/5/07	4	--	<6.19	10.6	<55	28.6	6.73	286	<0.154	--	-120.4909654	46.56742397	0	BC Operations Area	
YSF_Soil_Data_EIM	CD1906-YSE1200W	BC-100507-YS-E1200W	10/5/07	4	--	14.34	<4.5	12.3	<19	48.26	841	<0.106	--	-120.4904352	46.56786492	1	YSF Southwest	
YSF_Soil_Data_EIM	CD1906-YSE1275W	BC-100507-YS-E1275W	10/5/07	4	--	6.6	<5.04	145.88	27.6	55.7	695	<0.117	--	-120.4903979	46.5677028	1	YSF Southwest	
YSF_Soil_Data_EIM	CD1906-YSF9A1	BC-083007-YSF-9A1	8/30/07	6	--	26.13	<4.6	16.4	24.8	156	726.72	0.123	--	-120.4911252	46.56856967	0	YSF West	
YSF_Soil_Data_EIM	CD1906-YSF10A3	BC-083107-YSF-10A3	8/31/07	6	--	8.85	<17	61.97	<19	7.73	343.71	<0.117	--	-120.4909074	46.56827917	0	YSF West	
YSF_Soil_Data_EIM	CD1906-YSF10D1	BC-083107-YSF-10D1	8/31/07	6	--	3.4	1.88	17.2	25.6	14.57	556	<0.13	--	-120.4909326	46.56820648	0	YSF West	
YSF_Soil_Data_EIM	CD1906-YSF9D2	BC-090707-YSF-9D2	9/7/07	6	--	<6	<17	17.6	24.9	24.98	732	<5	--	-120.4909996	46.56847166	1	YSF West	
BC_Soil_Data_EIM	CD1906-13WA1	BC-040707-13W-A1	4/7/07	0	--	<5.35	6.47	134.9	17.1	13.4	354	<0.0949	--	-120.4912831	46.56740584	0	BC Operations Area	
BC_Soil_Data_EIM	CD1906-13WD1	BC-040707-13W-D1	4/7/07	0	--	<5.2	7.26	14.3	22	42.1	862	0.131	--	-120.4912195	46.56728934	0	BC Operations Area	
BC_Soil_Data_EIM	CD1906-NEA1	BC-053007-NE-A1	5/30/07	2	--	6.99	1.28	95.58	38.04	35.79	729	<0.109	--	-120.4925422	46.57039123	0	Flue Dust Area	
BC_Soil_Data_EIM	CD1906-NEA2	BC-053007-NE-A2	5/30/07	2	--	5.24	<17	100.71	11.78	25.43	723.42	8.33	--	-120.4924314	46.5703974	0	Flue Dust Area	
BC_Soil_Data_EIM	CD1906-NEA3	BC-053007-NE-A3	5/30/07	2	--	2.88	<17	52.24	22.34	35.48	810.48	4.73	--	-120.4923955	46.57021668	0	Flue Dust Area	
BC_Soil_Data_EIM	CD1906-NEA4	BC-053007-NE-A4	5/30/07	2	--	9.65	<17	124.39	12.42	5.37	643.4	<5	--	-120.4924518	46.57030244	0	Flue Dust Area	
BC_Soil_Data_EIM	CD1906-NEB1	BC-053007-NE-B1	5/30/07	2	--	3.68	<17	78.75	18.77	24.36	734.12	<5	--	-120.4922294	46.57041926	0	Flue Dust Area	
BC_Soil_Data_EIM	CD1906-NEB2	BC-053007-NE-B2	5/30/07	2	--	<6	<17	143.28	36.89	15.42	658.71	5.85	--	-120.4921196	46.57041945	0	Flue Dust Area	
BC_Soil_Data_EIM	CD1906-NEB3	BC-053007-NE-B3	5/30/07	2	--	5.01	<17	58.21	11.58	11.21	625.91	<5	--	-120.4923176	46.57024257	0	Flue Dust Area	
BC_Soil_Data_EIM	CD1906-NEB4	BC-053007-NE-B4	5/30/07	2	--	9.15	<17	111.72	51.28	174.01	888.25	<5	--	-120.4922311	46.57035142	0	Flue Dust Area	
BC_Soil_Data_EIM	CD1906-NEC1	BC-053007-NE-C1	5/30/07	2	--	<6	<17	66.19	40.75	192.79	876.88	<5	--	-120.4920584	46.57038275	0	Flue Dust Area	
BC_Soil_Data_EIM	CD1906-NEC2	BC-053007-NE-C2	5/30/07	2	--	<6	<17	33.62	6.18	13.36	620.92	<5	--	-120.491982	46.57017854	0	Flue Dust Area	
BC_Soil_Data_EIM	CD1906-NED3	BC-053007-NE-D3	5/30/07	2	--	3.02	<17	<48	<19	12.63	720	6.22	--	-120.4919063	46.56996532	0	Flue Dust Area	
BC_Soil_Data_EIM	CD1906-NED4	BC-053007-NE-D4	5/30/07	2	--	<6	<17	107.66	21.55	77.36	903.2	5.48	--	-120.4920382	46.57006983	0	Flue Dust Area	
BC_Soil_Data_EIM	CD1906-NEC3	BC-121307-NE-C3	12/13/07	2	--	<0.506	<0.506	3.07	<19	2.52	764	<0.107	--	-120.4921866	46.57018705	0	Flue Dust Area	
BC_Soil_Data_EIM	CD1906-NEC4	BC-121307-NE-C4	5/30/07	2	--	<6	<17	88.07	12.75	9.84	773.36	<5	--	-120.4921163	46.57029533	0	Flue Dust Area	
BC_Soil_Data_EIM	CD1906-NED1	BC-121307-NE-D1	5/30/07	2	--	<6	<17	97.26	31.94	11.01	762.62	<5	--	-120.4921958	46.57008845	0	Flue Dust Area	
BC_Soil_Data_EIM	CD1906-NED2	BC-121307-NE-D2	5/30/07	2	--	<6	<17	51.55	18.38	5.37	537.92	<5	--	-120.4919295	46.57011156	0	Flue Dust Area	
BC_Soil_Data_EIM	CD1906-12ED4	BC-040507-12E-D4	4/5/07	4	--	6.95	<5.7	96.3	<19.2	<7.1	474.13	<0.118	--	-120.4910196	46.56755298	0	BC Operations Area	
BC_Soil_Data_EIM	CD1906-12WC3	BC-040507-12W-C3	4/5/07	4	--	<5.2	<16.6	104.08	17	18.54	965.31	<5.4	--	-120.4911157	46.56751929	0	BC Operations Area	
BC_Soil_Data_EIM	CD1906-13WC1	BC-040707-13W-C1	4/7/07	4	--	<5.72	<5.72	17.3	<19.2	140	570	<0.0914	--	-120.4904736	46.56748415	0	YSF Southwest	
BC_Soil_Data_EIM	CD1906-12EB3	BC-041107-12E-B3	4/11/07	4	--	<6.8	<11.5	45.94	<13.6	9.18	388.62	<0.124	--	-120.490825	46.56774965	0	BC Operations Area	
BC_Soil_Data_EIM	CD1906-12EC1	BC-041107-12E-C1	4/11/07	4	--	<3.7	<11.5	17.9	28.55	116.3	450.24	4.78	--	-120.4908598	46.56766314	0	BC Operations Area	
BC_Soil_Data_EIM	CD1906-13EC4	BC-041107-13E-C4	4/11/07	4	--	26.13	<11.5	39	32.1	170.44	503.42	<0.114	--	-120.4906977	46.56734801	0	Settling Pond	
BC_Soil_Data_EIM	CD1906-13ED4	BC-041107-13E-D4	4/11/07	4	--	<3.7	<11.5	89.66	31.8	11.05	361.89	<3.7	--	-120.4909091	46.56730018	0	Settling Pond	
BC_Soil_Data_EIM	CD1906-14EA4	BC-041207-14E-A4	4/12/07	4	--	--	--	16.3	87.91	21.1	58.4	633	<0.1	--	-120.4908436	46.56717785	0	Settling Pond

**Table B-1
Yakima Steel Facility and Bay Chemical Site Metals Data
Agri-Tech and Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001**

Data Source ¹	Sample Location	Sample ID	Sample Date	Sample Depth (Feet bgs) ²	Analytical Results (micrograms per gram) ³									Longitude (Decimal Degrees)	Latitude (Decimal Degrees)	Sample Excluded ⁴	Zone Assigned in Ratio Analysis ⁵
					Antimony	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Zinc				
BC_Soil_Data_EIM	CD1906-14EB3	BC-041207-14E-B3	4/12/07	4	--	<5.03	<11.5	13.7	21.4	19.87	1,320	<0.0957	--	-120.4905909	46.56723603	0	Settling Pond
BC_Soil_Data_EIM	CD1906-14EC2	BC-041207-14E-C2	4/12/07	4	--	<4.62	15.7	14.2	31.63	48.2	578	<0.102	--	-120.4907785	46.56704312	0	Settling Pond
BC_Soil_Data_EIM	CD1906-14ED4	BC-041207-14E-D4	4/12/07	4	--	4.89	<11.5	73	19.4	26.7	705	7.49	--	-120.4905616	46.56717153	0	Settling Pond
BC_Soil_Data_EIM	CD1906-14WB3	BC-041307-14W-B3	4/13/07	4	--	4.02	6.21	17.9	18.7	23.7	1,170	<3.7	--	-120.4909313	46.56715819	0	Settling Pond
BC_Soil_Data_EIM	CD1906-14WC4	BC-041307-14W-C4	4/13/07	4	--	<3.7	<5.21	15.6	16.9	133	788	<0.114	--	-120.4909269	46.5670047	0	BC Operations Area

NOTES:

-- denotes sample not analyzed.

< denotes analyte not detected at or exceeding the laboratory reporting limit listed.

B denotes blank contamination.

L denotes a negative instrument reading with an absolute value exceeding the reporting limit.

J denotes the associated value is an estimated quantity.

<J denotes the material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

¹Data transcribed from the following sources:

Bay_Chem_RI = Table 6, *Bay Chemical Site RI Soil Data Used for Analysis*, provided in the *Former Bay Chemical Site Remedial Investigation Report, Volume 1* dated March 1997, prepared by ERC/Pacific Groundwater Group.

ECY_EPI_Sampling = Results of soil sampling conducted by the Washington State Department of Ecology and Environmental Partners Inc of Issaquah, Washington in 2007.

Farallon_Sup_RI = Results of soil sampling conducted by Farallon in 2011.

BC_Soil_Data_EIM = Sampling results provided in *Completion and Compliance Monitoring Report, Bay Chemical Site, Yakima, Washington* dated November 17, 2009, prepared by Farallon.

YSF_Soil_Data_EIM = Sampling results provided in *Completion and Compliance Monitoring Report, Bay Chemical Site, Yakima, Washington* dated November 17, 2009, prepared by Farallon.

²Depth in feet below ground surface (bgs).

³Analyzed by U.S. Environmental Protection Agency Methods 6000/6010/7000 Series.

⁴Excluded samples include those located within the remediation footprint collected after September 1, 2007.

⁵Zones are used to group points plotted in ratio analysis shown in Figures 6 and 7.

ATTACHMENT E
TERRESTRIAL ECOLOGICAL EVALUATION FORM

CONCEPTUAL SITE MODEL TECHNICAL MEMORANDUM
Agri-Tech and Yakima Steel Fabricators Site
Yakima Steel Fabricators
Yakima, Washington
Farallon PN: 765-001



Voluntary Cleanup Program

Washington State Department of Ecology Toxics Cleanup Program

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation.

Completion of this form is not sufficient to document your evaluation. You still need to document your analysis and the basis for your conclusion in your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm.

Step 1: IDENTIFY HAZARDOUS WASTE SITE

Please identify below the hazardous waste site for which you are documenting an evaluation.

Facility/Site Name: Agri-Tech/Yakima Steel Fabricators

Facility/Site Address: 6 and 10 1/2 East Washington Avenue, Yakima, Washington

Facility/Site No: 479

VCP Project No.:

Step 2: IDENTIFY EVALUATOR

Please identify below the person who conducted the evaluation and their contact information.

Name: Eric Buer

Title: Associate Geologist

Organization: Farallon Consulting, LLC

Mailing address: 1809 7th Avenue

City: Seattle

State: WA

Zip code: 98101

Phone: (424)394-4418

Fax: (425)295-0850

E-mail: ebuer@farallonconsulting.com

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

A. Exclusion from further evaluation.

1. Does the Site qualify for an exclusion from further evaluation?

- Yes *If you answered "YES," then answer **Question 2**.*
- No or Unknown *If you answered "NO" or "UNKNOWN," then skip to **Step 3B** of this form.*

2. What is the basis for the exclusion? Check all that apply. Then skip to **Step 4 of this form.**

Point of Compliance: WAC 173-340-7491(1)(a)

- All soil contamination is, or will be,* at least 15 feet below the surface.
- All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

- All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

- There is less than 0.25 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.
- For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

- Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

± "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

"Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

B. Simplified evaluation.

1. Does the Site qualify for a simplified evaluation?

- Yes *If you answered "YES," then answer **Question 2** below.*
- No or Unknown *If you answered "NO" or "UNKNOWN," then skip to **Step 3C** of this form.*

2. Did you conduct a simplified evaluation?

- Yes *If you answered "YES," then answer **Question 3** below.*
- No *If you answered "NO," then skip to **Step 3C** of this form.*

3. Was further evaluation necessary?

- Yes *If you answered "YES," then answer **Question 4** below.*
- No *If you answered "NO," then answer **Question 5** below.*

4. If further evaluation was necessary, what did you do?

- Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*
- Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

5. If no further evaluation was necessary, what was the reason? Check all that apply. Then skip to **Step 4** of this form.

Exposure Analysis: WAC 173-340-7492(2)(a)

- Area of soil contamination at the Site is not more than 350 square feet.
- Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.

Pathway Analysis: WAC 173-340-7492(2)(b)

- No potential exposure pathways from soil contamination to ecological receptors.

Contaminant Analysis: WAC 173-340-7492(2)(c)

- No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.
- No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.
- No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.
- No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

C. Site-specific evaluation. A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. See WAC 173-340-7493(1)(c).

1. Was there a problem? See WAC 173-340-7493(2).

- Yes *If you answered “YES,” then answer **Question 2** below.*
- No *If you answered “NO,” then identify the reason here and then skip to **Question 5** below:*
- No issues were identified during the problem formulation step.
 - While issues were identified, those issues were addressed by the cleanup actions for protecting human health.

2. What did you do to resolve the problem? See WAC 173-340-7493(3).

- Used the concentrations listed in Table 749-3 as cleanup levels. *If so, then skip to **Question 5** below.*
- Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

3. If you conducted further site-specific evaluations, what methods did you use?

Check all that apply. See WAC 173-340-7493(3).

- Literature surveys.
- Soil bioassays.
- Wildlife exposure model.
- Biomarkers.
- Site-specific field studies.
- Weight of evidence.
- Other methods approved by Ecology. If so, please specify:

4. What was the result of those evaluations?

- Confirmed there was no problem.
- Confirmed there was a problem and established site-specific cleanup levels.

5. Have you already obtained Ecology’s approval of both your problem formulation and problem resolution steps?

- Yes If so, please identify the Ecology staff who approved those steps:
- No

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.

<p>Northwest Region: Attn: VCP Coordinator 3190 160th Ave. SE Bellevue, WA 98008-5452</p>	<p>Central Region: Attn: VCP Coordinator 1250 West Alder St. Union Gap, WA 98903-0009</p>
<p>Southwest Region: Attn: VCP Coordinator P.O. Box 47775 Olympia, WA 98504-7775</p>	<p>Eastern Region: Attn: VCP Coordinator N. 4601 Monroe Spokane WA 99205-1295</p>

