NW2843

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March 9, 2017

Reference No. 062175

Grant Yang
State of Washington Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, Washington 98008-5452

Re: Status of VCP Project
Protective Coatings, Inc.
1215 2nd Avenue North and 1208 4th Avenue North
Kent, Washington

Dear Mr. Yang:

GHD Services Inc. (GHD) on behalf of PCC Aerostructures, Inc. (PCC) doing business as Protective Coatings, Inc. presents this correspondence to the State of Washington Department of Ecology (Ecology) to provide the status of the Voluntary Cleanup Program (VCP) project no. NW2843. In a letter dated February 13, 2017, Ecology requested the following:

1. Cleanup Status Report
2. Any reports documenting the cleanup or other associated activities
3. A work plan and schedule for completing the cleanup
4. A VCP "Change of Contact Form" for each of the following VCP project contacts: project manager, project billing contact, project consultant, project attorney, or project owner

Attached is a copy of the July 25, 2016 *Feasibility Study* report prepared by GHD. This is the most recent report prepared for this project and satisfies item no. 1 and 2, above. We are currently in the process of implementing the cleanup action. Presented below is a tentative schedule for conducting pre-excavation delineation soil borings and remedial soil excavation:

April 25, 2017 – Submit a Work Plan for completing pre-excavation delineation soil borings.

June 9, 2017 – Complete pre-excavation delineation soil borings.

August 11, 2017 – Submit a Cleanup Action Work Plan including results of the pre-excavation delineation soil borings.

November 17, 2017 – Complete the remedial soil excavation.

GHD
20818 44th Avenue West Suite 190 Lynnwood Washington 98036 USA
T 425 563 6500 **F** 425 563 6599 **W** www.ghd.com

December 29, 2017 – Submit the results of the remedial soil excavation.

We respectfully request that Ecology allows this project to remain in the VCP. Finally, with regards to item no. 4 above, the PCC project manager has changed; attached is the Change of Contact Form.

If you have any questions regarding the contents of the enclosed document, please contact Christina McClelland at (425) 563 6514.

Yours truly,

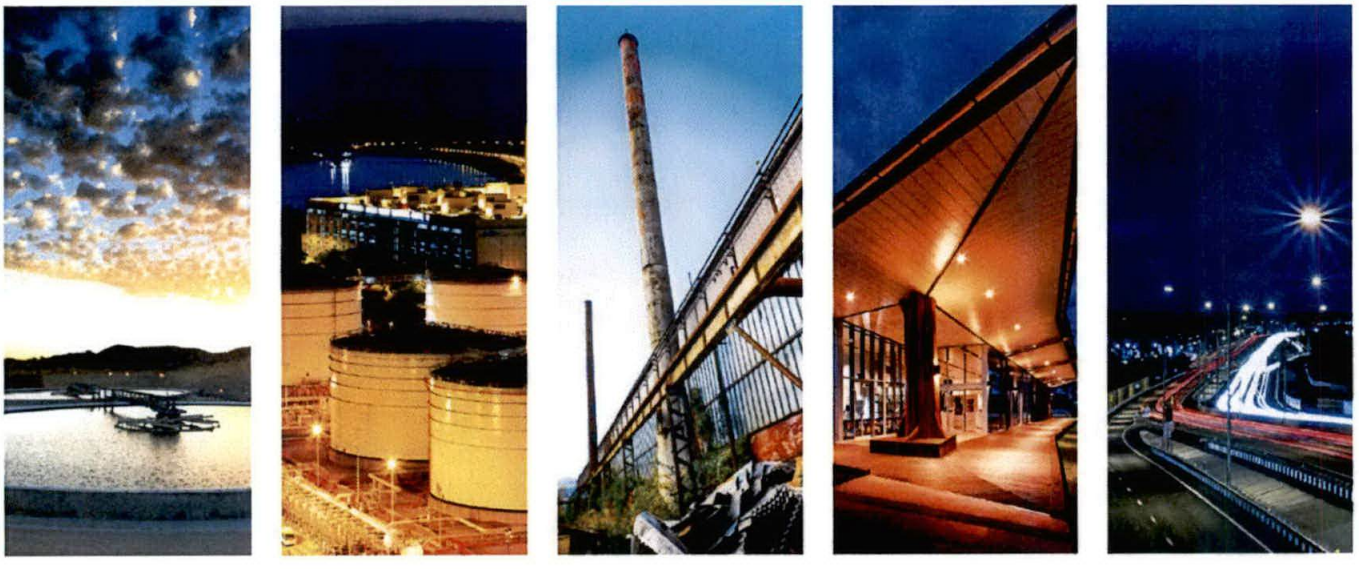
GHD

Christina McClelland
CM/cd/2
Encl.

Feasibility Study Report
Change of Contact Form

cc: Mr. Tufan Yasar, PCC

Attachment A
Feasibility Study Report



Feasibility Study

Protective Coatings Facility
1215 2nd Avenue North & 1208 4th Avenue North
Kent, Washington
Facility No.85155236
Cleanup Site ID:12337
VCP No.NW2843

GHD | 20818 44th Ave. West, Suite 190 Lynnwood Washington 98036
062175 | Report No 8 | July 25 2016

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Appendices

1. Introduction

GHD Services Inc. (GHD), on behalf of PCC Aerostructures, Inc. (PCC) prepared this *Feasibility Study (FS)* for the Protective Coatings Facility at 1215 2nd Avenue North and 1208 4th Avenue North, Kent, King County, Washington (Property). This FS was prepared to satisfy the requirements of the Washington Administrative Code (WAC) 173-340-350 and evaluates remedial alternatives for addressing impacted media at the Property.

2. Site Summary

2.1 Property Use and Description

The Property is located in the north central portion of Kent, Washington, northwest of Highway 167 (Figure 1). The Property covers an area of approximately 4.3 acres of level land and is used for industrial purposes. Currently, the Property is used as a metals plating facility. Land use and zoning in the vicinity of the Property is industrial.

The layout of the Property is shown on Figure 2. Facilities consist of two large production floors, one packaging/shipping warehouse, one general use warehouse, and an outdoor wastewater treatment and chemical storage area.

The Property is located within the Green River Valley at approximately 40 feet above mean sea level. The local topography is relatively flat within the vicinity of the Property with hills located toward the east and west. The nearest surface water bodies are a group of small lakes and ponds located approximately 1.2 miles southwest followed by Green River located approximately 1.4 miles southwest. The Property is located approximately 4.2 miles east of Puget Sound.

2.2 Site Discovery and Regulatory Status

Below is a summary of environmental investigations conducted on the Property to date. Historical soil, groundwater, and soil gas sampling locations are provided on Figures 3 and 4. Based on the industrial zoning and land use of the Property, MTCA Method C cleanup levels are appropriate for the Property and all investigation data herein will be compared to the MTCA Method C cleanup levels. Further discussion of cleanup standards is provided in GHD's *Remedial Investigation Report* (RI) dated August 20, 2015.

2.2.1 2004 Investigation

In 2004, Krazan & Associates (Krazan) completed a subsurface investigation on the Property. The scope of work completed was unavailable to GHD. However, the results of the investigation, as reported by Golder and Associates (Golder) in 2012, indicate that cadmium exceeded the MTCA unrestricted land use cleanup levels in a soil sample collected northwest of the wastewater treatment plant. Arsenic was detected in all groundwater samples at concentrations ranging from 0.035 to 0.17 milligram per liter (mg/L), which exceeded the MTCA unrestricted land use cleanup level of 0.005 mg/L. Chromium was also detected above the MTCA unrestricted land use cleanup level in one groundwater sample.

2.2.2 2008 Investigation

In 2008, Golder conducted an initial Phase II Environmental Site Assessment (ESA). Three groundwater monitoring wells (MW-1, MW-2, and MW-3) were installed at the northwest corner of the Property. Soil samples were collected from each boring and submitted for laboratory analysis. Soil samples collected from boring MW-3 at depths ranging from approximately 1 to 3 feet below ground surface (bgs) exceeded the MTCA unrestricted land use cleanup level for trichloroethene (TCE). A hand auger boring (HA-1) was advanced in an area where a TCE solvent tank was formerly located. Laboratory analysis of a soil sample collected from 0.5 foot bgs exceeded the MTCA unrestricted land use cleanup level for cadmium. A sediment sample from a storm catch basin sump (CB-1) located near the northwest corner of the Property was also collected for analysis. The sample exceeded the MTCA unrestricted land use cleanup levels for TCE and cadmium. Groundwater samples were collected from each of the three monitoring wells. Concentrations of vinyl chloride and (cis) 1,2-dichloroethene ((cis) 1,2-DCE) exceeded the MTCA unrestricted land use cleanup levels in well MW-3.

In addition, Golder performed field infiltration testing within the plating area. In the plating area, multiple gravity-fed trenches discharge process wastewater generated from operations into a central sump. The process wastewater is routed from the trenches into the sump and eventually to the wastewater treatment facility. The objective of the testing was to determine if potential releases within the sump had the potential to impact groundwater. The results of the test indicated that there is a potential leakage of less than 4 gallons per day (Golder, *Phase II Environmental Site Assessment*, October 1, 2012).

2.2.3 2012 Investigation

In August 2012, Golder performed a facility audit and learned that the original gravity-fed trench system in the production area (tested in 2008) had been replaced with an active pump system. This system upgrade reportedly included re-sealing all of the collection /drainage trenches. The pumps were designed to remove fluids from the trenches when a pre-set volume is reached. Fluids within the trench are pumped to the on-Property wastewater treatment system for processing before being discharged into the King County sanitary sewer system under permit.

In 2012, Golder conducted a Phase II ESA. Five groundwater monitoring wells (MW-4 through MW-8) were installed at the northeast corner of the Property and in the western portion of the Property. Soil samples were not collected for laboratory analyses. In addition, Golder attempted to collect subsurface soil gas samples from four locations (SG-1 through SG-4) during three field events. Three successful samples were collected for analyses (SG-2, SG-3, and SG-4). TCE was identified as the highest of all compounds detected in subsurface samples at locations SG-2 and SG-4. The TCE concentrations exceeded the applicable soil gas screening levels indicating a potential for an elevated risk of vapor intrusion into the 1208 4th Avenue North building. Following the results of the subsurface soil gas sampling, Golder collected indoor and exterior ambient air samples within the 1208 4th Avenue North buildings during facility operations and after hours over an 8-hour period. TCE was detected in all ambient air samples; however, Golder concluded that the contaminant detections in ambient air samples were likely not derived from soil gas, but were resulting from facility operations. Further discussion of soil gas and indoor air is included in Section 4.6.

2.2.4 2015 Investigation

In May 2015, GHD conducted a soil and groundwater investigation to delineate the vertical and lateral extent of volatile organic compounds (VOCs) and metal (cadmium) contamination in soil in the vicinity of HA-1, MW-3, CB-1, SG-2, SG-3, and SG-4, and to delineate the lateral extent of groundwater impacts beyond well MW-3. GHD advanced eight soil borings (SB-1 through SB-7 and MW-9) using a combination of air knife/ vacuum, direct push, and hollow-stem auger drilling to depths between 16.5 and 30 feet bgs. No soil concentrations exceeded MTCA Method C cleanup levels. The boring logs and well construction details are presented in Appendix A. Soil boring locations are presented on Figure 4.

2.2.5 Ecology Notification

A chemical release impacting soil and groundwater was reported to Ecology on March 28, 2014, and the site was listed with Washington State Department of Ecology's (Ecology) toxics cleanup program (cleanup site ID #12337). The Property was entered into Ecology's Voluntary Cleanup Program (VCP) on March 28, 2014 and issued site number NW2843. The current status of the site with Ecology is "Cleanup Started" as of March 2014.

The MTCA site (Site) is defined as all current and historically affected areas from the release associated with the Property and any potentially impacted adjacent parcels. The Site boundary is presented on Figure 2. The Site boundary is dashed where inferred.

2.3 Neighborhood Setting

The Property is zoned as General Industrial. Land use in the vicinity of the Property is zoned industrial to the north, east, and west; to the south across Highway 167, land is zoned primarily light industrial and commercial. Immediately adjacent properties consist of the following:

- North/northwest: The Property is bounded to the north by Hermanson Corporation, and to the northwest, by Sicklesteel Crane, Inc.
- West: The Property is bounded to the west by Buyken Metal Products and 4th Avenue North.
- South and east: The Property is bounded to the south and east by Rexam Beverage Can.

2.4 Utilities and Water Supply

The location of subsurface utilities which were identified by public locators through One Call and by private locator on- and off-Property is provided on Figure 2. The areas surveyed included the west side of the Packaging building and the west side of the Production Floor (1) in and between the chemical bunkers. Additional utilities may be present on the east side of the Property. Subsurface natural gas, electrical and telephone/communications utilities are present running east-west between 4th Avenue North and the Packaging building. Subsurface electrical was also identified running east-west between the southernmost chemical bunker adjacent to SB-5 and the Production Floor (1). A 12-inch sanitary sewer line is present within 2nd Avenue North and is operated by the City of Kent; a 30-inch sanitary sewer main is located within 4th Avenue North, flowing north, and is operated by King County. GHD was not able to locate sanitary sewer utilities within the Property boundaries; however, based on information provided by PCC, sanitary sewer lines exit the Production Floor (1) building in the north and south ends and connect to the sanitary sewer line within 2nd Avenue North. Stormwater catch basins are located throughout the Property and connect

to municipal stormwater lines located within 4th Avenue North and 2nd Avenue North. The western portion of the Property appears to drain to 4th Avenue North, while the central and eastern portion of the Property drains to 2nd Avenue North. The facility has a Stormwater Pollution Prevention Plan in place to prevent unauthorized discharge to stormwater utilities. A floor drain and sump are located in each of the chemical bunkers; the sumps are inspected weekly and pumped out as needed. The depth of the on-Property utilities is unknown; however, they are likely no deeper than 5 to 8 feet bgs. Based on the depth to water beneath the Property and the location of subsurface utilities, it is unlikely that any utility trenches act as preferential pathways for contaminant migration in groundwater.

2.5 Past Property Uses and Facilities

Based on a review of historical reports, county assessor records, historical aerial photographs, and Ecology UST database, the following past Property uses and facilities were determined:

1208 4th Avenue North (Parcel No. 383090-0320)

Prior to 1993: Owner: William and Dorothy Sparr

1993-1999: Owner: Keck Family Trust/Hunter Keck, Jr.

Sometime prior to 1996: Two USTs were installed, the content of one UST was gasoline and the content of the second UST is not reported[1].

1996: The Site is reportedly occupied by Lusk Metals Northwest, Inc. The two USTs were decommissioned by removal. It is unknown whether samples were collected in conjunction with UST removal or whether a report documenting the UST removal was prepared.

1999-2008: Owner: Keck Enterprises, LP. Castle Metals was reportedly a hazardous waste generator periodically between 2000 and 2007.

2008-2012: Owner: Kent II Properties

2012-Present: Owner: Protective Coatings, Inc.

Prior to the occupancy by Protective Coatings, Inc, 1208 4th Avenue North was historically occupied by Lusk Metals Northwest, Inc and Castle Metals. The exact years and period of occupancy is not known.

1215 2nd Avenue North (Parcel No. 383090-0380)

1980-Present: Protective Coatings was reportedly a hazardous waste generator; it is uncertain whether Protective Coatings operated on the Property during this entire duration.

Prior to 1993: Owner: James and Frances Conley

1993-2007: Owner: Arthur L. Kleppen, Jr./SDC & K et al./Stephen H Rowe

[1] Ecology's UST database indicates that the USTs were installed on December 31, 1964; however, this is a "placeholder" date. Based on aerial photographs, the Property was not developed until sometime between 1968 and 1980. Prior to development, the Property use and vicinity appeared to be agricultural.

2007-2012: Owner: Kent Real Properties, LLC

2012-Present: Owner: Protective Coatings, Inc.

Prior to the occupancy by Protective Coatings, Inc, the occupancy of 1215 2nd Avenue North is unknown. In addition, the exact years and period of occupancy is unknown.

2.6 Current Property Use and Facilities

The Property is currently occupied by a metals plating facility consisting of two large production floors, one packaging/shipping warehouse, one general use warehouse, and an outdoor wastewater treatment and chemical storage space.

3. Natural Conditions

3.1 Geology

The Property is situated within the Green River Valley. Subsurface geology is mapped as Quaternary Alluvium consisting of dune sand, loess, and artificial fill.

GHD interpreted Golder's field boring and well logs and drafted revised logs to better understand soil horizon thicknesses and boundaries, and to aid in creating geologic cross sections A-A' and B-B' (Figures 5 and 6, respectively). Soils were logged using the Unified Soil Classification System. Based on these interpretations, soil appears to consist of artificial fill and/or alluvium consisting of poorly graded sand and silty sand in the upper approximately 5 to 10 feet bgs; followed by interbedded sand and silt to the maximum explored depth of 30 feet bgs. Previous consultants logged much of the soil as clay; however, based on GHD's 2015 soil investigation, the intervals previously logged as clay are, in fact, silt. GHD's field interpretation was confirmed by a sieve analysis. Therefore, the cross sections provided as Figures 5 and 6 represent GHD's interpretation of the lithology. Boring logs are included as Appendix A.

3.2 Groundwater

The Property is located in the Green River Watershed. Water is supplied to the City of Kent primarily from wells located in the southeast portion of the city. In addition, the City of Kent is partnered with Tacoma Water, Covington Water District, and Lakehaven Water District, which all obtain water from the Green River.

A total of eight water supply wells are located within 0.5 mile of the Property. King County documents indicate that three of the wells are located up-gradient of the Site to the northeast, and were completed to depths between 68 and 135 feet bgs. Three wells are located cross-gradient of the Site to the northwest, and were completed to depths between 60 and 87 feet bgs. One well is located down-gradient of the Site to the southwest, and was completed to 650 feet bgs. One additional well was identified by Ecology in an area cross-gradient of the Site. This well was completed to a depth of 68 feet bgs and may be the same well documented in this area by King County. The well owner, exact well location, and current use of these wells, if they presently exist, were not available to GHD. A summary of the wells identified in King County and Ecology databases is provided in GHD's *Remedial Investigation Report.*

Based on the shallow depth of groundwater beneath the Property, it is unlikely that the groundwater being used by City of Kent and King County is pumped from the same aquifer that is monitored beneath the Site.

Based on the results of previous investigations and groundwater monitoring conducted at the Site, shallow groundwater is present between approximately 6.5 and 10 feet bgs, with the average depth to groundwater being approximately 9 feet bgs. Shallow groundwater appears to flow toward the southwest. Historical groundwater elevations for Site wells are presented on Tables 1A and 1B.

3.3 Surface Water

The nearest surface water bodies are a group of small lakes and ponds located approximately 1.2 miles southwest of the Property followed by Green River located approximately 1.4 miles southwest. The Property is located approximately 4.2 miles east of Puget Sound.

3.4 Natural Resources and Ecological Receptors

The Site qualifies for an exclusion from terrestrial ecological evaluation (TEE) because there is less than 1.5 acres of contiguous undeveloped land on or within 500-feet of the Property. The TEE exclusion form is available in GHD's *Remedial Investigation Report.*

4. Contaminant Occurrence and Movement

4.1 Summary of Previous Investigations

A total of nine monitoring wells, nine soil borings, four soil gas probes, and eleven ambient air samples have been completed at the Site. The following reports include details of the environmental investigations which have been conducted at the Site:

- 2004, Krazan, *Phase II Environmental Site Assessment Protective Coatings Property 1215 North 2nd Avenue Kent, Washington* (unavailable)
- 2008, Golder, *Phase II ESA at 1215 2nd Avenue North* (unavailable)
- 2012, Golder, *Phase II Environmental Site Assessment*
- 2015, GHD, *Remedial Investigation Report*
- 2016, GHD, data included herein

A complete chronological summary of work completed at the Site during the previous investigations listed above is included in Section 2.2. Reports summarized represent all available investigation reports obtained by or provided to GHD. A summary of groundwater monitoring results is presented in Tables 1A and 1B, a summary of historical soil analytical data are presented in Table 2, and soil gas and ambient air data are presented in Table 3.

4.1.1 2016 Investigation

In March 2016, GHD conducted a soil investigation to delineate the vertical and lateral extent of impacted soil in the vicinity of MW-3.

On March 15, 2016, Holt Services, Inc. (Holt), under the direction of GHD, advanced six soil borings (SB-8 through SB-13) using a combination of air knife/ vacuum and direct push to depths of 15 feet bgs.

The soil borings were advanced to evaluate the extent of impacted soil in the vicinity of MW-3 and whether the impacted soil extended into Bunker 3 toward the north. The boring logs and well construction details are presented in Appendix A. Soil boring locations are presented on Figure 4.

Soil samples were collected continuously for the purpose of field screening and soil classification. Select soil samples from each boring were submitted for laboratory analyses. Laboratory analytical data for soil samples analyzed are presented in Table 2 and laboratory reports are included in Appendix C.

No soil concentrations exceeded MTCA Method C cleanup levels. Analytical data are provided in Table 2 and discussed in detail in Section 4.3.

Investigation derived waste (IDW) generated during the investigation included soil cuttings and decontamination water. All IDW was stored on the Property in United States Department of Transportation compliant 55-gallon drums. IDW was removed from the Property on March 29, 2016. IDW disposal documentation is included in Appendix D.

4.2 Groundwater

The locations of all monitoring wells installed at the Site are presented on Figure 2. To date, monitoring wells MW-1 through MW-3 have been sampled six times, monitoring wells MW-4 through MW-8 have been sampled five times, and monitoring well MW-9 has been sampled two times. The groundwater contour and chemical concentration map for June 2015 is provided as Figure 7.

Monitoring wells MW-1 through MW-3 were installed along the northern and western Property boundaries during the 2008 Phase II assessment. Monitoring wells MW-4 through MW-8 were installed along the eastern and southwestern Property boundaries during the 2012 Phase II Assessment. Monitoring well MW-9 was installed between the Production Floor (1) building and well MW-3. The well screens begin at approximately 5 to 7 feet bgs and span 10 feet. Groundwater is present between approximately 6 to 10 feet bgs.

Monitoring well MW-3 is the only well that contains VOCs exceeding MTCA Method C cleanup levels. Well MW-3 has contained vinyl chloride during two of the six sampling events, and 1,1-Dichloroethane and (cis) 1,2-DCE during all six sampling events. Vinyl chloride is currently below the MTCA Method C cleanup level in well MW-3. (cis) 1,2-DCE has decreased in well MW-3 since the initial sampling event in 2008. During the most recent sampling event in June 2015, (cis) 1,2-DCE was detected in MW-3 at a concentration of 488 µg/L. The MTCA Method C cleanup level is 35 µg/L.

Newly installed monitoring well MW-9 did not contain any concentrations exceeding MTCA Method C cleanup levels.

All eight monitoring wells have contained dissolved arsenic concentrations exceeding MTCA Method C cleanup levels. Total arsenic was analyzed during the first four sampling events however, total arsenic concentrations are likely biased due to suspended solids from turbid groundwater

samples. Dissolved arsenic is a more reliable indicator of groundwater conditions, and therefore, the discussion below is based on dissolved arsenic concentrations.

Concentrations of dissolved arsenic have ranged from 3.1 µg/L (which is below the Washington Maximum Contaminant Level of 10 µg/L) to 185 µg/L. During the most recent sampling event in June 2015, concentrations ranged from 11.8 µg/L to 89.6 µg/L. No other metals have exceeded MTCA Method C cleanup levels in any wells.

Arsenic in groundwater (as well as soil) is a region-wide problem in Western Washington due to decades of industrial activities. Data collected by the Washington State Department of Health[2] from 6,776 drinking water wells over a 10-year period demonstrates that arsenic concentrations in groundwater throughout the state range from 0.2 µg/L to 310 µg/L. High arsenic concentrations (>25 µg/L) were detected in 12 western Washington counties, including King County. Based on these data, background groundwater arsenic levels may be on the order of 10 to 100 µg/L. Ecology is currently considering a revision to the arsenic groundwater cleanup level. Based on the widespread regional prevalence of arsenic in groundwater, and the continued industrial use in the vicinity of the Property, arsenic should not be considered a constituent of concern (COC) for the Site.

The lateral extent of the groundwater plume is inferred to the west beyond MW-3 due to the presence of the adjacent property building, which also conducts metals manufacturing, and likely uses and stores products containing metals and VOCs. The lateral extent of the plume is defined in all other directions. A groundwater elevation contour map and isoconcentration contour map for (cis) 1,2-DCE for the June 2015 sampling event are provided as Figures 7 and 8.

4.3 Soil

Figure 3 presents the locations of all soil samples which exceed the MTCA Method C cleanup levels. A summary of all soil sample locations submitted for analyses, including the date of the sample, depth, consultant performing sampling, and analytical methods and results are presented in Table 2. Soil samples were collected at monitoring wells MW-1 through MW-3 and MW-9, at one shallow boring location in the vicinity of the chemical bunkers (HA-1), and at borings SB-1 through SB-13. The approximate sample depths were between 0.5 and 15 feet bgs.

There are eight soil samples that contain TCE exceeding the MTCA Method C cleanup levels for industrial land use. The TCE cleanup level is based on protection of leaching to drinking water. Groundwater beneath the Site is not being used as a beneficial drinking water use; however, eliminating this pathway requires a groundwater use restriction on the Property or a demonstration that groundwater does not meet the definition of potable. Therefore, this is the appropriate cleanup level to use at this time to assess the effectiveness of the proposed cleanup action. There are six additional locations containing soil exceeding the MTCA Method C cleanup levels; five of the soil boring locations are located in the immediate vicinity of MW-3, and the one remaining location is located to the south in Bunker 1. The impacted soil in the vicinity of MW-3 is acting as residual mass and contributing to the groundwater exceedances in MW-3. Although there may be impacted

[2] This study has not been officially published, but was provided to the Department of Ecology for inclusion in the *Draft Revisions to Method A Ground Water Cleanup Levels – June 2010*.

soil in Bunker 1 (SB-6), it does not appear to be adversely impacting groundwater, as evidenced by groundwater concentrations in down-gradient well MW-6. Therefore, soil at this location is not being targeted for remediation.

4.4 Surface Water

No surface water has been sampled as there has been no indication that surface water has been impacted by the release at the Site. Based on the distance to any surface water bodies, it is highly unlikely that the release at the Site could reach surface water.

4.5 Sediment

One sediment sample, CB-1, was collected from the catch basin in the north central portion of the Property adjacent to the wastewater treatment area by Golder in 2008. No concentrations exceeded the MTCA Method C cleanup levels.

4.6 Air/Soil Vapor

A total of four soil gas samples, five ambient outdoor air samples, and six ambient indoor air samples have been collected at the Property. In June and July 2012, Golder collected three soil gas samples from soil gas probes SG-2 through SG-4. The sample depths were approximately 1 foot bgs in SG-2 and SG-3, and approximately 0.75 foot bgs in SG-4. While collecting soil gas samples, Golder collected outdoor ambient air samples adjacent to the soil probe locations; A-1 was collected adjacent to SG-2, and AMB-1 was collected midway between SG-3 and SG-4. Soil vapor concentrations of TCE exceeded MTCA Method C soil gas screening levels in SG-2 and SG-4[3].

In August and September 2012, Golder collected six ambient indoor air samples and three ambient outdoor air samples during an 8 hour duration; five of the samples were collected during the daytime shift and four of the samples were collected during the evening shift. Indoor air concentrations exceeded MTCA Method C indoor air cleanup levels in three ambient air samples collected during a non-operational 8-hour period. It is likely that ventilation systems mitigate indoor air concentrations during the operational periods, but the ventilation systems did not operate during the non-operational period when these samples were obtained. Based on this information, the exceedances were attributed to the use of solvents containing TCE as part of the business operations, and not the results of vapor intrusion caused by the subsurface contamination. The soil gas samples collected by Golder were too shallow to adequately represent subsurface conditions. Additional soil gas evaluation is warranted following cleanup action at the Site. The current occupational safety program for the facility addresses indoor air monitoring and protection for the facility workers and meets applicable Occupational Safety and Health Administration requirements.

5. Conceptual Model

Based on investigation data, VOCs were released to the subsurface sometime prior to 2004. It is not certain when or how the release occurred but based on environmental investigations, there was likely a release of TCE in the chemical bunker area. According to the current site operator, a prior

[3] Note: Ecology has not established outdoor air cleanup levels

operator historically poured waste TCE onto the concrete surface in Bunker 2 to allow the TCE to evaporate. This is consistent with data collected in this area. The TCE likely naturally degraded over time resulting in the presence of daughter products (cis) 1,2-DCE and vinyl chloride at the Site.

The Site has been capped by asphalt and concrete since the Property was developed and therefore has not been exposed to infiltrating surface water. Subsurface soils at the Site consist of alluvium consisting of sandy/silty gravel, sand, silty sand, and silt. Shallow groundwater is present at the Site at depths ranging from approximately 6 to 10 feet bgs.

No impacted soil exceeding MTCA Method C cleanup levels is present at the Site. VOC-impacted groundwater is present in the vicinity of Bunker 1 and Bunker 2 in well MW-3 only. No metals have been detected above MTCA Method C cleanup levels in groundwater, with the exception of arsenic. Arsenic is considered a regional contaminant and likely not a Site-specific COC.

Soil vapor impacts are present in the vicinity of the southernmost chemical bunkers. Based on the current occupational use of the Property, soil vapor does not pose a risk to human health; however, if future land use changes, vapor intrusion may present a potential exposure pathway. Therefore, soil vapor should be addressed as part of the cleanup action for the Site.

In accordance with MTCA, potential exposure pathways for human and environmental receptors based on the current and planned land use identified during this investigation include the following:

- Human health protection from soil to groundwater (drinking water)
- Human health protection from direct soil contact
- Human health protection from groundwater (direct contact)
- Human health protection from soil vapor inhalation
- Human health protection from soil to surface water
- Human health protection from groundwater to surface water
- Terrestrial ecological protection

Based on the distance to any nearby surface water, the groundwater to surface water and the soil leaching to surface water pathways are incomplete. Based on the TEE, terrestrial and ecological receptors are not at risk due to the release at the Site; this exposure pathway is incomplete. Therefore, based on information provided previously in this report, the following conclusions can be made:

- The groundwater ingestion pathway is potentially complete, since groundwater could be used as a beneficial resource in the future.
- The soil leaching to groundwater (drinking water) pathway is potentially complete.
- The direct soil contact pathway is potentially complete and requires consideration to protect human health during potential future development activities.
- The direct groundwater contact pathway is potentially complete and requires consideration because impacted groundwater beneath the Property is shallower than 15 feet bgs.
- The soil vapor inhalation pathway and indoor air pathway requires additional evaluation.
- The soil to surface water pathway is incomplete due to the distance to any surface water body.

- The groundwater to surface water pathway is incomplete due to the physical distance separating impacted groundwater and surface water.
- The Site qualifies for an exclusion from further TEE.

Based on the information provided, potential exposure pathways are human ingestion of soil and/or groundwater, human direct contact with soil and/or groundwater, and potential vapor intrusion risk. Cleanup standards addressing these potential pathways are discussed below.

6. Cleanup Standards

As presented in the RI, the MTCA Method C cleanup levels for soil, groundwater, and indoor air are appropriate for the Site. The MTCA Method C cleanup levels selected are based on protection of drinking water.

7. Areas Requiring Future Management

7.1 Soil Requiring Future Management

Eight soil samples exceed the MTCA Method C cleanup level for TCE. No other soil samples exceed MTCA Method C cleanup levels; however, residual soil mass in the vicinity of MW-3 appears to be adversely impacting groundwater quality as has therefore been targeted for remediation.

7.2 Groundwater Requiring Future Management

Monitoring well MW-3 is the only well containing any concentrations exceeding MTCA Method C cleanup levels. Groundwater in the vicinity of MW-3 requires future management due to concentrations of (cis) 1,2-DCE and 1,1-Dichloroethane.

7.3 Soil Vapor and Indoor Air Requiring Future Management

There are two soil gas samples that exceeded MTCA Method C screening levels and require further evaluation. There are three indoor air samples, located in the Packaging and general use Warehouse buildings that require further evaluation and/or future management.

8. Identification and Screening of Remedial Technologies

Cleanup action objectives are necessary to identify the requirements to adequately protect human health and the environment. A cleanup action must meet all the objectives to be considered a viable alternative. The cleanup action objectives are as follows:

- Achieve MTCA Method C cleanup levels for all affected media

Prior to development of the remedial alternatives for detailed evaluation, available and appropriate technologies were identified and screened. Technologies are engineering or procedural

components that form overall remedial alternatives. In order to ensure that the broadest possible screening of applicable remedial technologies was completed, the following criteria were utilized:

- Short and long-term effectiveness
- Implementability
- Short-term risk
- Cost
- Sustainability

A brief description of the suitable technologies and the preliminary screening evaluations are shown in Table 4.

9. Selection and Description of Cleanup Alternatives

Based upon the preliminary screening of remedial technologies presented in Table 7, the following cleanup action alternatives were selected for final detailed evaluation.

- Alternative No. 1 – Excavation
- Alternative No. 2 – In-situ chemical oxidation (ISCO), long term groundwater monitoring (LTM), and institutional controls
- Alternative No. 3 – Physical containment and monitored natural attenuation (MNA)

The following is a brief description, feasibility summary, and conceptual design (as applicable) for each remedial alternative selected. The other remedial alternatives evaluated (as summarized in Table 4) were either not feasible or suitable for application at the Site; deemed technically infeasible at the Site; pose too great a secondary health and/or safety risk; and/or did not meet sustainability criteria.

9.1 Excavation

In review of the remedial alternatives considered, excavation was considered to be the most likely to achieve the remedial objective. Excavation is often the quickest method to remediate contaminated soil. With this method, impacted soil is excavated, hauled off site for disposal, and replaced with clean backfill material. Excavation can be conducted using traditional equipment or using large diameter augers. For the purposes of this evaluation, traditional equipment will be used, since large diameter augers are not technically feasible given the space constraints within Bunker 2.

9.1.1 Conceptual Design – Alternative No. 1

As illustrated in Figure 9, the conceptual excavation area for Alternative No. 1 includes the majority of Bunker 2, excluding the secondary containment area on the west side of Bunker 2. The excavation is approximately 24 feet by 22 feet and up to 15 feet deep. Additionally, shoring and bracing implementation would be required to protect the secondary containment unit within Bunker 2. It is anticipated that a one to one slope will be attainable between the base of the excavation and the dividing wall between Bunker 2 and 3. Because the soil impacts are shallow, there is no clean

overburden anticipated; all soil excavated will be removed from the Site and replaced with imported backfill. This area would generate and require replacement of approximately 425 tons of material.

Due to the limited space on-Site for soil stockpiling purposes, it is assumed that the majority of excavated soils would be direct loaded into semi-end dump trucks for direct off-Site haul and disposal at a permitted facility. Groundwater is present between approximately 6.5 and 10 feet bgs; therefore, dewatering will be required to reach the final excavation depth. Groundwater removed from the excavation will be temporarily stored in an above ground holding tank and then treated using the on-Property water treatment system.

In order to further supplement contaminant reduction, a chemical solution can be applied at the base of the excavation to further enhance biodegradation and/or chemical oxidation. The specific chemical will be determined prior to implementation.

Following completion of the remedial excavation, a period of groundwater monitoring would be necessary to ensure compliance with cleanup levels. A replacement monitoring well would need to be installed downgradient of the excavation within Bunker 1 or Bunker 2 (if sufficient space is available) and sampled quarterly for a period of one year.

9.1.2 Feasibility Summary

With sufficient control measures in place, this remedial alternative is considered feasible at the Site. Bunker 2, and potentially Bunker 1 will need to be cordoned off during excavation, and sufficient ingress and egress for trucks will be necessary. This may require partial closure of the business during the excavation. It will also require sufficient space to temporarily stage an above ground holding tank for dewatering.

Due to the proximity of the secondary containment in the western portion of Bunker 2, and the proximity of the dividing wall, shoring and bracing will be required.

9.2 ISCO and Long Term Monitoring with Institutional Controls

In review of the remedial alternatives evaluated, ISCO was considered to be the most technically viable in-situ remedial alternative for further consideration. ISCO may enhance the already occurring natural attenuation and increase GWE mass reduction. However, due to the types of soil present, its application is anticipated to be moderately successful.

ISCO involves applying agents to facilitate in-situ chemical oxidation of the dissolved-phase COCs within the soil matrix. Typical oxidizing agents include permanganate (MnO_4^-), Fenton's reagent (hydrogen peroxide [H_2O_2] and ferrous iron [Fe^{+2}]), ozone (O_3), and sodium persulfate ($S_2O_8^{-2}$). Persulfate, a strong oxidizer, is commonly applied in the form of sodium persulfate to effectively buffer the pH.[4] Since persulfate is also more persistent than H_2O_2 or ozone, the radius of influence will be greater. These oxidants react with a wide range of organic compounds. Successful treatment is dependent on delivery of sufficient amounts of oxidant to the impacted soil and groundwater and making direct contact with contaminant mass. The treatment success is also dependent on the soil chemistry. A critical factor in the evaluation of ISCO treatment is determining

[4] Interstate Technology & Regulatory Council In Situ Chemical Oxidation Team, 2005

the dosages of oxidant that are required to effectively oxidize the compounds present (referred to as stoichiometric demand) as well as the competing reactions. The competing reactions are typically caused by the presence of natural organic materials such as humates and fulvates, as well as reduced metal species. The consumption of oxidants by these non-target compounds is defined as natural oxidant demand. In order to determine the optimum dosage, bench scale and in-situ pilot test treatability studies are advised. This can be achieved by conducting an injection event using direct push borings and then monitoring groundwater conditions in vicinity wells. Large quantities of oxidizing chemicals require regulated handling and pose health and safety concerns. Chemical oxidation may cause mobilization of metals, possible formation of toxic by-products, heat, gas, and biological perturbation.

MnO_4^- does not exhibit a high solubility and requires a large delivery volume. Fenton's reagent is common for the treatment of volatile organic compounds (VOCs). However, the Fenton's reagent reaction is exothermic, and the heat generated can cause volatilization of the VOCs. It also requires a pH of 5 and ferrous sulfate catalyst. Base catalyzed sodium persulfate can be injected at concentrations up to 30 percent. It can oxidize a wide range of organic compounds including VOCs and will continue to oxidize organic material for up to a month. A treatability study would be required to confirm that any chemicals injected and chemical reaction byproducts can be adequately controlled from migrating off-Site.

9.2.1 Conceptual Design

Chemical injection would be achieved at the Site utilizing a grid pattern of direct push borings. It is anticipated that up to 16 boring locations would be necessary to successfully target the groundwater plume (Figure 10). A total of three or more injection events would likely be necessary to achieve groundwater cleanup levels.

Following injections, at least five years of groundwater monitoring would be necessary to allow for remediation and to confirm groundwater compliance.

9.2.2 Feasibility Summary

Although being the most feasible in-situ remedial alternative considered, due to the low permeability of the soil, it is only moderately likely that ISCO would achieve groundwater cleanup levels. Fugitive vapors may also be generated during the volatilization of contaminants in soil and groundwater resulting in vapors at the surface. If this is the case, a vapor extraction system may be required.

In light of the adverse sustainability issues and impacts identified, and the likely inability to facilitate and obtain adequate ISCO dispersion and mass removal, ISCO is likely not going to be significantly more effective in reducing residual hydrocarbon mass soil or groundwater more than what is already occurring through natural attenuation processes.

During and following completion of ISCO, long term monitoring and maintenance of the concrete surfaces, and enactment of institutional controls via an environmental covenant on the site, restricting disturbance of underlying soil and contact with groundwater (unless performed with development and implementation of a contaminated media management plan), will achieve the cleanup action objectives.

9.3 Physical Containment and MNA

Impacted groundwater is present beneath the Site. Impacted groundwater is not migrating down-gradient, as evidenced by the lack of contamination in wells MW-6 and MW-7. Vertical containment is provided on the surface by the asphalt and concrete surfacing material overlying the areas of soil and groundwater impacts and the presence of dense soils (glacial till) in proximity to and underlying the area of impacted soils. As illustrated on Figures 5 and 6, the horizontal extent of the impacts has been defined. Further horizontal containment (i.e. utilizing a grout curtain, impermeable membrane, etc), is unnecessary. The lateral extent of the plume toward the west is not fully defined, but due to the business operations on the adjacent property, the potential contamination does not pose any additional human health risk, beyond the current occupational risks. Indoor air sampling within the adjacent building to the west may be necessary to confirm current concentrations.

Natural attenuation is the process by which toxic chemicals break down into benign compounds and dilute and disperse to concentrations that will no longer pose a risk. Based on Site data, it appears that natural attenuation is occurring presently. A periodic groundwater monitoring plan would be implemented to ensure that degradation does not result in more toxic compounds being generated (such as vinyl chloride) and to ensure that the plume is not migrating down-gradient.

9.3.1 Conceptual Design

To the extent feasible, as noted above, physical containment is already afforded by the types of soil present and the asphalt surfacing materials. The current Site data indicate that natural attenuation processes are in effect, and further enhancement is not warranted. Long term monitoring will provide a mechanism for ensuring that the groundwater plume is not migrating, and that risks from soil and groundwater concentrations can be mitigated during potential future Site uses and/or development work.

9.3.2 Feasibility Summary

As summarized above, the impacts to the groundwater and soils of the Site are already physically contained, and do not warrant further physical containment. Maintenance of the asphalt surfaces and enactment of institutional controls via an environmental covenant on the Site, restricting contact with groundwater (unless performed with development and implementation of a contaminated media management plan), and restricting site usage to industrial use only, will achieve the cleanup action objectives. If redevelopment or a change in Site (Property and adjacent affected areas) use is contemplated, the cleanup action will need to be reevaluated. The environmental covenant would include a contingency for reevaluation of the cleanup action, should site use change. Periodic LTM would be conducted for a period of no less than 10 years.

9.4 Remedial Alternatives Cost Comparison

Estimated costs for each remedial alternative evaluated in the discussion above are included in the following cost summary table.

Remediation Costs	***Excavation***	***ISCO***	***Physical Containment/ MNA***
Develop and Implement Environmental Covenant	$5,000	$5,000	$5,000
Pilot Test	N/A	N/A	N/A
Design/Permit Cost	$10,000	$10,000	N/A
Well Decommissioning/ Installation Costs	$15,000	N/A	N/A
Demolition and reconstruction of existing building	N/A	N/A	N/A
Remedial Alternative Implementation Cost	$190,000	$150,000**	N/A
Generated Waste Material Disposal Costs	$30,000*	$10,000	N/A
Maintenance of Surfacing Material – 10 Years	N/A	N/A	$15,000
Average Annual O&M Cost	N/A	N/A	N/A
Remediation Duration	0.5 year	1 year	N/A
Total Remediation Cost	$250,000	$185,000	$20,000
Closure Costs			
Annual Groundwater Monitoring Cost	$20,000	$20,000/ $10,000***	$10,000****
Remediation Duration	0.5 year	1 year	15 years
Post-Remediation GW Monitoring Duration	1 year	4 years	0 years
Total GW Monitoring Duration	1.5 years	5 years	15 years
Total Groundwater Monitoring Cost	$30,000	$70,000	$150,000
Closure Request	$5,000	$5,000	$5,000
System Demo	N/A	N/A	N/A
Well Decommissioning	$40,000	$40,000	$40,000
Total Closure Cost	$75,000	$115,000	$195,000
Total Cost	**$325,000**	**$300,000**	**$215,000**

* It is assumed that the excavated materials that need to be transported off-Site for disposal would be able to be transported and disposed of as "non-hazardous" waste. The estimated costs would increase if the excavated materials were determined to be "hazardous waste".

** Assumes two injection events.

*** Sampling frequency is quarterly for one year after injection followed by semi-annually for three years, then quarterly for the final year.

**** Sampling frequency is semi-annual.

The information provided in this cost summary table is based on the best available information regarding the anticipated scope of each remedial alternative. Changes in the cost elements are likely to occur as a result of new information and data collected during investigation and remediation activities. This is an order of magnitude engineering cost estimate and actual costs could potentially be higher or lower than estimated.

10. Evaluation of Cleanup Alternatives

The alternatives will be evaluated in accordance with the requirements listed in WAC 173-340-360. The evaluation will include the following elements:

- Meeting MTCA Threshold Requirements (WAC 173-340-360 (2) (a)):
  - Protect human health and the environment
  - Comply with cleanup standards
  - Comply with applicable state and federal laws
  - Provide for compliance monitoring
- Meeting Other MTCA Requirements (WAC 173-340-360 (2) (b)):
  - Provide a reasonable restoration timeframe
  - Use permanent solutions to the maximum extent practicable
  - Consider public concerns

10.1 MTCA Threshold Requirements

Table 5 summarizes the evaluation of the alternatives against the MTCA Threshold Requirements listed in Section 10.0. Each alternative meets all four of the MTCA Threshold Requirements described above. Alternatives 2 and 3 may not initially comply with cleanup standards if implementation is ineffective at meeting cleanup levels; however, implementation of institutional controls and/or long term post-remediation monitoring will meet cleanup standards.

10.2 Other MTCA Requirements

Table 5 summarizes the evaluation of the alternatives against the Other MTCA Requirements.

Reasonable restoration timeframe: Each of the criteria provided in WAC 173-340-360 (4) was evaluated, assuming that each one of the four alternatives was hypothetically implemented at the Site. The following factors were taken into consideration in developing the overall ranking:

- Potential risk posed by existing Site conditions – evaluates the risk posed by the release, as well as the risk posed by the potential cleanup alternative, if implemented.

- Practicability of a shorter restoration time – evaluates the practicability of meeting remedial objectives in a shorter duration of time through implementation of each alternative, versus not implementing any alternative.
- Current and potential future use of the Site, surrounding areas, and associated resources that are, or may be affected by releases from the Site – evaluates potential effects on Site use due to the release and/or potential cleanup action.
- Availability of alternative water supplies.
- Effectiveness and reliability of institutional controls – evaluates whether institutional controls, if necessary to complete a potential cleanup action, will be effective. Institutional controls include "any measures undertaken to limit or prohibit activities that may interfere with the integrity of an interim action or a cleanup action or result in exposure to hazardous substances at the site." (WAC 173-340-220)
- Ability to control and monitor contaminant migration.
- Toxicity of hazardous substances at the Site.
- Potential for contaminant degradation over time.

Use of permanent solutions to the maximum extent possible: To determine whether a cleanup action used permanent solutions to the maximum extent practicable, an analysis was conducted to compare the benefits of each of the cleanup alternatives and any of the alternatives exhibiting disproportionate costs. The alternatives were compared using the following criteria:

- ***Protectiveness:*** Overall protectiveness of human health and the environment, assuming that an alternative given consideration can be effectively implemented.
- ***Permanence:*** The degree to which the alternative permanently reduces the toxicity, mobility, or volume of hazardous substances.
- ***Effectiveness Over the Long Term:*** The long-term effectiveness includes the degree of certainty that the alternative will be successful, the reliability of the alternative during the period of time hazardous substances are expected to remain on-Site at concentrations that exceed cleanup levels, the magnitude of residual risk with the alternative in place, and the effectiveness of controls required to manage treatment residues or remaining wastes.
- ***Management of Short-Term Risks:*** The risk to human health and the environment associated with the alternatives during construction and implementation, and the effectiveness of measures that will be taken to manage such risks.
- ***Technical and Administrative Implementability:*** The ability to be implemented including consideration of whether the alternatives are technically possible, availability of necessary off-Site facilities, services and materials, administrative and regulatory requirements, scheduling, size, complexity, monitoring requirements, access for construction operations and monitoring, and integration with existing facility operations and other current or potential remedial actions.
- ***Consideration of Public Concerns:*** Whether the community has concerns regarding the alternatives and, if so, the extent to which the alternatives addresses those concerns.

- ***Cost:*** The cost to implement the alternatives, including the cost of construction and agency oversight costs that are recoverable.

10.3 Comparative Analysis of Cleanup Alternatives

10.3.1 Threshold Requirements

Each alternative must comply with MTCA threshold requirements by protecting human health and the environment, complying with cleanup standards, complying with state and federal laws, and providing for compliance monitoring. Each alternative meets these requirements.

- ***Protection of human health and the environment:*** Alternative 1 is protective of human health and the environment through physical removal and disposal of residual contaminants in soil. This in turn removes the residual mass and eliminates the potential for leaching to groundwater. This Alternative also includes dewatering, which will remove contaminated groundwater from the vicinity of the excavation. Alternative 2 is less protective of human health and the environment because it may not fully target all contaminated soil and groundwater due to the difficulty of thorough injection. Alternative 3 is protective of human health and the environmental mainly through implementation of institutional controls, since the actual remedy would likely result in little change in groundwater concentrations. Alternative 1 requires an environmental covenant restricting land use to industrial only.
- ***Compliance with cleanup standards:*** Alternatives 1 and 2 have the greatest likelihood of complying with cleanup standards by removing and/or destroying contaminants. Alternative 3 may achieve cleanup standards, but may not do so within a reasonable restoration timeframe.
- ***Compliance with applicable state and federal laws:*** Each of the alternatives is compliant with state and federal laws.
- ***Provisions for compliance monitoring:*** Each of the alternatives includes provisions for compliance groundwater monitoring during and following implementation of the cleanup action to determine its effectiveness.

10.3.2 Reasonable Restoration Timeframe

The following criteria were evaluated with respect to reasonable restoration timeframe, as specified in WAC 173-340-360. This evaluation is qualitative, assuming hypothetical Site conditions, if each alternative were implemented.

- ***Potential risks to human health and the environment posed by the cleanup action:*** Alternative 1 poses a moderate short term risk to human health and the environment due to the physical hazards associated with conducting a remedial excavation. Alternative 2 poses a moderate to moderately high short term risk to human health and the environment due to the potential generation of fugitive vapors and migration of the groundwater plume due to localized injection. Alternative 3 poses a low to moderate short term risk to human health and the environment due to the likely presence of the groundwater plume beneath the adjacent building.
- ***Practicability of achieving a shorter restoration timeframe:*** Alternative 1 offers the highest practicability of achieving a shorter restoration timeframe, since it is assumed that the

excavation would result in complete removal of all soil exceeding remediation screening levels and thereby reduce groundwater concentrations to below cleanup levels. Alternative 2 offers a moderate practicability of achieving a shorter restoration timeframe, because long term monitoring would need to be initiated following injections to ensure groundwater compliance. Alternative 3 offers a low practicability of achieving a shorter restoration timeframe, since natural attenuation is a slow process.

- ***Effect on current/future Site use, surrounding areas and associated resources:*** Alternative 1 would have a significant (but temporary) effect on current site use, as it requires the site business to be partially shut down. Once completed, site use could be restored with few or no environmental restrictions. Alternative 2 would have the greatest effect on current site use, because it requires temporary shutdown of business in the vicinity of Bunker 2 during three or more injection events. Alternative 3 has no effect on current property use or associated resources. However, use of the subsurface below the property requires additional safety measures and contaminated media management should future redevelopment occur.
- ***Availability of alternative water supplies:*** Water is supplied by the City of Kent. Water is not supplied by groundwater beneath the property; therefore, alternative water supplies are not required.
- ***Likely effectiveness and reliability of institutional controls:*** All three alternatives require institutional controls in some form. The effectiveness and reliability is anticipated to be high for all three alternatives.
- ***Ability to control and monitor migration of hazardous substances from the site:*** Alternative 1 does not result in migration of hazardous substances away from the Site; however, this alternative is quite simply removal and relocation of hazardous substances, which in itself can be considered a form of migration. However, control of the relocation of hazardous substances and monitoring of groundwater following implementation are included in this alternative. Alternatives 2 and 3 allow for moderate ability to control migration of hazardous substances, but high ability to monitor through routine operation and maintenance and periodic groundwater monitoring.
- ***Toxicity of the hazardous substances at the site:*** The Site COCs have a moderate relative toxicity.
- ***Natural processes that reduce concentration of hazardous substances:*** VOCs will naturally degrade over time. All three alternatives receive the same ranking in this category.

Based on the discussion presented above, none of the alternatives were eliminated based on reasonable restoration timeframe criteria.

10.3.3 Permanent Solutions to the Maximum Extent Practicable

A DCA was completed to determine which cleanup alternative provides the most permanent solution to the maximum extent practicable, and which of the alternatives present a disproportionate cost to their benefit. Each of the alternatives was evaluated relative to the other alternatives.

Rankings on a scale of 1 to 10 were based on professional judgment, experience, and knowledge of the Site. The analysis is included in Table 5 and discussed below.

- ***Protectiveness of human health and the environment:*** Alternative 1 is the most protective of human health and the environment since it consist of complete removal of all soil exceeding screening levels and subsequent decrease in groundwater concentrations exceeding cleanup levels. Alternative 3 received the lowest ranking since contaminant reduction would only occur through natural attenuation resulting in contaminants remaining above cleanup levels for several years. Alternative 2 falls between the protectiveness of Alternatives 1 and 3.
- ***Permanence:*** Alternative 1 is the most permanent due to complete removal of residual soil mass, followed by Alternative 2 which has the potential to reduce soil and groundwater mass, and then Alternative 3, which also has the potential to reduce groundwater mass, but on a longer duration.
- ***Long-term effectiveness:*** Alternative 1 is the most effective over the long-term, due to complete removal of residual soil mass. Alternative 2 is moderately effective over the long term due to potential destruction of contaminants and compliance groundwater monitoring. Alternative 3 has a low to medium low long-term effectiveness, because contaminant reduction may not occur within a reasonable timeframe or potentially more toxic compounds may develop during degradation.
- ***Manageability of short term risk:*** Alternative 3 has the highest degree of manageability of short term risk, because the Site remains in its current condition with the current risk level. All institutional controls are already in place. Alternative 1 has a medium high manageability of short term risk because institutional controls will be implemented during the remedial excavation to eliminate short term risk. Alternative 2 has a medium high manageability of short term risk due to the potential for fugitive vapors and chemical handling.
- ***Implementability:*** Alternative 3 is the most easily implemented, since all institutional controls are already in place and groundwater monitoring is already occurring. Alternative 2 is the least implementable because it requires several injection events and groundwater monitoring, as well as potential vapor mitigation. The business would have to cease operation within the vicinity during each injection event. Alternative 1 received a medium high to high ranking for implementability, since the businesses could resume operation following remedial excavation.
- ***Consideration of public concerns:*** Alternative 1 received a medium high ranking for consideration of public concerns, since this Alternative has the highest potential for achieving screening and/or cleanup levels. Since the area is industrial, there is not expected to be significant protest to heavy machinery and/or trucks in or on the Site. Alternatives 2 and 3 both received medium ranking for consideration of public concerns, since they both have equal likelihood of achieving screening and/or cleanup levels.

10.3.4 Cost Evaluation

The total estimated costs for each of the alternatives are presented in Section 9.4. The total costs for each alternative are $325,000 (Alternative 1), $300,000 (Alternative 2), and $215,000 (Alternative 3). A ratio of the comparative overall benefit to the cost (in hundred thousands of

dollars) was evaluated for each alternative, individually. The resulting ratios were 8.1, 5.3, and 4.7, respectively. Since Alternative 1 has the highest comparative overall benefit, the other two alternatives will be compared to Alternative 1 to determine if a lower cost alternative offers an acceptable benefit. Alternative 2 offers 65% of the benefit of Alternative 1, with 92% of the cost (or 8% lower cost than Alternative 1). Alternative 3 offers 58% of the benefit of Alternative 1, with 66% of the cost (or 34% lower cost than Alternative 1). Because the reduction in benefit for Alternative 2 and 3 compared to Alternative 1 is greater than the reduction in cost, these two alternatives have costs disproportionate to their incremental benefits. Therefore, Alternative 1 is the most appropriate remedy for the Site.

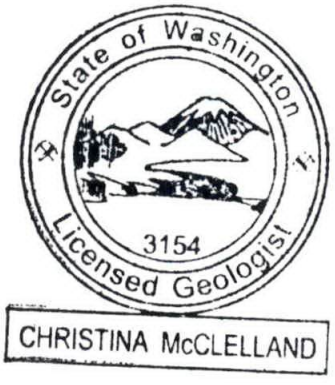
10.4 Selected Cleanup Alternative

Alternative 1, soil excavation, is the most appropriate remedial alternative for the Site, given existing Property structures and use. Alternatives 2 and 3 are less likely to achieve cleanup levels and rely on post-remedial long term monitoring and/or institutional controls. The high costs associated with implementing these alternatives are not justified given the comparative overall benefit.

All of Which is Respectfully Submitted,

GHD

Christina McClelland, LG



Brian Peters, LG

Figures

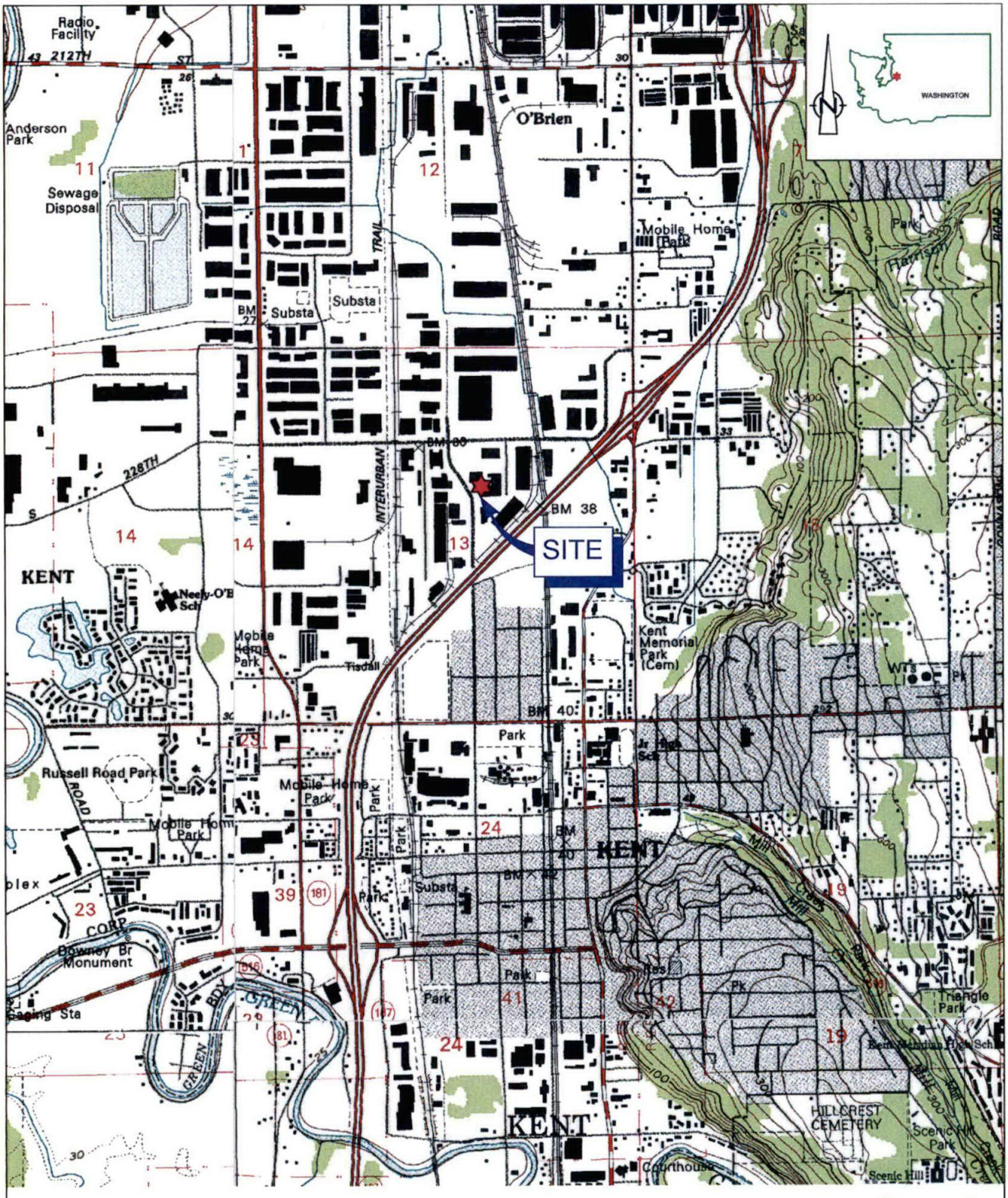
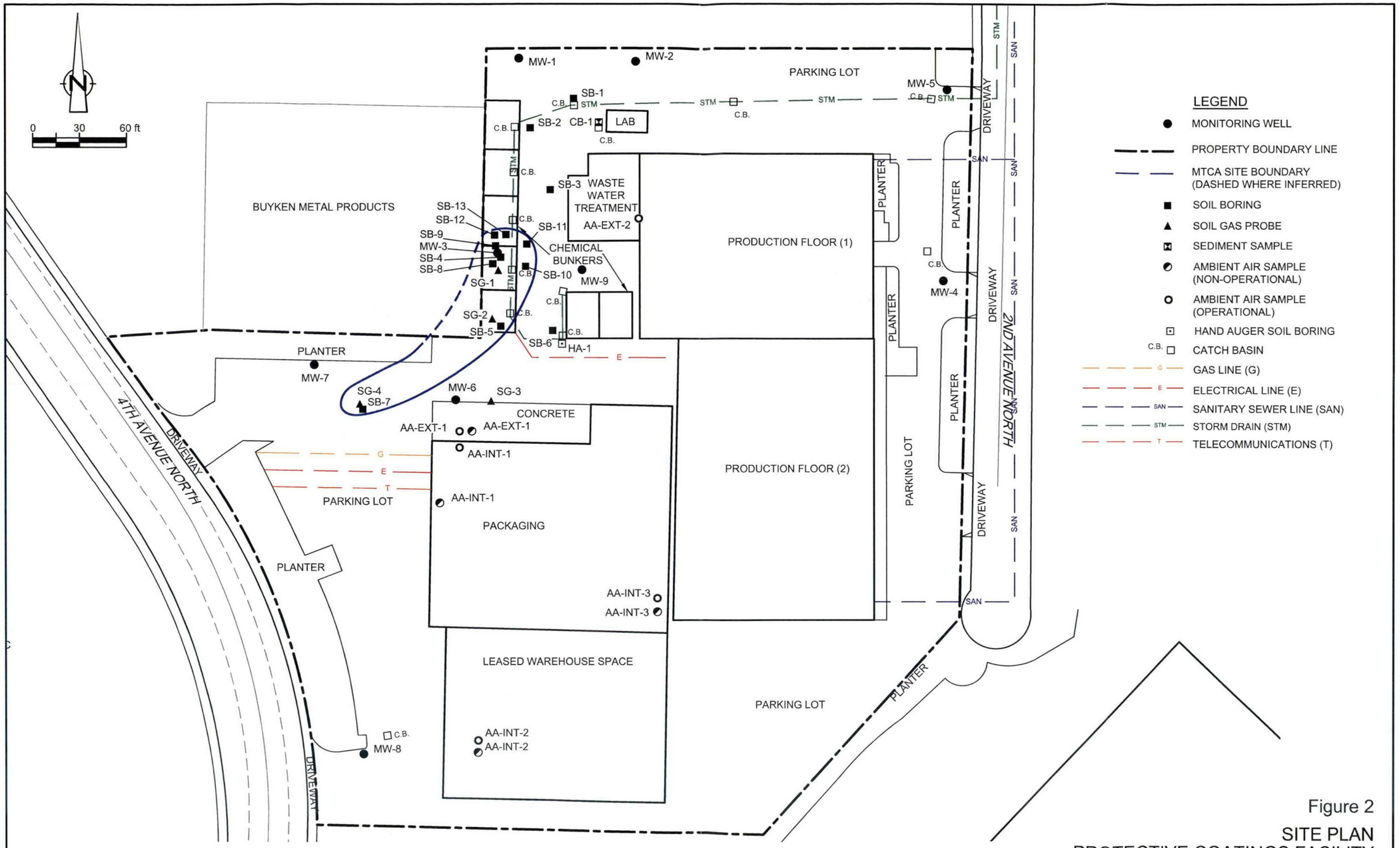


Figure 1

VICINITY MAP
PROTECTIVE COATINGS FACILITY
1215 2ND AVENUE NORTH AND 1208 4TH AVENUE NORTH
Kent, WA

SOURCE: USGS TOPOGRAHIC MAPFINDER.

062175-05(008)GN-SO005 JUN 6, 2016



SOURCE: USGS NATIONAL MAP VIEWER AERIAL IMAGERY. STATEWIDE LAND SURVEYING INC. REPORT DATED 7/17/15, WA STATE PLANE COORDINATED SYSTEMS NAD 83/2011 EPCOH 2010.000 NORTH ZONE 4601, IN U.S. SURVEY FEET.

Figure 2

SITE PLAN
PROTECTIVE COATINGS FACILITY
1215 2ND AVENUE NORTH AND 1208 4TH AVENUE NORTH
Kent, Washington

LEGEND

MONITORING WELL

PROPERTY BOUNDARY LINE

C.B. CATCH BASIN

INDICATES AT LEAST ONE VOLATILE ORGANIC COMPOUND EXCEEDED THE MTCA METHOD C CLEANUP LEVELS.

ADDITIONAL LOCATIONS TARGETED FOR REMEDIATION.

NOTES:

NPB = N-PROPYL BROMIDE

TCE = TRICHLOROETHENE

N

0 10 20 ft

BLAST MEDIA STORAGE

FLOOR DRAINS

SUMP

CYANIDE COMPOUND STORAGE

EMPTY BOXES

SB-9

MW-3

SB-4

SB-8

SB-10

90 DAY HAZARDOUS WASTE CHEMICAL STORAGE

SB-5

VAPOR DEGREASER ACETONE DIP AND PARTS CLEANER, BULK STORAGE OF NPB

CHEMICAL BUNKERS

MW-9

SEE FIGURE 2C FOR DETAIL

CB-1

C.B.

LAB

EMPTY POLY TANKS

WASTE WATER TREATMENT

WHEEL ABRATOR

POLISH

OVEN

OVEN

CAD OVEN

BLAST

PRODUCTION FLOOR (1)

OFFICES

PLANTER

ABANDONED UNDERGROUND TRANSFER LINE

ABANDONED SUMP

CYANIDE PROCESSING/RINSE TANKS

SUMP

CHROME PROCESSING/RINSE TANKS

NEUTRAL PROCESSING/RINSE TANKS AND OTHER PROCESSING/RINSE TANKS

NPB DEGREASER TANK (FORMERLY TCE)

CONTAINMENT TRENCHES

PLANTER

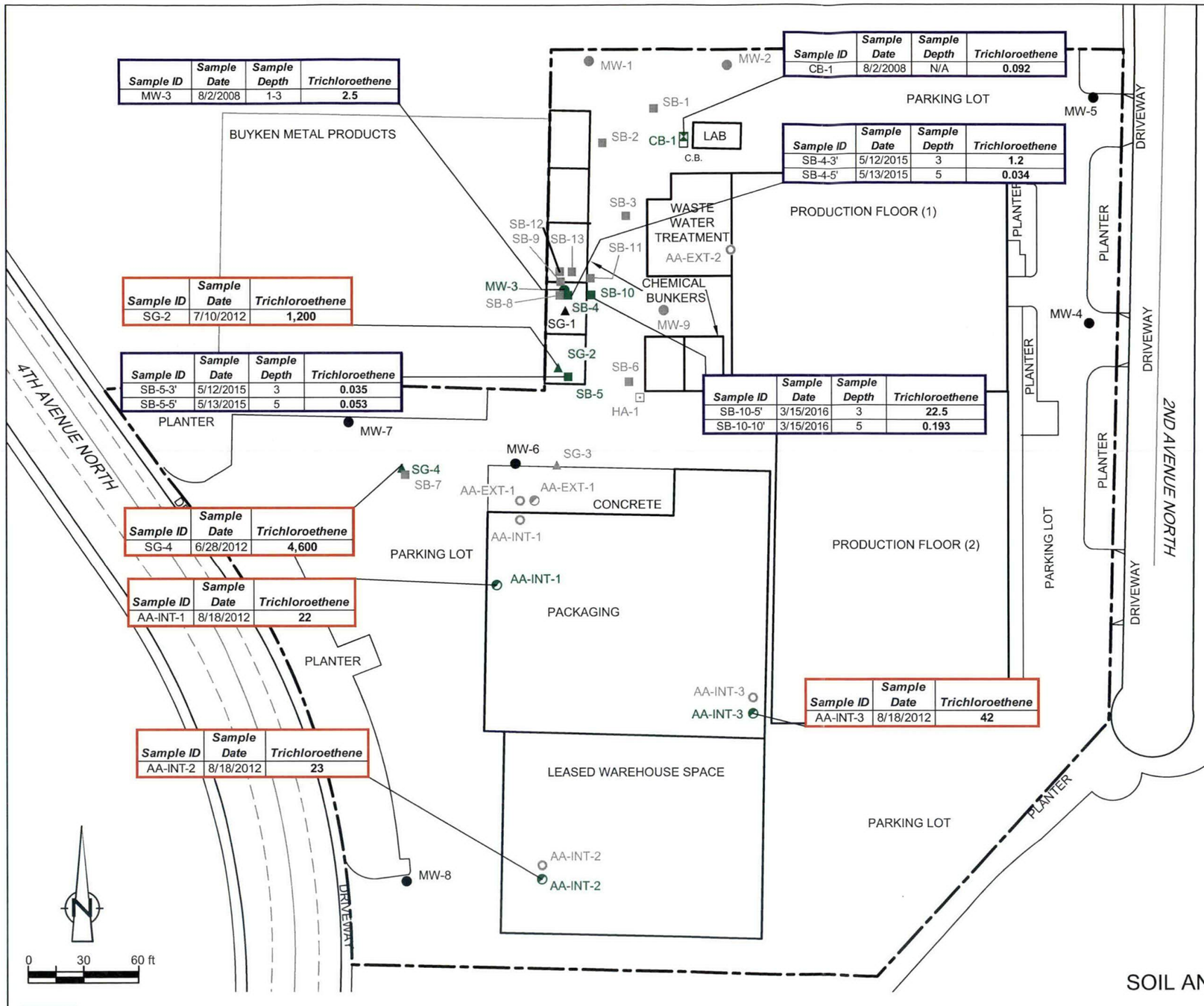
Figure 3

SOIL EXCEEDING CLEANUP LEVELS
PROTECTIVE COATINGS FACILITY
1215 2ND AVENUE NORTH AND 1208 4TH AVENUE NORTH
Kent, Washington

GHD

SOURCE: USGS NATIONAL MAP VIEWER AERIAL IMAGERY. STATEWIDE LAND SURVEYING INC. REPORT DATED 7/17/15, WA STATE PLANE COORDINATED SYSTEMS NAD 83/2011 EPCOH 2010.000 NORTH ZONE 4601, IN U.S. SURVEY FEET.

062175-05(008)GN-SO002 JUL 13, 2016



Sample ID	Sample Date	Sample Depth	Trichloroethene
MW-3	8/2/2008	1-3	**2.5**

Sample ID	Sample Date	Sample Depth	Trichloroethene
CB-1	8/2/2008	N/A	**0.092**

Sample ID	Sample Date	Sample Depth	Trichloroethene
SB-4-3'	5/12/2015	3	**1.2**
SB-4-5'	5/13/2015	5	**0.034**

Sample ID	Sample Date	Trichloroethene
SG-2	7/10/2012	**1,200**

Sample ID	Sample Date	Sample Depth	Trichloroethene
SB-5-3'	5/12/2015	3	**0.035**
SB-5-5'	5/13/2015	5	**0.053**

Sample ID	Sample Date	Sample Depth	Trichloroethene
SB-10-5'	3/15/2016	3	**22.5**
SB-10-10'	3/15/2016	5	**0.193**

Sample ID	Sample Date	Trichloroethene
SG-4	6/28/2012	**4,600**

Sample ID	Sample Date	Trichloroethene
AA-INT-1	8/18/2012	**22**

Sample ID	Sample Date	Trichloroethene
AA-INT-2	8/18/2012	**23**

Sample ID	Sample Date	Trichloroethene
AA-INT-3	8/18/2012	**42**

LEGEND

- MONITORING WELL
- SOIL BORING
- HAND AUGER BORING
- SOIL GAS PROBE
- SEDIMENT SAMPLE
- AMBIENT AIR SAMPLE (NON-OPERATIONAL)
- AMBIENT AIR SAMPLE (OPERATIONAL)
- C.B. CATCH BASIN
- PROPERTY BOUNDARY LINE
- µg/m3 MICROGRAMS PER CUBIC METER
- mg/kg MILLIGRAMS PER KILOGRAM
- FBGS FEET BELOW GROUND SURFACE
- N/A NOT APPLICABLE OR NOT PROVIDED

SOIL ANALYTICAL

Sample ID	Sample Date	Sample Depth	Trichloroethene
SB-10-5'	3/15/2016	3	**22.5**

PARAMETER
RESULT (mg/kg)
DEPTH IN FBGS

SOIL GAS ANALYTICAL

Sample ID	Sample Date	Trichloroethene
AA-INT-1	8/18/2012	**22**

PARAMETER
RESULT (µg/m3)

INDICATES AT LEAST ONE CONCENTRATION WAS DETECTED ABOVE THE LABORATORY REPORTING LIMITS, BUT NO CONCENTRATION EXCEEDED THE CLEANUP LEVELS.

INDICATES AT LEAST ONE CONCENTRATION EXCEEDED THE CLEANUP LEVELS.

NOTES:

BOLDED CONCENTRATIONS INDICATE THE CONCENTRATION VALUE EXCEEDED THE APPLICABLE CLEANUP LEVEL - SEE TABLES 1 THROUGH 3 FOR MORE INFORMATION.

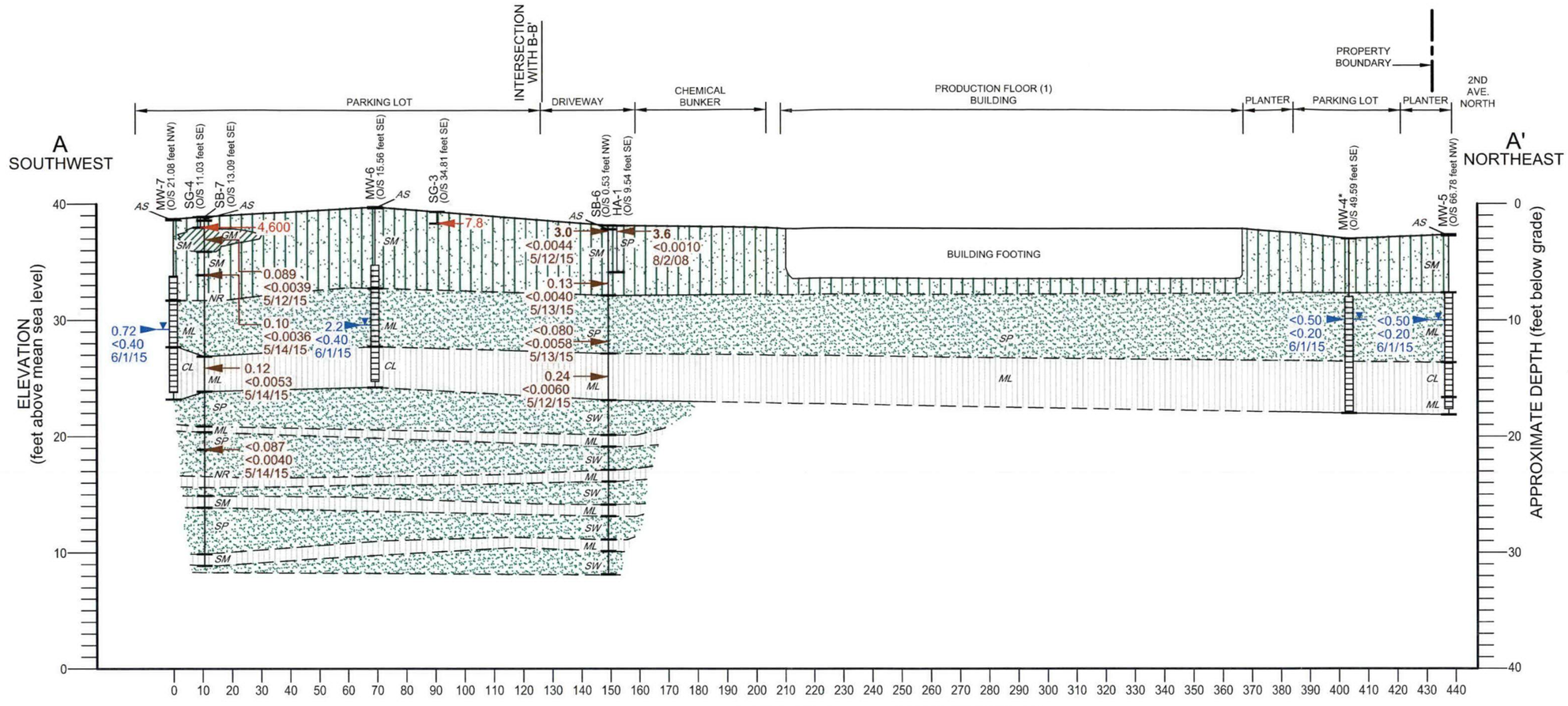
NO SOIL GAS SAMPLES WERE COLLECTED FROM LOCATION SG-1.

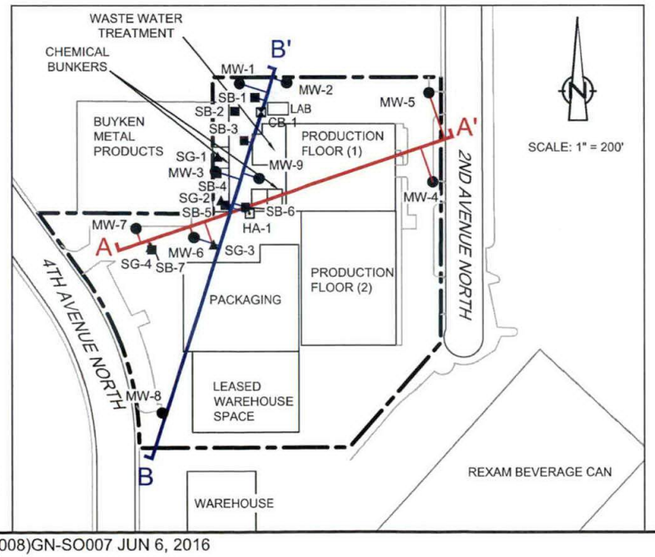
SOURCE: USGS NATIONAL MAP VIEWER AERIAL IMAGERY. STATEWIDE LAND SURVEYING INC. REPORT DATED 7/17/15, WA STATE PLANE COORDINATED SYSTEMS NAD 83/2011 EPCOH 2010.000 NORTH ZONE 4601, IN U.S. SURVEY FEET.

Figure 4

SOIL AND SOIL GAS INVESTIGATION DATA MAP
PROTECTIVE COATINGS FACILITY
1215 2ND AVEUNE NORTH AND 1208 4TH AVENUE NORTH
Kent, Washington

062175-05(008)GN-SO006 JUL 14, 2016





LEGEND

- MW-6 — WELL DESIGNATION
- GROUND SURFACE (OFFSET)
- GROUNDWATER MONITORING WELL
- STRATIGRAPHIC BOUNDARY
- sc — TYPICAL SOIL CLASSIFICATION
- SCREENED INTERVAL
- BOTTOM OF BORING
- GROUNDWATER DEPTH (6/1/15)
- CONTACT DASHED WHERE INFERRED
- NA NOT APPLICABLE OR NOT PROVIDED
- <X NOT DETECTED AT REPORTING LIMIT X
- mg/kg MILLIGRAMS PER KILOGRAM
- µg/m3 MICROGRAMS PER CUBIC METER

- NR NO RECOVERY
- APPROXIMATE SOIL SAMPLE LOCATION
- CADMIUM / TRICHLOROETHENE / DATE — CONCENTRATIONS IN SOIL (mg/kg)
- APPROXIMATE SOIL GAS SAMPLE LOCATION
- TRICHLOROETHENE — CONCENTRATIONS IN SOIL GAS (µg/m3)
- APPROXIMATE GROUNDWATER SAMPLE LOCATION
- (CIS) 1,2-DCE / VINYL CHLORIDE / DATE — HYDROCARBON CONCENTRATIONS IN GROUNDWATER (µg/L)

NOTES:

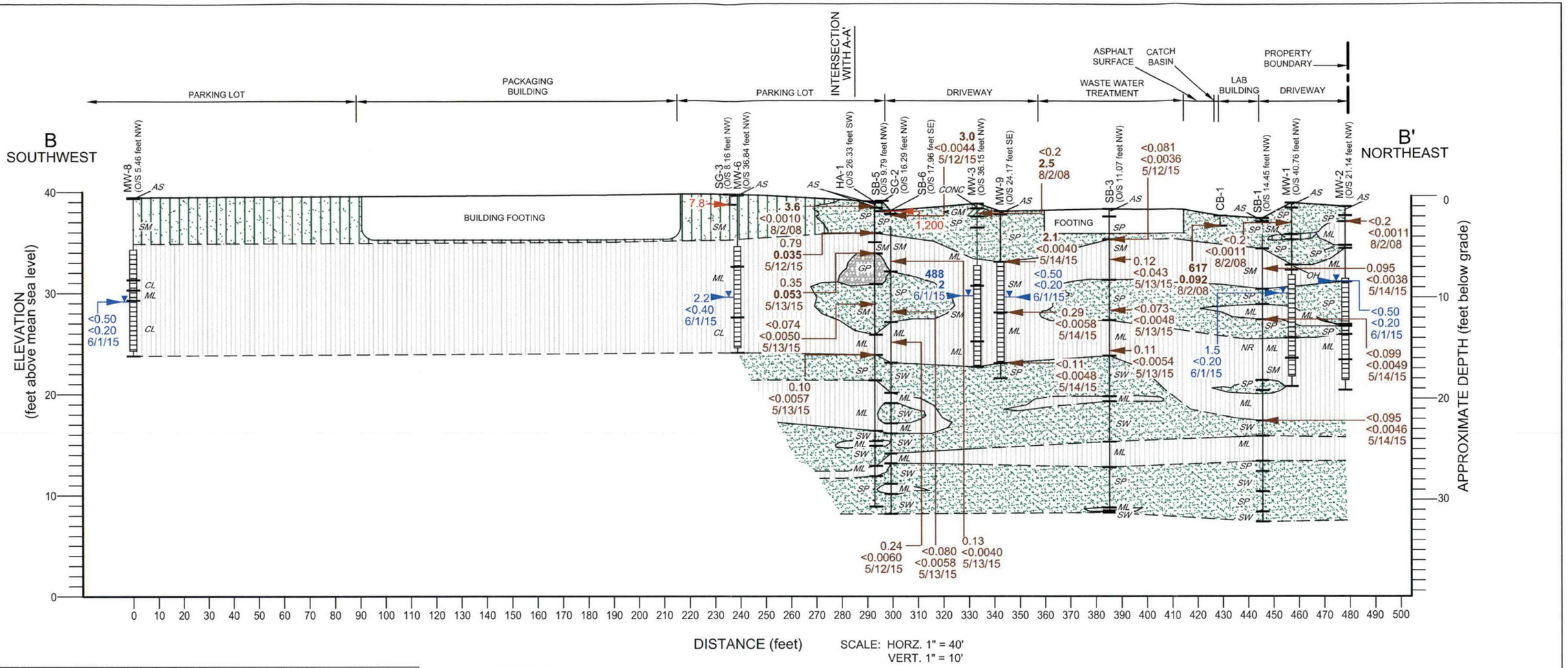
*NO SOIL DESCRIPTION AVAILABLE FOR MW-4.

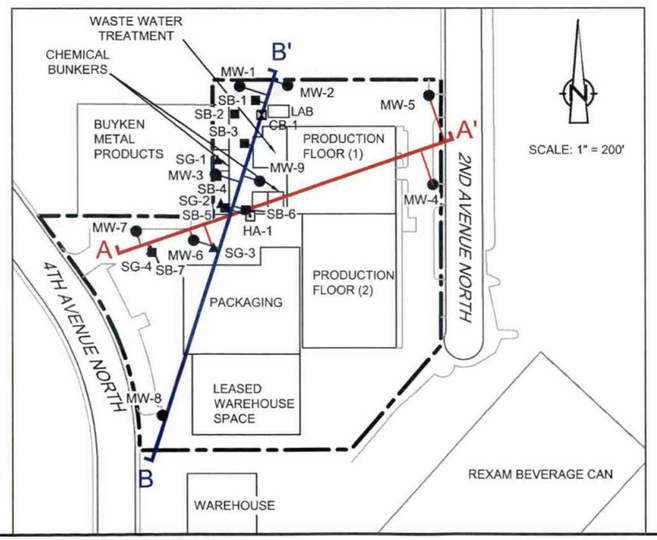
THE PREVIOUS CONSULTANT LOGGED SILT (ML) AT APPROXIMATELY 10 FEET BELOW GROUND SURFACE FOLLOWED BY CLAY (CL); HOWEVER, GHD LOGGED THE LITHOLOGY AT THESE DEPTHS AS FINE SAND (SP) FOLLOWED BY SILT (ML). THEREFORE, THE CROSS SECTIONS ARE BASED ON GHD'S INTERPRETATION.

- AS - ASPHALT
- SM - SILTY SAND, SAND-SILT MIXTURES
- ML - INORGANIC SILT, VERY FINE SAND, SILTY OR CLAYEY FINE SAND, CLAYEY SILT WITH SLIGHT PLASTICITY
- CL - INORGANIC CLAY OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAY, SANDY CLAY, SILTY CLAY, LEAN CLAY
- SP - POORLY-GRADED SAND, GRAVELLY SAND, LITTLE OR NO FINES
- SW - WELL-GRADED SAND, GRAVELLY SAND
- GM - SILTY GRAVEL, GRAVEL-SAND-SILT MIXTURE

figure 5

GENERALIZED GEOLOGIC CROSS SECTION A-A'
PROTECTIVE COATINGS FACILITY
1215 2ND AVENUE NORTH AND 1208 4TH AVENUE NORTH
Kent, Washington





LEGEND

- MW-6 — WELL DESIGNATION
- GROUND SURFACE (OFFSET)
- GROUNDWATER MONITORING WELL
- STRATIGRAPHIC BOUNDARY
- *SC* — TYPICAL SOIL CLASSIFICATION
- SCREENED INTERVAL
- BOTTOM OF BORING
- GROUNDWATER DEPTH (6/1/15)
- CONTACT DASHED WHERE INFERRED
- NA NOT APPLICABLE OR NOT PROVIDED
- <X NOT DETECTED AT REPORTING LIMIT X
- mg/kg MILLIGRAMS PER KILOGRAM
- µg/m3 MICROGRAMS PER CUBIC METER
- NR NO RECOVERY
- APPROXIMATE SOIL SAMPLE LOCATION
- CADMIUM / TRICHLOROETHENE / DATE — CONCENTRATIONS IN SOIL (mg/kg)
- APPROXIMATE SOIL GAS SAMPLE LOCATION
- TRICHLOROETHENE — CONCENTRATIONS IN SOIL GAS (µg/m3)
- APPROXIMATE GROUNDWATER SAMPLE LOCATION
- (CIS) 1,2-DCE / VINYL CHLORIDE / DATE — HYDROCARBON CONCENTRATIONS IN GROUNDWATER (µg/L)

NOTES:

*NO SOIL DESCRIPTION AVAILABLE FOR MW-4.

THE PREVIOUS CONSULTANT LOGGED SILT (ML) AT APPROXIMATELY 10 FEET BELOW GROUND SURFACE FOLLOWED BY CLAY (CL); HOWEVER, GHD LOGGED THE LITHOLOGY AT THESE DEPTHS AS FINE SAND (SP) FOLLOWED BY SILT (ML). THEREFORE, THE CROSS SECTIONS ARE BASED ON GHD'S INTERPRETATION.

- *AS* - ASPHALT
- *CONC* - CONCRETE
- *GM* - SILTY GRAVEL, GRAVEL-SAND-SILT MIXTURE
- *SM* - SILTY SAND, SAND-SILT MIXTURES
- *ML/OH* - INORGANIC AND ORGANIC SILT, VERY FINE SAND, SILTY OR CLAYEY FINE SAND, CLAYEY SILT WITH SLIGHT PLASTICITY
- *CL* - INORGANIC CLAY OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAY, SANDY CLAY, SILTY CLAY, LEAN CLAY
- *SP* - POORLY-GRADED SAND, GRAVELLY SAND, LITTLE OR NO FINES
- *SW* - WELL-GRADED SAND, GRAVELLY SAND
- *GP* - POORLY-GRADED GRAVEL

SCALE: HORZ. 1" = 40'
VERT. 1" = 10'

figure 6

GENERALIZED GEOLOGIC CROSS SECTION B-B'
PROTECTIVE COATINGS FACILITY
1215 2ND AVENUE NORTH AND 1208 4TH AVENUE NORTH
Kent, Washington

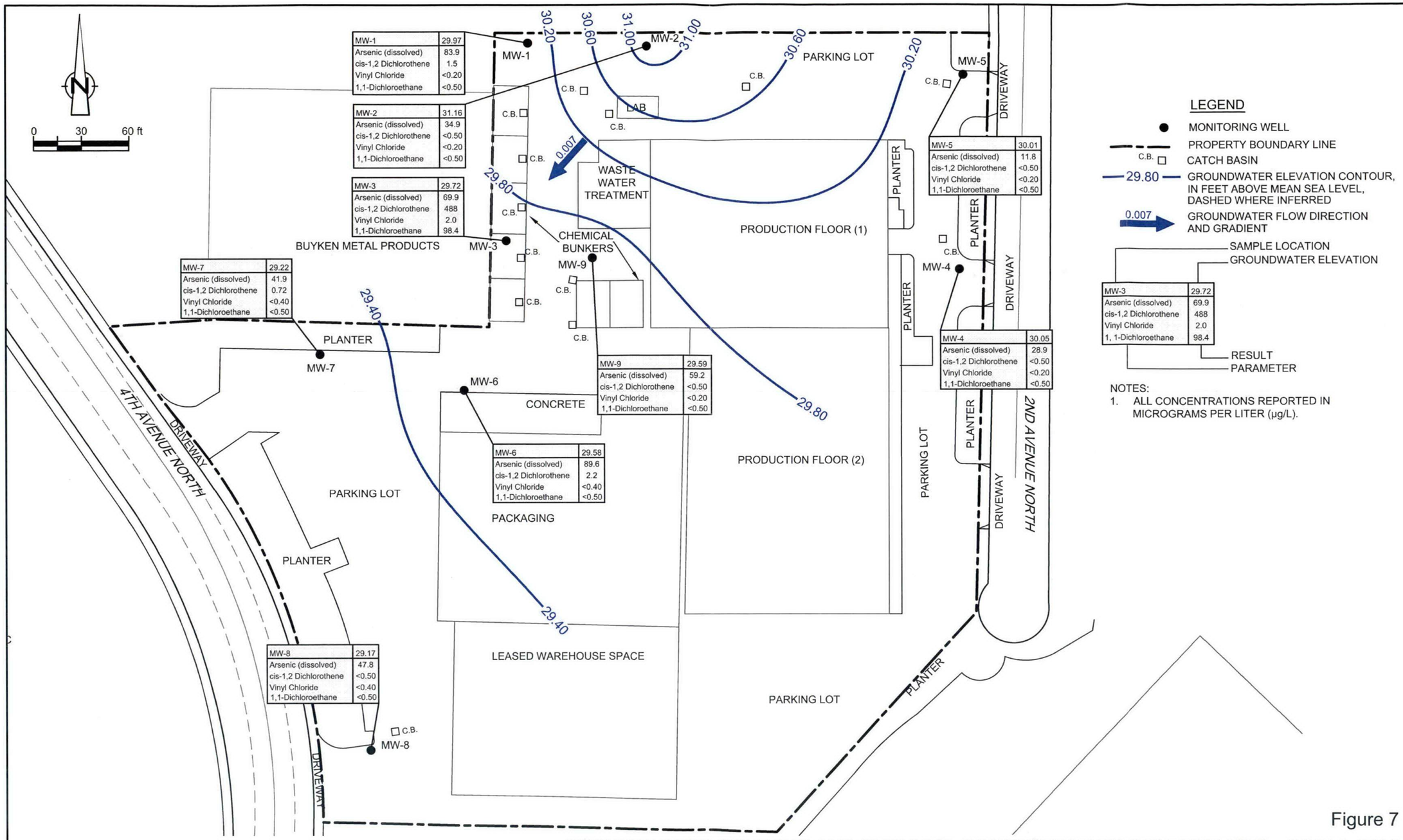


Figure 7

GROUNDWATER CONTOUR AND CHEMICAL CONCENTRATION CONTOUR MAP - JUNE 1, 2015
PROTECTIVE COATINGS FACILITY
1215 2ND AVENUE NORTH AND 1208 4TH AVENUE NORTH
Kent, Washington

SOURCE: USGS NATIONAL MAP VIEWER AERIAL IMAGERY. STATEWIDE LAND SURVEYING INC. REPORT DATED 7/17/15, WA STATE PLANE COORDINATED SYSTEMS NAD 83/2011 EPCOH 2010.000 NORTH ZONE 4601, IN U.S. SURVEY FEET.

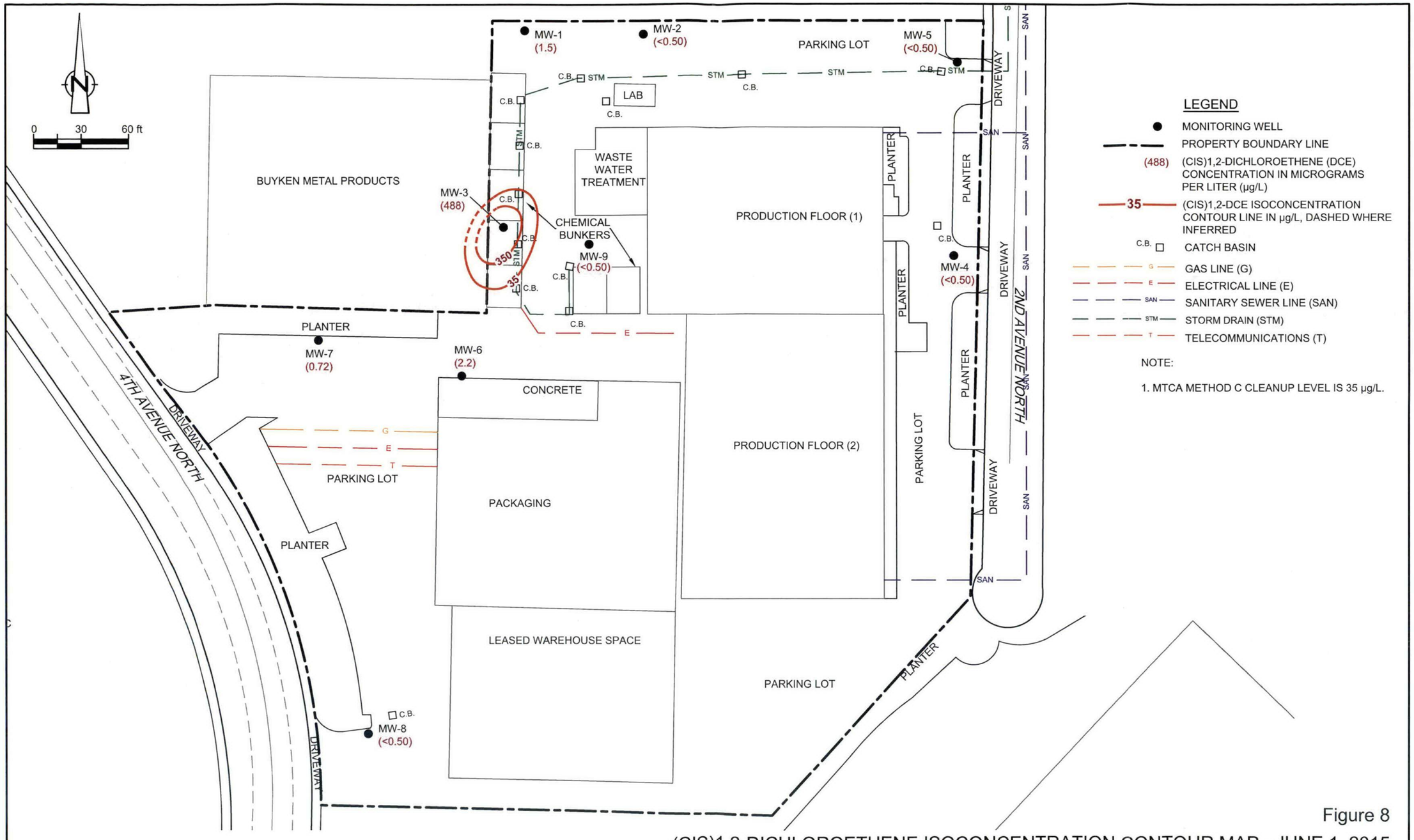


Figure 8

(CIS)1,2-DICHLOROETHENE ISOCONCENTRATION CONTOUR MAP - JUNE 1, 2015
PROTECTIVE COATINGS FACILITY
1215 2ND AVENUE NORTH AND 1208 4TH AVENUE NORTH
Kent, Washington

SOURCE: USGS NATIONAL MAP VIEWER AERIAL IMAGERY. STATEWIDE LAND SURVEYING INC. REPORT DATED 7/17/15, WA STATE PLANE COORDINATED SYSTEMS NAD 83/2011 EPCOH 2010.000 NORTH ZONE 4601, IN U.S. SURVEY FEET.

062175-05(008)GN-SO009 JUN 6, 2016

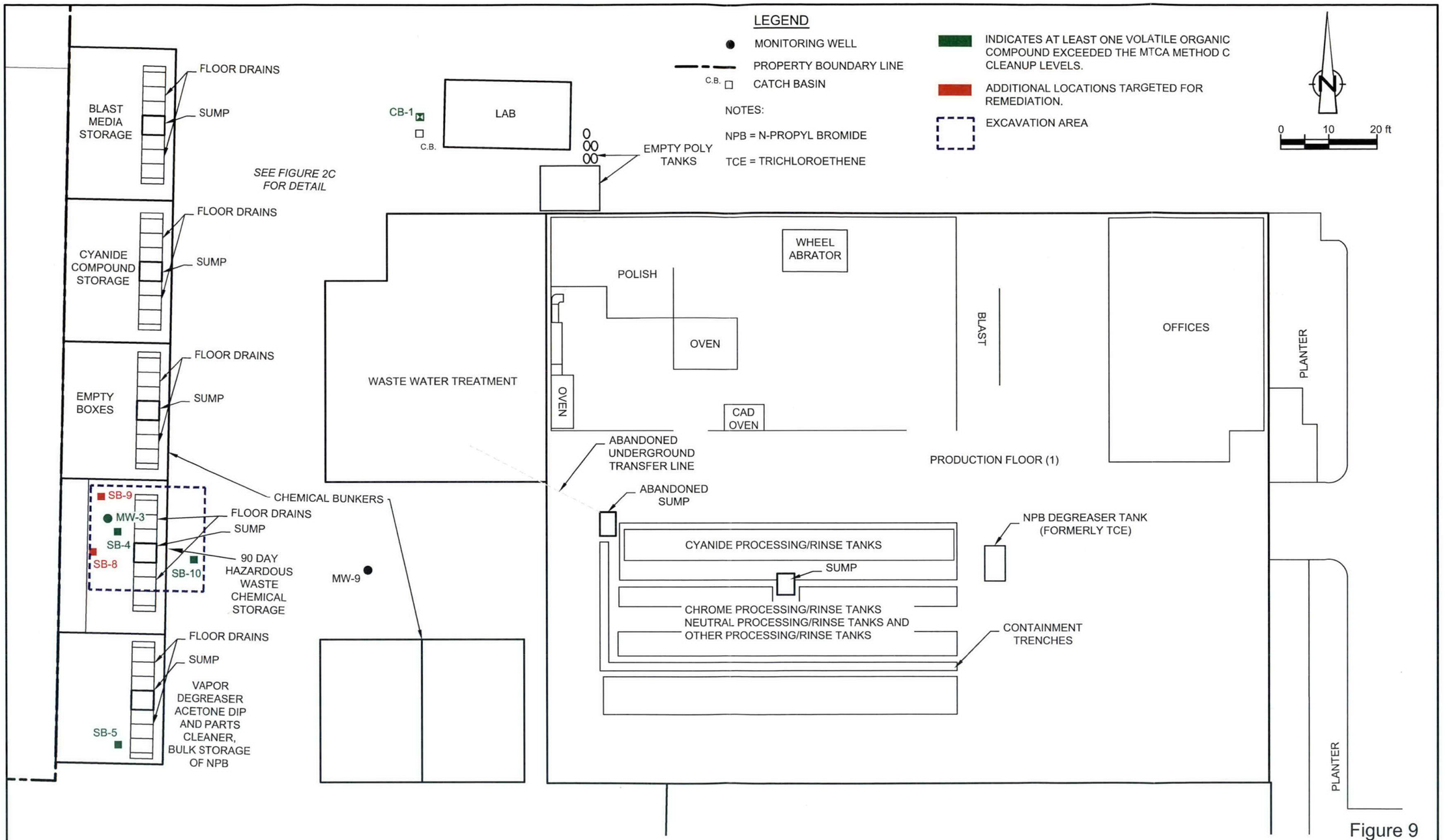


Figure 9

CONCEPTUAL EXCAVATION
PROTECTIVE COATINGS FACILITY
1215 2ND AVENUE NORTH AND 1208 4TH AVENUE NORTH
Kent, Washington

SOURCE: USGS NATIONAL MAP VIEWER AERIAL IMAGERY. STATEWIDE LAND SURVEYING INC. REPORT DATED 7/17/15, WA STATE PLANE COORDINATED SYSTEMS NAD 83/2011 EPCOH 2010.000 NORTH ZONE 4601, IN U.S. SURVEY FEET.

062175-05(008)GN-SO003 JUL 14, 2016

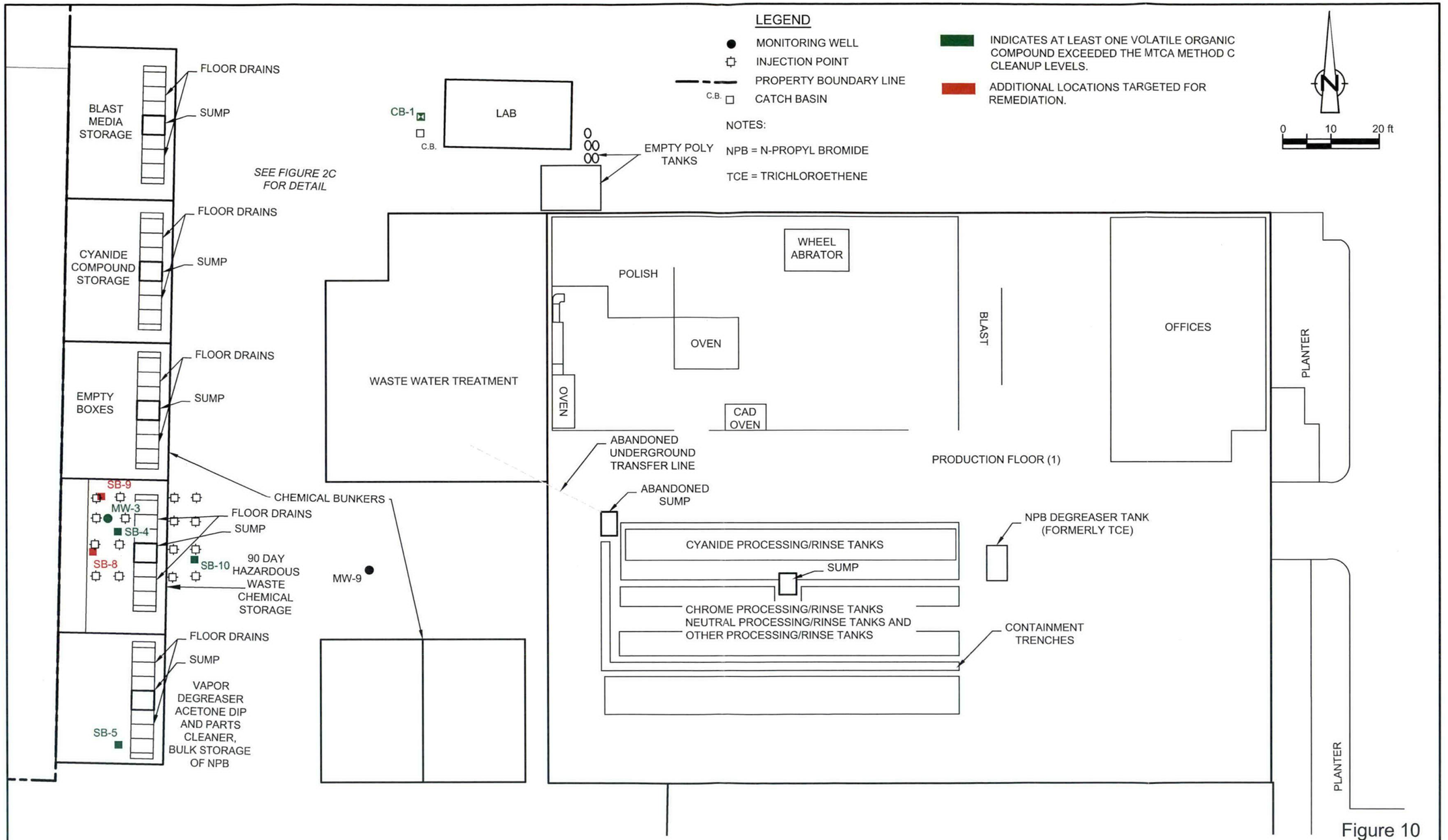


Figure 10

CONCEPTUAL CHEMICAL INJECTION
PROTECTIVE COATINGS FACILITY
1215 2ND AVENUE NORTH AND 1208 4TH AVENUE NORTH
Kent, Washington

SOURCE: USGS NATIONAL MAP VIEWER AERIAL IMAGERY. STATEWIDE LAND SURVEYING INC. REPORT DATED 7/17/15, WA STATE PLANE COORDINATED SYSTEMS NAD 83/2011 EPCOH 2010.000 NORTH ZONE 4601, IN U.S. SURVEY FEET.

062175-05(008)GN-SO004 JUL 14, 2016

Tables

Table 1A

Summary of Groundwater Analytical Data
Hydrocarbons and Volatile Organic Compounds
Protective Coatings Facility
1215 2nd Avenue North and 1208 4th Avenue North
Kent, Washington

					Hydrocarbons			VOCs												
Sample ID	Date	TOC	DTW*	GWE	TPHg	TPHd	TPHo	Benzene	Toluene	Vinyl Chloride[1]	Chloroethane	Acetone	1,1-Dichloroethene	1,1-Dichloroethane	(trans) 1,2-Dichloroethene	(cis) 1,2-Dichloroethene	EDC	1,1,1-Trichloroethane	Trichloroethene	1,1,2-Trichloroethane
MTCA Method C Cleanup Level					NA	NA	NA	70	17.5	2	NA	NA	875	76.8	350	35	NA	35,000	9.51	7.68
	Units	ft	ft	ft	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-1	8/12/2008	38.94	9.41	29.53	—	—	—	<0.2	<0.2	0.2	2	7.7	0.5	0.6	<0.2	1.6	<0.2	<0.2	<0.2	<0.2
MW-1	7/2/2012	38.94	8.48	30.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-1	7/17/2014	38.94	8.75	30.19	—	—	—	<0.50	<0.50	<0.20	1.2	<20.0	<0.50	<0.50	<0.50	1.4	<0.50	1.4	<0.40	<0.40
MW-1	10/7/2014	38.94	9.04	29.90	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<1.0	1.6	<0.50	<0.50	<0.40	<0.40
MW-1	1/13/2015	38.94	8.26	30.68	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-1	6/1/2015	38.59	8.62	29.97	—	—	—	<0.50	<0.50	<0.20	1.1	<20.0	<0.50	<0.50	<0.50	1.5	<0.50	<0.50	<0.40	<0.40
MW-2	8/12/2008	38.71	8.82	29.89	—	—	—	<0.2	<0.2	<0.2	<0.2	<2.5	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW-2 DUP	8/12/2008	38.71	8.82	29.89	—	—	—	<0.2	<0.2	<0.2	<0.2	3.7	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW-2	7/2/2012	38.71	8.00	30.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-2	7/17/2014	38.71	8.20	30.51	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-2	10/7/2014	38.71	8.53	30.18	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<0.40	<0.40
MW-2	1/13/2015	38.71	7.71	31.00	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-2 DUP	1/13/2015	38.71	7.71	31.00	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-2	6/1/2015	38.27	7.11	31.16	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-3	8/12/2008	38.68	9.41	29.27	—	—	—	0.3	4.1	**5.8**	87 c	7.3	120 c	**340 c**	34	**5,600 c**	1.0	4.9	3.9	0.8
MW-3	7/2/2012	38.68	8.48	30.20	<0.25	<0.50	<0.50	<0.2	0.37	1.8	17 a	5.5	20	**82 J**	12	**540 c**	0.7	0.58	0.27	0.75
MW-3	7/17/2014	38.68	8.94	29.74	—	—	—	<0.50	0.85	2.0	21.0	<20.0	36.5	**146**	17.7	**607**	1.6	<0.50	<0.40	<0.40
MW-3	10/7/2014	38.68	9.31	29.37	—	—	—	<5.0	<5.0	<2.0	27.8	<200	47.6	**174**	20.6	**879**	<5.0	<5.0	<4.0	<4.0
MW-3	1/13/2015	38.68	8.37	30.31	—	—	—	<2.5	<2.5	**2.9**	16.2	<100	32.6	**124**	18.6	**672**	<2.5	<2.5	<2.0	<2.0
MW-3	6/1/2015	38.61	8.89	29.72	—	—	—	<2.5	<2.5	2.0	15.0	<100	25.0	**98.4**	15.8	**488**	<2.5	<5.0	<2.0	<2.0
MW-4	6/29/2012	36.63	6.41	30.22	<0.25	<0.50	<0.50	<0.2	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW-4	7/17/2014	36.63	6.80	29.83	—	—	—	<0.50	<0.50	<0.40	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-4 DUP	7/17/2014	36.63	6.80	29.83	—	—	—	<0.50	<0.50	<0.40	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-4	10/7/2014	36.63	7.07	29.56	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<0.40	<0.40
MW-4	1/13/2015	36.63	5.76	30.87	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-4	6/1/2015	36.56	6.51	30.05	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-5	6/29/2012	37.07	6.89	30.18	<0.25	<0.50	<0.50	<0.2	<0.2	0.32	<0.2	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW-5	7/17/2014	37.07	7.12	29.95	—	—	—	<0.50	<0.50	<0.40	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-5	10/7/2014	37.07	7.39	29.68	—	—	—	<0.50	<0.50	0.28	<1.0	<20.0	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<0.40	<0.40
MW-5	1/13/2015	37.07	6.35	30.72	—	—	—	<0.50	<0.50	0.39	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-5	6/1/2015	37.00	6.99	30.01	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-6	6/29/2012	39.44	9.40	30.04	<0.25	<0.50	<0.50	<0.2	<0.2	<0.2	<0.2	6.7	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW-6	7/17/2014	39.44	9.71	29.73	—	—	—	<0.50	<0.50	<0.40	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-6	10/7/2014	39.44	9.95	29.49	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<0.40	<0.40
MW-6	1/13/2015	39.44	8.99	30.45	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-6	6/1/2015	39.38	9.80	29.58	—	—	—	<0.50	<0.50	<0.40	<1.0	<20.0	<0.50	<0.50	<1.0	2.2	<0.50	<1.0	<0.40	<0.40
MW-7	6/29/2012	38.28	8.98	29.30	<0.25	<0.50	<0.50	<0.2	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW-7	7/17/2014	38.28	9.14	29.14	—	—	—	<0.50	<0.50	<0.40	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-7	10/7/2014	38.28	9.15	29.13	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<0.40	<0.40
MW-7	1/13/2015	38.28	8.35	29.93	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-7	6/1/2015	38.21	8.99	29.22	—	—	—	<0.50	<0.50	<0.40	<1.0	<20.0	<0.50	<0.50	<1.0	0.72	<0.50	<1.0	<0.40	<0.40
MW-8	6/29/2012	39.06	9.80	29.26	<0.25	<0.50	<0.50	<0.2	<0.2	<0.2	<0.2	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW-8	7/17/2014	39.06	10.04	29.02	—	—	—	<0.50	<0.50	<0.40	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-8	10/7/2014	39.06	10.10	28.96	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<0.40	<0.40
MW-8 DUP	10/7/2014	39.06	10.10	28.96	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<0.40	<0.40
MW-8	1/13/2015	39.06	8.87	30.19	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-8	6/1/2015	38.98	9.81	29.17	—	—	—	<0.50	<0.50	<0.40	<1.0	<20.0	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.40	<0.40
MW-9	5/28/2015	37.70	7.75	29.95	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-9	6/1/2015	37.70	8.11	29.59	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
MW-9 DUP	6/1/2015	37.70	8.11	29.59	—	—	—	<0.50	<0.50	<0.20	<1.0	<20.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40

Table 1A

Summary of Groundwater Analytical Data
Hydrocarbons and Volatile Organic Compounds
Protective Coatings Facility
1215 2nd Avenue North and 1208 4th Avenue North
Kent, Washington

Abbreviations and Notes:
DTW = Depth to Water in feet
GWE = Groundwater Elevation
TOC = Top of Casing
TPHg = Total petroleum hydrocarbons as gasoline range organics analyzed by HCID Method
TPHd = Total petroleum hydrocarbons as diesel range organics analyzed by HCID Method
TPHo = Total petroleum hydrocarbons as heavy oil range organics analyzed by HCID Method
VOC = Volatile Organic Compounds analyzed by EPA Method 8260 (See analytical laboratory reports for a complete list of VOCs)
EDC=1,2-Dichloroethane
ug/L = Micrograms per liter
NE = Not established
NA = Not applicable
—- = Not analyzed
<*n* = Below laboratory detection limit of *n* ug/L
MTCA = Model Toxics Control Act Cleanup Regulations [WAC 173-340-720(2)(a)(1), as amended February 2001]
[1] The MTCA Method C cleanup level is based on direct contact with groundwater and includes potential exposure to children via pregnant women. This scenario is highly unlikely given the current Property use and zoning. Therefore, the cleanup level shown is the Federal maximum contaminant level (MCL) established by the Environmental Prot
*The DTW data from 2008 and 2012 was calculated by subtracting the given GWE from the calculated TOC data. DTW was not provided in the previous consultant's report.
All data prior to 2014 collected by Golder Associates, Inc. (Golder) and provided in Golder's *Phase II Environmental Site Assessment* report dated October 1, 2012.
Data values in **bold** indicate that the concentration exceeds the MTCA Method C cleanup level

a = Surrogate recovery is outside control limits
b = Detection based on dilution of initial sample
J = Estimated

Table 1B

Summary of Groundwater Analytical Data
Metals and General Chemistry
Protective Coatings Facility
1215 2nd Avenue North and 1208 4th Avenue North
Kent, Washington

					Metals							General Chemistry		
Sample ID	Date	TOC	DTW*	GWE	Arsenic (total)	Arsenic (dissolved)	Cadmium (total)	Cadmium (dissolved)	Chromium III (total)	Chromium III (dissolved)	Chromium VI (hexavalent)	Cyanide	N-Nitrate	N-Nitrite
MTCA Method C Cleanup Levels [1]					10	10	17.5	17.5	52,500	52,500	105	NA	NA	NA
	Units	ft	ft	ft	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug-N/L	ug-N/L
MW-1	8/12/2008	38.94	9.41	29.53	**121**	---	---	---	5	---	<11	<5	<100	---
MW-1	7/2/2012	38.94	8.48	30.46	---	---	---	---	---	---	---	---	---	---
MW-1	7/17/2014	38.94	8.75	30.19	**159**	**46.9**	0.34	<0.080	8.1	5.1	<5,000	---	---	---
MW-1	10/7/2014	38.94	9.04	29.90	**137**	**90.8**	0.092	<0.080	7.1	6.4	<0.10	---	---	---
MW-1	1/13/2015	38.94	8.26	30.68	**37.3**	**17.6**	<0.080	<0.080	2.9	3.5	<50	---	---	---
MW-1	6/1/2015	38.59	8.62	29.97	---	**83.9**	---	<0.080	---	5.6	---	---	---	---
MW-2	8/12/2008	38.71	8.82	29.89	**149**	---	---	---	5	---	<11	<5	<100	---
MW-2 DUP	8/12/2008	38.71	8.82	29.89	**154**	---	---	---	5	---	<11	<5	<100	---
MW-2	7/2/2012	38.71	8.00	30.71	--	---	---	---	---	---	---	---	---	---
MW-2	7/17/2014	38.71	8.20	30.51	**116**	**22.7**	<0.080	<0.080	3.4	1.6	<1,000	---	---	---
MW-2	10/7/2014	38.71	8.53	30.18	**143**	**67.9**	<0.080	<0.080	3.2	2.6	<0.10	---	---	---
MW-2	1/13/2015	38.71	7.71	31.00	**118**	**20.3**	0.11	<0.080	3.4	1.6	<50	---	---	---
MW-2 DUP	1/13/2015	38.71	7.71	31.00	**121**	**19.0**	0.091	<0.080	3.6	1.6	<50	---	---	---
MW-2	6/1/2015	38.27	7.11	31.16	---	**34.9**	---	<0.080	---	1.7	---	---	---	---
MW-3	8/12/2008	38.68	9.41	29.27	**138**	---	---	---	---	---	<11	<5	<100	---
MW-3	7/2/2012	38.68	8.48	30.20	**115**	**120**	---	<0.1	5.2	---	14	<5	<50	<50
MW-3	7/17/2014	38.68	8.94	29.74	**168**	**42.4**	0.086	<0.080	6.8	3.9	<500	---	---	---
MW-3	10/7/2014	38.68	9.31	29.37	**163**	**85.8**	0.091	<0.080	7.5	4.8	<0.10	---	---	---
MW-3	1/13/2015	38.68	8.37	30.31	**151**	**29.0**	0.23	<0.080	10.2	3.8	<50	---	---	---
MW-3	6/1/2015	38.61	8.89	29.72	---	**69.9**	---	<0.080	---	4.4	---	---	---	---
MW-4	6/29/2012	36.63	6.41	30.22	**33.7**	**31**	---	<0.1	1.0	---	<10	<5	<50	<50
MW-4	7/17/2014	36.63	6.80	29.83	**74.7**	8.9	<0.080	<0.080	1.2	<0.50	<500	---	---	---
MW-4 DUP	7/17/2014	36.63	6.80	29.83	**78.5**	**23.6**	<0.080	<0.080	1.2	0.59	<100	---	---	---
MW-4	10/7/2014	36.63	7.07	29.56	**156**	**67.1**	<0.080	<0.080	1.8	0.69	<0.10	---	---	---
MW-4	1/13/2015	36.63	5.76	30.87	**103**	**20.2**	<0.080	<0.080	1.5	0.67	<50	---	---	---
MW-4	6/1/2015	36.56	6.51	30.05	---	**28.9**	---	<0.080	---	0.79	---	---	---	---
MW-5	6/29/2012	37.07	6.89	30.18	**27.5**	**28.9**	---	<0.1	1.6	---	<10	<5	52	<50
MW-5	7/17/2014	37.07	7.12	29.95	**32.8**	3.1	<0.080	<0.080	2.1	1.1	<500	---	---	---
MW-5	10/7/2014	37.07	7.39	29.68	**68.7**	**29.4**	<0.080	<0.080	2.1	1.5	<0.10	---	---	---
MW-5	1/13/2015	37.07	6.35	30.72	**59.1**	**11.7**	<0.080	<0.080	2.5	1.1	<50	---	---	---
MW-5	6/1/2015	37.00	6.99	30.01	---	**11.8**	---	<0.080	---	1.5	---	---	---	---
MW-6	6/29/2012	39.44	9.40	30.04	**179**	**178**	---	<0.1	4.3	---	<10	<5	<50	<50
MW-6	7/17/2014	39.44	9.71	29.73	**190**	**29.5**	<0.080	<0.080	5.4	2.9	<500	---	---	---
MW-6	10/7/2014	39.44	9.95	29.49	**189**	**136**	<0.080	<0.080	4.4	3.9	<0.10	---	---	---
MW-6	1/13/2015	39.44	8.99	30.45	**177**	**31.1**	<0.080	<0.080	5.8	3.3	<50	---	---	---
MW-6	6/1/2015	39.38	9.80	29.58	---	**89.6**	---	<0.080	---	4.0	---	---	---	---

Table 1B

Summary of Groundwater Analytical Data
Metals and General Chemistry
Protective Coatings Facility
1215 2nd Avenue North and 1208 4th Avenue North
Kent, Washington

					Metals							General Chemistry		
Sample ID	Date	TOC	DTW*	GWE	Arsenic (total)	Arsenic (dissolved)	Cadmium (total)	Cadmium (dissolved)	Chromium III (total)	Chromium III (dissolved)	Chromium VI (hexavalent)	Cyanide	N-Nitrate	N-Nitrite
MTCA Method C Cleanup Levels [1]					10	10	17.5	17.5	52,500	52,500	105	NA	NA	NA
	Units	ft	ft	ft	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug-N/L	ug-N/L
MW-7	6/29/2012	38.28	8.98	29.30	**92.7**	**92**	---	<0.1	1.6	---	<10	<5	<50	<50
MW-7	7/17/2014	38.28	9.14	29.14	**134**	**13.5**	<0.080	<0.080	2.8	3.3	<500	---	---	---
MW-7	10/7/2014	38.28	9.15	29.13	**136**	**109**	<0.080	<0.080	2.1	1.8	<0.10	---	---	---
MW-7	1/13/2015	38.28	8.35	29.93	**121**	**31.2**	<0.080	<0.080	2.1	1.2	<50	---	---	---
MW-7	6/1/2015	38.21	8.99	29.22	---	**41.9**	---	<0.080	---	1.5	---	---	---	---
MW-8	6/29/2012	39.06	9.80	29.26	**115**	**145**	---	<0.1	4.1	---	19	<5	<50	<50
MW-8	7/17/2014	39.06	10.04	29.02	**173**	**10.8**	<0.080	<0.080	5.9	2.5	<500	---	---	---
MW-8	10/7/2014	39.06	10.10	28.96	**212**	**185**	<0.080	<0.080	5.4	4.9	<0.10	---	---	---
MW-8 DUP	10/7/2014	39.06	10.10	28.96	**221**	**161**	<0.080	<0.080	5.6	4.9	<0.10	---	---	---
MW-8	1/13/2015	39.06	8.87	30.19	**182**	**23.3**	<0.080	<0.080	5.8	3.1	<50	---	---	---
MW-8	6/1/2015	38.98	9.81	29.17	---	**47.8**	---	<0.080	---	3.6	---	---	---	---
MW-9	5/28/2015	37.70	7.75	29.95	---	---	---	---	---	---	---	---	---	---
MW-9	6/1/2015	37.70	8.11	29.59	---	**59.2**	---	<0.080	---	3.4	---	---	---	---
MW-9 DUP	6/1/2015	37.70	8.11	29.59	---	**51.6**	---	<0.080	---	3.1	---	---	---	---

Abbreviations and Notes:
DTW = Depth to Water in feet
GWE = Groundwater Elevation
TOC = Top of Casing
ug/L = Micrograms per liter
ug-N/L = Micrograms of atomic Nitrogen per liter
NE = Not established
---- = Not analyzed
<*n* = Below laboratory detection limit of *n* ug/L
Arsenic, Cadmium, and chromium (total and dissolved) analyzed by method 200.8 prior to 2014 and by EPA Method 6020A after 2014; hexavalent chromium analyzed by method SM 3500-CR D Modifiec
Cyanide analyzed by method SM4500CN-I; N-Nitrate and N-Nitrite analyzed by EPA Method 353.2.
MTCA = Model Toxics Control Act Cleanup Regulations [WAC 173-340-720(2)(a)(1), as amended February 2001]
[1] The cleanup levels in the table are from the following standards: Federal Maximum Contaminant Levels (MCLs) from US Environmental Protection Agency, and MTCA Method C cleanup levels from Cle
*The DTW data from 2008 and 2012 was calculated by subtracting the given GWE from the calculated TOC data. DTW was not provided in the previous consultant's report.
All data prior to 2014 collected by Golder Associates, Inc. (Golder) and provided in Golder's *Phase II Environmental Site Assessment* report dated October 1, 2012.
Data values in **bold** indicate that the concentration exceeded the MTCA Method C cleanup level

a = Surrogate recovery is outside control limits

Table 2

Summary of Soil Analytical Data
Protective Coatings Facility
1215 2nd Avenue North and 1208 4th Avenue North
Kent, Washington

Report Referenced	Sample ID	Sample Date	Sample Depth	VOCs									Metals											Other
				Acetone	1,1-Dichloroethene	1,1-Dichloroethane	(cis) 1,2-Dichloroethene	2-Butanone	1,1,1-Trichloroethane	Trichloroethene	1,1,2-Trichloroethane	Vinyl Chloride	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Selenium	Silver	Mercury	Nickel	Zinc	Total Cyanide
MTCA Method C (industrial) Cleanup Levels				3.15E+06	175000	700000	7000	NE	7.00E+06	0.03*	2300	0.67	87.5	7.00E+05	7000	3500	1.05E+04	1.40E+05	NE	1.75E+04	1.75E+04	NE	NE	1.05E+06	2100
				(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Golder 2012	MW1-2-080208	8/2/2008	2-4	0.028	<0.0011	<0.0011	<0.0011	<0.0054	<0.0011	<0.0011	<0.0011	<0.0011	<5	--	0.2	<0.2	26.6	21	5	--	--	<0.05	27	37	--
Golder 2012	MW2-2-080208	8/2/2008	1.5-3	0.015	<0.0010	<0.0010	<0.0010	<0.0050	<0.0010	<0.0010	<0.0010	<0.0010	<6	--	0.2	<0.2	20.7	22.2	5	--	--	<0.05	19	37	--
Golder 2012	MW3-1-080208	8/2/2008	1-3	0.037	0.01	0.0026	0.001	<0.0047	0.18 B	2.5 B	0.0024	<0.0010	<6	--	0.2	<0.2	24.6	26.1	4	--	--	<0.05	23	41	--
Golder 2012	HA1-0.5-080208	8/2/2008	0.5	0.15	<0.0010	<0.0010	<0.0010	0.015	<0.0010	<0.0010	<0.0010	<0.0010	5	--	0.2	3.6	369	41.9	13	--	--	0.06	24	111	--
Golder 2012	CB-1-080208 A	8/2/2008	N/A	--	--	--	--	--	--	0.092	--	--	<20	--	0.6	617	722	397	52	--	--	0.07	286	959	11.5
CRA 2015	SO-062175-051415-JS-SB-1-5'	5/14/2015	5	<0.019	0.025	0.0062	<0.0038	<0.019	<0.0038	<0.0038	<0.0038	<0.0038	3.7	64.6	--	0.095	26.6	--	3.4	<0.55	<0.55	0.024	--	--	--
CRA 2015	SO-062175-051415-JS-SB-1-10'	5/14/2015	10	0.025	<0.0049	<0.0049	<0.0049	<0.024	<0.0049	<0.0049	<0.0049	<0.0049	4.2	62	--	<0.099	17.1	--	3.3	0.71	<0.62	0.055	--	--	--
CRA 2015	SO-062175-051415-JS-SB-1-20'	5/14/2015	20	0.030	<0.0046	<0.0046	<0.0046	<0.23	<0.0046	<0.0046	<0.0046	<0.0046	3.2	38.4	--	<0.095	10.4	--	2.2	<0.59	<0.59	<0.025	--	--	--
CRA 2015	SO-062175-051315-JS-SB-2-5'	5/13/2015	5	<0.022	<0.0045	<0.0045	<0.0045	<0.022	<0.0045	<0.0045	<0.0045	<0.0045	4.1	60.2	--	0.082	27.7	--	4.3	0.49	<0.46	0.039	--	--	--
CRA 2015	SO-062175-051315-JS-SB-2-10'	5/13/2015	10	0.023	<0.0044	<0.0044	0.0056	<0.022	<0.0044	<0.0044	<0.0044	<0.0044	3.3	45.8	--	<0.094	13.2	--	2.4	<0.59	<0.59	0.050	--	--	--
CRA 2015	SO-062175-051315-JS-SB-2-14'	5/13/2015	14	0.061	<0.0056	<0.0056	<0.0056	<0.028	<0.0056	<0.0056	<0.0056	<0.0056	5.1	60.3	--	<0.10	15.3	--	3.7	0.81	<0.64	0.091	--	--	--
CRA 2015	SO-062175-051215-JS-SB-3-3'	5/12/2015	3	<0.018	<0.0036	<0.0036	<0.0036	<0.018	<0.0036	<0.0036	<0.0036	<0.0036	2.5	131	--	<0.081	24.7	--	3.0	<0.51	<0.51	<0.021	--	--	--
CRA 2015	SO-062175-051315-JS-SB-3-5'	5/13/2015	5	0.054	<0.0043	<0.0043	<0.0043	<0.021	<0.0043	<0.0043	<0.0043	<0.0043	4.8	89.4	--	0.12	39.9	--	4.3	<0.52	<0.52	0.028	--	--	--
CRA 2015	SO-062175-051315-JS-SB-3-10'	5/13/2015	10	0.054	<0.0048	<0.0048	<0.0048	<0.024	<0.0048	<0.0048	<0.0048	<0.0048	4.9	54.5	--	<0.073	14.2	--	2.7	0.57	<0.45	<0.022	--	--	--
CRA 2015	SO-062175-051315-JS-SB-3-14'	5/13/2015	14	0.064	<0.0054	<0.0054	<0.0054	<0.027	<0.0054	<0.0054	<0.0054	<0.0054	6.8	88.8	--	0.11	20.9	--	5.2	0.97	<0.65	0.048	--	--	--
CRA 2015	SO-062175-051215-JS-SB-4-3'	5/12/2015	3	0.064	0.036	0.011	0.0070	<0.026	0.23	1.2	<0.0052	<0.0052	3.0	71.9	--	0.10	25.1	--	4.2	0.52	<0.45	0.023	--	--	--
CRA 2015	SO-062175-051315-JS-SB-4-5'	5/13/2015	5	<0.018	0.95	0.47	0.0068	<0.018	1.6	0.034	0.0098	<0.0037	3.8	62.0	--	0.11	30.5	--	3.6	0.56	<0.55	0.035	--	--	--
CRA 2015	SO-062175-051315-JS-SB-4-10'	5/13/2015	10	0.039	0.036	0.11	0.52	<0.023	<0.0046	<0.0046	<0.0046	<0.0046	3.7	52.3	--	<0.087	12.4	--	2.4	<0.54	<0.54	0.035	--	--	--
CRA 2015	SO-062175-051315-JS-SB-4-15'	5/13/2015	15	0.054	<0.0060	<0.0060	0.063	<0.030	<0.0060	<0.0060	<0.060	<0.0060	9.9	96.2	--	0.10	24.4	--	5.4	0.99	<0.61	0.059	--	--	--
CRA 2015	SO-062175-051215-JS-SB-5-3'	5/12/2015	3	0.83	0.0047	<0.0041	<0.0041	<0.021	0.014	0.035	<0.0041	<0.0041	2.8	63.2	--	0.79	24.5	--	4.9	<0.49	<0.49	0.027	--	--	--
CRA 2015	SO-062175-051315-JS-SB-5-5'	5/13/2015	5	0.6	0.038	0.017	0.012	<0.022	0.063	0.053	<0.0044	<0.0044	3.2	82.0	--	0.35	23.7	--	4.4	<0.52	<0.52	0.028	--	--	--
CRA 2015	SO-062175-051315-JS-SB-5-10'	5/13/2015	10	0.041	<0.0050	<0.0050	0.012	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	4.3	62.7	--	<0.074	16.3	--	2.9	0.56	<0.46	<0.027	--	--	--
CRA 2015	SO-062175-051315-JS-SB-5-15'	5/13/2015	15	0.037	<0.0057	<0.0057	0.0071	<0.029	<0.0057	<0.0057	<0.0057	<0.0057	8.5	89.3	--	0.10	22.7	--	5.0	1.1	<0.51	0.059	--	--	--
CRA 2015	SO-062175-051215-JS-SB-6-0.5'	5/12/2015	0.5	0.028	<0.0044	<0.0044	<0.0044	<0.022	<0.0044	<0.0044	<0.0044	<0.0044	3.4	62.4	--	3.0	93.9	--	4.1	<0.44	<0.44	0.047	--	--	--
CRA 2015	SO-062175-051315-JS-SB-6-5'	5/13/2015	5	0.042	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	4.6	78.5	--	0.13	37.8	--	4.4	0.69	<0.53	0.034	--	--	--
CRA 2015	SO-062175-051315-JS-SB-6-10'	5/13/2015	10	0.068	<0.0058	<0.0058	0.011	<0.029	<0.0058	<0.0058	<0.0058	<0.0058	4.4	58.8	--	<0.080	15.3	--	3.1	0.56	<0.50	0.043	--	--	--
CRA 2015	SO-062175-051215-JS-SB-6-13'	5/12/2015	13	0.11	<0.0060	<0.0060	0.055	<0.030	<0.0060	<0.0060	<0.0060	<0.0060	9.9	82.7	--	0.24	24.7	--	5.2	0.97	<0.56	0.042	--	--	--
CRA 2015	SO-062175-051215-JS-SB-7-2'	5/12/2015	2	0.037	<0.0039	<0.0039	<0.0039	<0.019	<0.0039	<0.0039	<0.0039	<0.0039	3.2	62.8	--	0.089	22.9	--	2.9	<0.56	<0.56	0.027	--	--	--
CRA 2015	SO-062175-051415-JS-SB-7-5'	5/14/2015	5	0.019	<0.0036	<0.0036	<0.0036	<0.018	<0.0036	<0.0036	<0.0036	<0.0036	4.9	69.6	--	0.10	34.0	--	3.8	0.69	<0.51	0.022	--	--	--
CRA 2015	SO-062175-051415-JS-SB-7-13'	5/14/2015	13	0.044	<0.0053	<0.0053	<0.0053	<0.026	<0.0053	<0.0053	<0.0053	<0.0053	6.9	76.4	--	0.12	22.8	--	4.6	0.88	<0.69	0.065	--	--	--
CRA 2015	SO-062175-051415-JS-SB-7-20'	5/14/2015	20	0.023	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	2.1	39.6	--	<0.087	11.2	--	1.8	<0.55	<0.55	<0.022	--	--	--
CRA 2015	SO-062175-051415-JS-MW-9-5'	5/14/2015	5	0.072	<0.0040	<0.0040	<0.0040	<0.020	0.0051	<0.0040	<0.0040	<0.0040	4.4	462	--	2.1	132	--	9.6	0.59	<0.54	0.070	--	--	--
CRA 2015	SO-062175-051415-JS-MW-9-10'	5/14/2015	10	0.061	<0.0058	<0.0058	<0.0058	<0.029	<0.0058	<0.0058	<0.0058	<0.0058	10.6	88.8	--	0.29	23.7	--	6.1	1.2	<0.62	0.076	--	--	--
CRA 2015	SO-062175-051415-JS-MW-9-15'	5/14/2015	15	<0.024	<0.0048	<0.0048	<0.0048	<0.024	<0.48	<0.0048	<0.0048	<0.0048	2.4	46.3	--	<0.11	11.9	--	2.0	<0.67	<0.67	0.029	--	--	--
GHD 2016	***SO-062175-031516-SB-8-5'	3/15/2016	5	<1.15	4.10	3.90	0.364	<0.287	15.40	<0.0574	0.431	<0.0574	3.9	65.4	--	0.12	31.2	--	3.8	<0.55	<0.55	0.026	--	--	--
GHD 2016	***SO-062175-031516-SB-8-10'	3/15/2016	10	<1.29	<0.0645	0.161	0.922	<0.323	<0.0645	<0.0645	<0.0645	<0.0645	2.9	40.7	--	<0.076	10.6	--	2.1	<0.48	<0.48	<0.025	--	--	--
GHD 2016	SO-062175-031516-SB-8-15'	3/15/2016	15	<1.53	<0.0763	<0.0763	0.0927	<0.381	<0.0763	<0.0763	<0.0763	<0.0763	8.2	114	--	0.13	22.0	--	6.2	<0.72	<0.72	0.068	--	--	--
GHD 2016	***SO-062175-031516-SB-9-5'	3/15/2016	5	<1.120	0.363	1.520	0.434	<0.280	<0.0559	<0.0559	<0.0559	<0.0559	5.0	69.9	--	0.13	35.2	--	4.0	<0.45	<0.45	0.040	--	--	--
GHD 2016	***SO-062175-031516-SB-9-10'	3/15/2016	10	<1.330	<0.0667	<0.0667	0.241	<0.333	<0.0667	<0.0667	<0.0667	<0.0667	4.1	54.9	--	<0.096	13.3	--	2.8	<0.60	<0.60	0.026	--	--	--
GHD 2016	SO-062175-031516-SB-9-15'	3/15/2016	15	<1.420	<0.0710	<0.0710	0.136	<0.355	<0.0710	<0.0710	<0.0710	<0.0710	7.6	95.3	--	<0.10	20.1	--	5.5	<0.65	<0.65	0.056	--	--	--
GHD 2016	***SO-062175-031516-SB-10-5'	3/15/2016	5	<1.120	<0.0562	<0.0562	0.183	<0.281	<0.0562	22.50	<0.0562	<0.0562	3.7	56.5	--	0.10	26.8	--	3.6	<0.50	<0.50	<0.020	--	--	--
GHD 2016	***SO-062175-031516-SB-10-10'	3/15/2016	10	<1.370	<0.0685	<0.0685	0.247	<0.342	<0.0685	0.193	<0.0685	<0.0685	3.4	44.3	--	<0.088	17.4	--	2.4	<0.55	<0.55	<0.026	--	--	--
GHD 2016	SO-062175-031516-SB-10-15'	3/15/2016	15	<1.430	<0.0715	<0.0715	<0.0715	<0.357	<0.0715	<0.0715	<0.0715	<0.0715	6.2	76.4	--	<0.083	16.8	--	4.8	<0.52	<0.52	<0.025	--	--	--
GHD 2016	SO-062175-031516-SB-11-5'	3/15/2016	5	<1.120	<0.0561	<0.0561	<0.0561	<0.281	<0.0561	<0.0561	<0.0561	<0.0561	3.2	68.4	--	0.10	33.8	--	6.2	<0.47	<0.47	<0.020	--	--	--
GHD 2016	SO-062175-031516-SB-11-10'	3/15/2016	10	<1.400	<0.698	<0.698	<0.698	<0.349	<0.698	<0.698	<0.698	<0.698	3.6	37.2	--	<0.10	11.4	--	2.3	<0.65	<0.65	<0.027	--	--	--
GHD 2016	SO-062175-031516-SB-11-15'	3/15/2016	15	<1.490	<0.0743	<0.0743	<0.0743	<0.372	<0.0743	<0.0743	<0.0743	<0.0743	10.4	119	--	<0.11	24.2	--	7.1	<0.68	<0.68	0.054	--	--	--
GHD 2016	SO-062175-031516-SB-12-5'	3/15/2016	5	<1.150	<0.0574	<0.0574	<0.0574	<0.287	<0.0574	<0.0574	<0.0574	<0.0574	4.6	79.4	--	0.17	38.9	--	5.9	<0.52	<0.52	<0.021	--	--	--
GHD 2016	SO-062175-031516-SB-12-10'	3/15/2016	10	<1.290	<0.0644	<0.0644	<0.0644	<0.322	<0.0644	<0.0644	<0.0644	<0.0644	4.1	44.3	--	<0.073	14.8	--	2.5	<0.46	<0.46	<0.022	--	--	--
GHD 2016	SO-062175-031516-SB-12-15'	3/15/2016	15	<1.530	<0.0764	<0.0764	<0.0764	<0.382	<0.0764	<0.0764	<0.0764	<0.0764	8.6	107	--	0.12	21.7	--	6.4	<0.63	<0.63	0.065	--	--	--
GHD 2016	SO-062175-031516-SB-13-5'	3/15/2016	5	<1.120	<0.0561	<0.0561	<0.0561	<0.281	<0.0561	<0.0561	<0.0561	<0.0561	2.2	35.3	--	0.094	17.2	--	4.0	<0.45	<0.045	0.034	--	--	--
GHD 2016	SO-062175-031516-SB-13-10'	3/15/2016	10	<1.320	<0.0662	<0.0662	<0.0662	<0.331	<0.0662	<0.0662	<0.0662	<0.0662	6.8	65.4	--	0.20	15.1	--	11.5	<0.54	<0.54	0.054	--	--	--
GHD 2016	SO-062175-031516-SB-13-15'	3/15/2016	15	<1.460	<0.0732	<0.0732	<0.0732	<0.366	<0.0732	<0.0732	<0.0732	<0.0293	8.2	104	--	0.11	21.0	--	6.0	<0.60	<0.60	0.075	--	--	--

Notes
MTCA = Model Toxics Control Act
VOCs = Volatile organic compounds analyzed by EPA Method 8260B; see Analytical Resources Incorporated August 27, 2008 analytical report for full list of VOCs analyzed.
Metals analyzed by EPA Method 6010B, except for mercury which was analyzed by EPA Method 7471A; see Analytical Resources Incorporated August 27, 2008 analytical report for full list of metals analyzed.
Total cyanide analyzed by method SM4500CN-1
mg/kg = milligrams per kilogram
-- = Not analyzed
<x = Not detected above laboratory reporting limit x.
Bolded concentrations indicate the concentration value exceeded the Washington State Department of Ecology Model Toxics Control Act Method A cleanup levels.
NE = Not Established
N/A = Not Applicable or not provided
* Based on protection of drinking water for industrial land use
**MTCA Method A Cleanup Level for Industrial Properties
***Additional concentrations exceeded laboratory detection limits. For complete results, see analytical laboratory report.
A = CB-1 is a stormwater catch basin sediment sample
B = Concentration based on reanalysis of initial soil sample due to required dilution
All data prior to 2014 was obtained from Golder Associates *Phase II Environmental Site Assessment* report dated October 1, 2012.

Summary of Soil Analytical Data
Protective Coatings Facility
1215 2nd Avenue North and 1208 4th Avenue North
Kent, Washington

Report Referenced	Sample ID	Sample Date	Sample Depth	VOCs									Metals												Other
				Acetone	1,1-Dichloroethene	1,1-Dichloroethane	(cis) 1,2-Dichloroethene	2-Butanone	1,1,1-Trichloroethane	Trichloroethene	1,1,2-Trichloroethane	Vinyl Chloride	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Selenium	Silver	Mercury	Nickel	Zinc	Total Cyanide
MTCA Method A and Method B Cleanup Levels				*72000*	*4000*	*16000*	*160*	*NE*	*2*	*0.03*	*320*		*20*		*160*	*2*	*2000**	*3200*	*250*			2	*1600*	24000	48
MTCA Method C (industrial) Cleanup Levels				3.15E+06	175000	700000	700	NE	7.00E+06	1750	14000	87.5	1050	7.00E+05	7000	3500	5.25E+06*	140000	1000**	1.75E+04	1.75E+04	2**	70000	1.05E+06	2100
				(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Golder 2012	MW1-2-080208	8/2/2008	2-4	0.028	<0.0011	<0.0011	<0.0011	<0.0054	<0.0011	<0.0011	<0.0011	<0.0011	<5	--	0.2	<0.2	26.6	21	5	--	--	<0.05	27	37	--
Golder 2012	MW2-2-080208	8/2/2008	1.5-3	0.016	<0.0010	<0.0010	<0.0010	<0.0050	<0.0010	<0.0010	<0.0010	<0.0010	<6	--	0.2	<0.2	20.7	22.2	5	--	--	<0.05	19	37	--
Golder 2012	MW3-1-080208	8/2/2008	1-3	0.037	0.01	0.0026	0.001	<0.0047	0.18 B	2.5 B	0.0024	<0.0010	<6	--	0.2	<0.2	24.6	26.1	4	--	--	<0.05	23	41	--
Golder 2012	HA1-0.5-080208	8/2/2008	0.5	0.15	<0.0010	<0.0010	<0.0010	0.015	<0.0010	<0.0010	<0.0010	<0.0010	5	--	0.2	3.6	369	41.9	13	--	--	0.06	24	111	--
Golder 2012	CB-1-080208 A	8/2/2008	N/A	--	--	--	--	--	--	0.092	--	--	<20	--	0.6	617	722	397	52	--	--	0.07	286	959	11.5
CRA 2015	SO-062175-051415-JS-SB-1-5'	5/14/2015	5	<0.019	0.025	0.0062	<0.0038	<0.019	<0.0038	<0.0038	<0.0038	<0.0038	3.7	64.6	--	0.095	26.6	--	3.4	<0.55	<0.55	0.024	--	--	--
CRA 2015	SO-062175-051415-JS-SB-1-10'	5/14/2015	10	0.025	<0.0049	<0.0049	<0.0049	<0.024	<0.0049	<0.0049	<0.0049	<0.0049	4.2	62	--	<0.099	17.1	--	3.3	0.71	<0.62	0.055	--	--	--
CRA 2015	SO-062175-051415-JS-SB-1-20'	5/14/2015	20	0.030	<0.0046	<0.0046	<0.0046	<0.23	<0.0046	<0.0046	<0.0046	<0.0046	3.2	38.4	--	<0.095	10.4	--	2.2	<0.59	<0.59	<0.025	--	--	--
CRA 2015	SO-062175-051315-JS-SB-2-5'	5/13/2015	5	<0.022	<0.0045	<0.0045	<0.0045	<0.022	<0.0045	<0.0045	<0.0045	<0.0045	4.1	60.2	--	0.082	27.7	--	4.3	0.49	<0.46	0.039	--	--	--
CRA 2015	SO-062175-051315-JS-SB-2-10'	5/13/2015	10	0.023	<0.0044	<0.0044	0.0056	<0.022	<0.0044	<0.0044	<0.0044	<0.0044	3.3	45.8	--	<0.094	13.2	--	2.4	<0.59	<0.59	0.050	--	--	--
CRA 2015	SO-062175-051315-JS-SB-2-14'	5/13/2015	14	0.061	<0.0056	<0.0056	<0.0056	<0.028	<0.0056	<0.0056	<0.0056	<0.0056	5.1	60.3	--	<0.10	15.3	--	3.7	0.81	<0.64	0.091	--	--	--
CRA 2015	SO-062175-051215-JS-SB-3-3'	5/12/2015	3	<0.018	<0.0036	<0.0036	<0.0036	<0.018	<0.0036	<0.0036	<0.0036	<0.0036	2.5	131	--	<0.081	24.7	--	3.0	<0.51	<0.51	<0.021	--	--	--
CRA 2015	SO-062175-051315-JS-SB-3-5'	5/13/2015	5	0.054	<0.0043	<0.0043	<0.0043	<0.021	<0.0043	<0.0043	<0.0043	<0.0043	4.8	89.4	--	0.12	39.9	--	4.3	<0.52	<0.52	0.028	--	--	--
CRA 2015	SO-062175-051315-JS-SB-3-10'	5/13/2015	10	0.054	<0.0048	<0.0048	<0.0048	<0.024	<0.0048	<0.0048	<0.0048	<0.0048	4.9	54.5	--	<0.073	14.2	--	2.7	0.57	<0.45	<0.022	--	--	--
CRA 2015	SO-062175-051315-JS-SB-3-14'	5/13/2015	14	0.064	<0.0054	<0.0054	<0.0054	<0.027	<0.0054	<0.0054	<0.0054	<0.0054	6.8	88.8	--	0.11	20.9	--	5.2	0.97	<0.65	0.048	--	--	--
CRA 2015	SO-062175-051215-JS-SB-4-3'	5/12/2015	3	0.064	0.036	0.011	0.0070	<0.026	0.23	1.2	<0.0052	<0.0052	3.0	71.9	--	0.10	25.1	--	4.2	0.52	<0.45	0.023	--	--	--
CRA 2015	SO-062175-051315-JS-SB-4-5'	5/13/2015	5	<0.018	0.95	0.47	0.0068	<0.018	1.6	0.034	0.0098	<0.0037	3.8	62.0	--	0.11	30.5	--	3.6	0.56	<0.55	0.035	--	--	--
CRA 2015	SO-062175-051315-JS-SB-4-10'	5/13/2015	10	0.039	0.036	0.11	0.52	<0.023	<0.0046	<0.0046	<0.0046	<0.0046	3.7	52.3	--	<0.087	12.4	--	2.4	<0.54	<0.54	0.035	--	--	--
CRA 2015	SO-062175-051315-JS-SB-4-15'	5/13/2015	15	0.054	<0.0060	<0.0060	0.063	<0.030	<0.0060	<0.0060	<0.060	<0.0060	9.9	96.2	--	0.10	24.4	--	5.4	0.99	<0.61	0.059	--	--	--
CRA 2015	SO-062175-051215-JS-SB-5-3'	5/12/2015	3	0.83	0.0047	<0.0041	<0.0041	<0.021	0.014	0.035	<0.0041	<0.0041	2.8	63.2	--	0.79	24.5	--	4.9	<0.49	<0.49	0.027	--	--	--
CRA 2015	SO-062175-051315-JS-SB-5-5'	5/13/2015	5	0.6	0.038	0.017	0.012	<0.022	0.063	0.053	<0.0044	<0.0044	3.2	82.0	--	0.35	23.7	--	4.4	<0.52	<0.52	0.028	--	--	--
CRA 2015	SO-062175-051315-JS-SB-5-10'	5/13/2015	10	0.041	<0.0050	<0.0050	0.012	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	4.3	62.7	--	<0.074	16.3	--	2.9	0.56	<0.46	<0.027	--	--	--
CRA 2015	SO-062175-051315-JS-SB-5-15'	5/13/2015	15	0.037	<0.0057	<0.0057	0.0071	<0.029	<0.0057	<0.0057	<0.0057	<0.0057	8.5	89.3	--	0.10	22.7	--	5.0	1.1	<0.51	0.069	--	--	--
CRA 2015	SO-062175-051215-JS-SB-6-0.5'	5/12/2015	0.5	0.028	<0.0044	<0.0044	<0.0044	<0.022	<0.0044	<0.0044	<0.0044	<0.0044	3.4	62.4	--	3.0	93.9	--	4.1	<0.44	<0.44	0.047	--	--	--
CRA 2015	SO-062175-051315-JS-SB-6-5'	5/13/2015	5	0.042	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	4.6	78.5	--	0.13	37.8	--	4.4	0.69	<0.53	0.034	--	--	--
CRA 2015	SO-062175-051315-JS-SB-6-10'	5/13/2015	10	0.068	<0.0058	<0.0058	0.011	<0.029	<0.0058	<0.0058	<0.0058	<0.0058	4.4	58.8	--	<0.080	15.3	--	3.1	0.56	<0.50	0.043	--	--	--
CRA 2015	SO-062175-051215-JS-SB-6-13'	5/12/2015	13	0.11	<0.0060	<0.0060	0.055	<0.030	<0.0060	<0.0060	<0.0060	<0.0060	9.9	82.7	--	0.24	24.7	--	5.2	0.97	<0.56	0.042	--	--	--
CRA 2015	SO-062175-051215-JS-SB-7-2'	5/12/2015	2	0.037	<0.0039	<0.0039	<0.0039	<0.019	<0.0039	<0.0039	<0.0039	<0.0039	3.2	62.8	--	0.089	22.9	--	2.9	<0.56	<0.56	0.027	--	--	--
CRA 2015	SO-062175-051415-JS-SB-7-5'	5/14/2015	5	0.019	<0.0036	<0.0036	<0.0036	<0.018	<0.0036	<0.0036	<0.0036	<0.0036	4.9	69.6	--	0.10	34.0	--	3.8	0.69	<0.51	0.022	--	--	--
CRA 2015	SO-062175-051415-JS-SB-7-13'	5/14/2015	13	0.044	<0.0053	<0.0053	<0.0053	<0.026	<0.0053	<0.0053	<0.0053	<0.0053	6.9	76.4	--	0.12	22.8	--	4.6	0.88	<0.69	0.065	--	--	--
CRA 2015	SO-062175-051415-JS-SB-7-20'	5/14/2015	20	0.023	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	2.1	39.6	--	<0.087	11.2	--	1.8	<0.55	<0.55	<0.022	--	--	--
CRA 2015	SO-062175-051415-JS-MW-9-5'	5/14/2015	5	0.072	<0.0040	<0.0040	<0.0040	<0.020	0.0061	<0.0040	<0.0040	<0.0040	4.4	462	--	2.1	132	--	9.6	0.59	<0.54	0.070	--	--	--
CRA 2015	SO-062175-051415-JS-MW-9-10'	5/14/2015	10	0.061	<0.0058	<0.0058	<0.0058	<0.029	<0.0058	<0.0058	<0.0058	<0.0058	10.6	88.8	--	0.29	23.7	--	6.1	1.2	<0.62	0.076	--	--	--
CRA 2015	SO-062175-051415-JS-MW-9-15'	5/14/2015	15	<0.024	<0.0048	<0.0048	<0.0048	<0.024	<0.48	<0.0048	<0.0048	<0.0048	2.4	46.3	--	<0.11	11.9	--	2.0	<0.67	<0.67	0.029	--	--	--
GHD 2016	***SO-062175-031516-SB-8-5'	3/15/2016	5	<1.15	4.10	3.90	0.364	<0.287	15.40	<0.0574	0.431	<0.0574	3.9	65.4	--	0.12	31.2	--	3.8	<0.55	<0.55	0.026	--	--	--
GHD 2016	***SO-062175-031516-SB-8-10'	3/15/2016	10	<1.29	<0.0645	0.161	0.922	<0.323	<0.0645	<0.0645	<0.0645	<0.0645	2.9	40.7	--	<0.076	10.6	--	2.1	<0.48	<0.48	<0.025	--	--	--
GHD 2016	SO-062175-031516-SB-8-15'	3/15/2016	15	<1.53	<0.0763	<0.0763	0.0927	<0.381	<0.0763	<0.0763	<0.0763	<0.0763	8.2	114	--	0.13	22.0	--	6.2	<0.72	<0.72	0.068	--	--	--
GHD 2016	***SO-062175-031516-SB-9-5'	3/15/2016	5	<1.120	0.363	1.520	0.434	<0.280	<0.0559	<0.0559	<0.0559	<0.0559	5.0	69.9	--	0.13	35.2	--	4.0	<0.45	<0.45	0.040	--	--	--
GHD 2016	***SO-062175-031516-SB-9-10'	3/15/2016	10	<1.330	<0.0667	<0.0667	0.241	<0.333	<0.0667	<0.0667	<0.0667	<0.0667	4.1	54.9	--	<0.096	13.3	--	2.8	<0.60	<0.60	0.026	--	--	--
GHD 2016	SO-062175-031516-SB-9-15'	3/15/2016	15	<1.420	<0.0710	<0.0710	0.136	<0.355	<0.0710	<0.0710	<0.0710	<0.0710	7.6	95.3	--	<0.10	20.1	--	5.5	<0.65	<0.65	0.056	--	--	--
GHD 2016	***SO-062175-031516-SB-10-5'	3/15/2016	5	<1.120	<0.0562	<0.0562	0.183	<0.281	<0.0562	22.50	<0.0562	<0.0562	3.7	56.5	--	0.10	26.8	--	3.6	<0.50	<0.50	<0.020	--	--	--
GHD 2016	***SO-062175-031516-SB-10-10'	3/15/2016	10	<1.370	<0.0685	<0.0685	0.247	<0.342	<0.0685	0.193	<0.0685	<0.0685	3.4	44.3	--	<0.088	17.4	--	2.4	<0.55	<0.55	<0.026	--	--	--
GHD 2016	SO-062175-031516-SB-10-15'	3/15/2016	15	<1.430	<0.0715	<0.0715	<0.0715	<0.357	<0.0715	<0.0715	<0.0715	<0.0715	6.2	76.4	--	<0.083	16.8	--	4.8	<0.52	<0.52	<0.025	--	--	--
GHD 2016	SO-062175-031516-SB-11-5'	3/15/2016	5	<1.120	<0.0561	<0.0561	<0.0561	<0.281	<0.0561	<0.0561	<0.0561	<0.0561	3.2	68.4	--	0.10	33.8	--	6.2	<0.47	<0.47	<0.020	--	--	--
GHD 2016	SO-062175-031516-SB-11-10'	3/15/2016	10	<1.400	<0.698	<0.698	<0.698	<0.349	<0.698	<0.698	<0.698	<0.698	3.6	37.2	--	<0.10	11.4	--	2.3	<0.65	<0.65	<0.027	--	--	--
GHD 2016	SO-062175-031516-SB-11-15'	3/15/2016	15	<1.490	<0.0743	<0.0743	<0.0743	<0.372	<0.0743	<0.0743	<0.0743	<0.0743	10.4	119	--	<0.11	24.2	--	7.1	<0.68	<0.68	0.054	--	--	--
GHD 2016	SO-062175-031516-SB-12-5'	3/15/2016	5	<1.150	<0.0574	<0.0574	<0.0574	<0.287	<0.0574	<0.0574	<0.0574	<0.0574	4.6	79.4	--	0.17	36.9	--	5.9	<0.52	<0.52	<0.021	--	--	--
GHD 2016	SO-062175-031516-SB-12-10'	3/15/2016	10	<1.290	<0.0644	<0.0644	<0.0644	<0.322	<0.0644	<0.0644	<0.0644	<0.0644	4.1	44.3	--	<0.073	14.8	--	2.5	<0.46	<0.46	<0.022	--	--	--
GHD 2016	SO-062175-031516-SB-12-15'	3/15/2016	15	<1.530	<0.0764	<0.0764	<0.0764	<0.382	<0.0764	<0.0764	<0.0764	<0.0764	8.6	107	--	0.12	21.7	--	6.4	<0.63	<0.63	0.065	--	--	--
GHD 2016	SO-062175-031516-SB-13-5'	3/15/2016	5	<1.120	<0.0561	<0.0561	<0.0561	<0.281	<0.0561	<0.0561	<0.0561	<0.0561	2.2	35.3	--	0.094	17.2	--	4.0	<0.45	<0.045	0.034	--	--	--
GHD 2016	SO-062175-031516-SB-13-10'	3/15/2016	10	<1.320	<0.0662	<0.0662	<0.0662	<0.331	<0.0662	<0.0662	<0.0662	<0.0662	6.8	65.4	--	0.20	15.1	--	11.5	<0.54	<0.54	0.054	--	--	--
GHD 2016	SO-062175-031516-SB-13-15'	3/15/2016	15	<1.460	<0.0732	<0.0732	<0.0732	<0.366	<0.0732	<0.0732	<0.0732	<0.0293	8.2	104	--	0.11	21.0	--	6.0	<0.60	<0.60	0.075	--	--	--

Notes
MTCA = Model Toxics Control Act
VOCs = Volatile organic compounds analyzed by EPA Method 8260B; see Analytical Resources Incorporated August 27, 2008 analytical report for full list of VOCs analyzed.
Metals analyzed by EPA Method 6010B, except for mercury which was analyzed by EPA Method 7471A; see Analytical Resources Incorporated August 27, 2008 analytical report for full list of metals analyzed.
Total cyanide analyzed by method SM4500CN-1
mg/kg = milligrams per kilogram
-- = Not analyzed
<x = Not detected above laboratory reporting limit x.
Bolded concentrations indicate the concentration value exceeded the Washington State Department of Ecology Model Toxics Control Act Method A cleanup levels.
NE = Not Established
N/A = Not Applicable or not provided
* Chromium III value
**MTCA Method A Cleanup Level for Industrial Properties
***Additional concentrations exceeded laboratory detection limits. For complete results, see analytical laboratory report.
A = CB-1 is a stormwater catch basin sediment sample
B = Concentration based on reanalysis of initial soil sample due to required dilution
All data prior to 2014 was obtained from Golder Associates *Phase II Environmental Site Assessment* report dated October 1, 2012.

Table 3

Summary of Soil Gas Analytical Data
Protective Coatings Facility
1215 2nd Avenue North and 1208 4th Avenue North
Kent, Washington

Report Referenced	Soil Gas Probe ID	Sample ID	Sample Date	Sample Type	VOCs																		
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	1,1,1-Trichloroethane	1,1-Dichloroethane	1,2,4-Trimethylbenzene	1,2-Dibromoethane (EDB)	2-Propanol	Bromomethane	Chloroform	Chloromethane	(cis) 1,2-Dichloroethene	Freon 11	Freon 12	Methylene Chloride	Tetrachloroethene (PCE)	Trichloroethene (TCE)	Vinyl Chloride
MTCA Method C (industrial) - Soil Gas Screening Levels[1]					107	167000	33300	3330	3330	167000	521	233	1.39	--	167	36.2	3000	NE	--	--	83300	3210	210	93.3
MTCA Method C (industrial) - Indoor Air Cleanup Levels[1]					30	5000	1000	100	100	5000	15.6	7	9	--	5	98	90	NE	--	--	600	96.2	6.3	100
					µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Golder 2012	SG-2	SG-2-12"	7/10/2012	Soil Gas	--	17	4.6	17	6.7	110	7.2	--	--	87	14 J	--	--	1.7	--	--	--	<2.1	1,200	<0.4
Golder 2012	SG-3	SG-3-12"	6/28/2012	Soil Gas	<0.25	1.7	0.28	1.1	0.42	--	--	--	--	2.0	--	--	--	<0.12	2.1	2.3	--	0.29	7.8	<0.04
Golder 2012	SG-33	Duplicate	6/28/2012	Soil Gas	0.24	1.6	0.29	1.0	0.40	--	--	--	--	1.8 J	--	--	--	<0.12	2.3	2.3	--	0.28	7.5	<0.04
Golder 2012	SG-4	SG-4-9"	6/28/2012	Soil Gas	19	13	--	--	--	--	--	--	--	54	--	--	--	38	--	--	--	99	4,600	<8.5
Golder 2012	A1*	Ambient Outdoor Air	6/28/2012	Ambient 4 hr Exterior	0.94	38	2	10	3.6	--	--	--	--	84	--	--	0.81	<0.26	--	1.7	--	<0.45	140	<0.08
Golder 2012	Amb-1*	Ambient Outdoor Air	7/10/2012	Ambient 0.5 hr Exterior	--	71	3.2	11	3.8	--	--	--	--	830	--	--	--	<1.2	--	<7.2	--	<2.0	26	<0.37
Golder 2012	AA-INT-1	Interior-1	8/18/2012	Ambient 8 hr Non-Operational Evening	0.56	21	1.1	4.0	1.3	--	--	0.84	--	94	--	--	0.85	<0.12	1.1	2.2	--	<0.21	22	<0.041
Golder 2012	AA-INT-2	Interior-2	8/18/2012	Ambient 8 hr Non-Operational Evening	0.56	26	1.4	5.0	1.6	--	--	1.0	--	120	--	--	0.9	<0.13	1.2	2.3	--	<0.22	23	<0.04
Golder 2012	AA-INT-3	Interior-3	8/18/2012	Ambient 8 hr Non-Operational Evening	0.83	37	2.1	7.9	2.6	--	--	--	--	210	--	--	1.3	<0.12	--	2.8	--	<0.21	42	<0.1
Golder 2012	AA-EXT-1	Exterior-1	8/18/2012	Ambient 8 hr Non-Operational Evening	0.51	3.4	0.36	1.1	0.39	--	--	--	--		--	--	1.2	<0.32	1.1	2.3	--	<0.54	0.23	<0.04
Golder 2012	AA-INT-1	Interior-1	9/6/2012	Ambient 8 hr Operational Daytime	0.48	9.2	0.67	2.2	0.97	--	--	--	<1.3	76 J	--	--	0.98	<0.13	1.0	2.2	7.3	<0.22	5	<0.042
Golder 2012	AA-INT-2	Interior-2	9/6/2012	Ambient 8 hr Operational Daytime	0.44	8.7	0.66	2.4	1.1	--	--	0.92	<1.3	76 J	--	--	0.98	<0.13	1.1	2.2	6.8	<0.22	4.8	<0.042
Golder 2012	AA-INT-3	Interior-3	9/6/2012	Ambient 8 hr Operational Daytime	0.46	9.7	0.77	2.8	1.3	--	--	1	<1.2	83 J	--	--	1.1	<0.13	1.1	2.3	8.7	<0.22	5.7	<0.041
Golder 2012	AA-EXT-1	Exterior-1	9/6/2012	Ambient 8 hr Operational Daytime	0.43	5.3	0.43	1.4	0.49	--	--	--	<1.3	14 J	--	--	0.96	<0.13	1.1	2.2	6	0.23	4.9	<0.042
Golder 2012	AA-EXT-2	Exterior-2	9/6/2012	Ambient 8 hr Operational Daytime	0.5	7.1	0.48	1.6	0.58	--	--	--	<1.2	4.5 J	--	0.94	1.0	<0.14	1.1	2.2	9.8	<0.23	13	<0.044

Summary of Soil Gas Analytical Data
Protective Coatings Facility
1215 2nd Avenue North and 1208 4th Avenue North
Kent, Washington

Report Referenced	Soil Gas Probe ID	Sample ID	Sample Date	Sample Type	VOCs																			
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	1,1,1-Trichloroethane	1,1-Dichloroethane	1,2,4-Trimethylbenzene	1,2-Dibromoethane (EDB)	2-Propanol	Bromomethane	Chloroform	Chloromethane	(cis) 1,2-Dichloroethene	Freon 11	Freon 12	Methylene Chloride	Tetrachloroethene (PCE)	Trichloroethene (TCE)	Vinyl Chloride
MTCA Method C (industrial) - Soil Gas Screening Levels[1]					107	167000	33300	3330	3330	167000	521	233	1.39	--	167	36.2	3000	NE	--	--	83300	3210	210	93.3
MTCA Method C (industrial) - Indoor Air Cleanup Levels[1]					30	5000	1000	100	100	5000	15.6	7	9	--	5	98	90	NE	--	--	600	96.2	6.3	100
					µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3

Notes
MTCA = Model Toxics Control Act
[1] State of Washington Department of Ecology, *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action,* October 2009 [DRAFT]
VOCs = Volatile organic compounds analyzed by EPA Method TO-15 (modified); See analytical laboratory report for a full list of VOCs analyzed.
µg/m3 = micrograms per cubic meter
-- = Not analyzed/Not established
<x = not detected above laboratory reporting limit x
J = Estimated value due to a QC deficiency, or value below the reporting limit.
Data values in bold indicate the concentration exceeded the MTCA Method C soil gas screening levels and/or indoor air cleanup levels

Table 4

Preliminary Screening of Remedial Technologies
Shell-Branded Wholesale Facility
1935 North Northgate Way
Seattle, Washington

Remedial Technology	Description	Effectiveness	Implementability	Short-term Risk	Cost	Social	Sustainability Economic	Environmental	Considered Potentially Applicable Remedial Technology for Site?
Excavation	Physical removal and disposal of impacted soil.	Effective at reducing residual mass in soil and thereby reducing contaminant mass in groundwater.	Implementation is feasible, assuming that area can be made accessible to large equipment and shoring/bracing can be applied to support secondary containment and dividing walls.	May affect human health or the environment without proper controls.	Moderate	Disruption at the site during remedial excavation and reconstruction/resurfacing. Disruption to site operations.	Economic loss impact to Site operations	Waste generation; raw material consumption (fuels); greenhouse gas emissions (heavy equipment, etc.); noise pollution and nuisance dust generation.	Yes. Area is accessible to heavy equipment and excavation is considered feasible.
Thermal Treatment	The application of heat through electrical resistance or conductance causing contaminants to evaporate	Effective at remediating volatile contaminants. Likely would reduce contaminant concentrations if mass could be targeted.	Heat generation would be tangible at the surface due to shallow target zone. Heat exhaust from rods may not be able to be routed and vented safely. An SVE system would likely need to be installed to control and treat any fugitive VOCs. The site business would need to be temporarily shut down during installation.	May affect human health or the environment without proper controls. Above grade SVE and vapor abatement system may be needed to control fugitive vapor emissions.	High	Disruption at site for thermal rod installation; noise and dust generation from installation work; visual impacts from construction equipment presence; traffic disruption from equipment movement onto and off of site. Will greatly disrupt business on-site for a significant period.	Economic loss impact to Site operations	Waste generation (drilling waste); raw material consumption (fuels); significant utility consumption (electrical power and natural gas/propane); greenhouse gas emissions (heavy equipment, combustor effluent, etc.); noise pollution and nuisance dust generation.	No. Heat rods can be installed but due to the cost and significant mitigation measure, this option is not a sustainable applied technology.
Monitored Natural Attenuation (MNA)	Natural attenuation (bio-degradation, dispersion, oxidation, etc.) processes continue to degrade VOCs; continue to monitor on a quarterly basis to verify natural attenuation processes continue.	Natural attenuation may be occurring at site; however, cleanup levels may not be achieved within a reasonable restoration timeframe with MNA alone. Degradation of ethene contaminants may result in generation of more toxic constituents, such as vinyl chloride.	Already occurring.	Poses moderate risk since plume could migrate, concentrations could result in indoor air exceedances for adjacent property, and toxic ethene byproducts could be generated.	Low	No change, and most socially sustainable option evaluated. No major health risks to site occupants, surrounding property owners, or customers and only very limited disruption to site for quarterly monitoring.	No real change, most economically sustainable option as it has no real effect on current site or surrounding business operations.	No substantial amounts of waste generated, no raw materials consumed. Most environmentally sustainable option considered.	Yes. Natural attenuation processes are facilitating COC reduction in both the soils and groundwater.
Groundwater Extraction (GWE)	GWE dewaters Site and removes dissolved-phase constituents through extraction. Provides hydraulic control to protect down-gradient receptors.	Effective at eliminating risk, but does not quickly reduce dissolved-phase concentrations, besides what is occurring naturally through bio-attenuation processes.	Implementation is difficult but feasible. Pilot testing would be necessary to establish capture zones of individual wells.	May affect human health or the environment without proper controls.	Moderate	Disruption at site for installation of extraction wells and; underground conduits for DPE application. Requires at grade remediation equipment compound.	Economic loss impact to existing operations due to loss in revenue due to heavy equipment presence on site, trench excavation, conduit installation, backfilling, and surface restoration work. Loss of Site area for owner use due to equipment compound requirement.	Waste generation (drilling waste, surfacing materials); raw material consumption (fuels, aggregate, concrete); significant utility consumption (electrical power); green house gas emissions (heavy equipment, oxidizer effluent, etc.); noise pollution and nuisance dust generation.	No. Technically feasible at site though not the most sustainable or effective option (for mass removal). Pilot testing would be necessary to establish actual feasibility for hydraulic control.
Physical Containment/Long Term Monitoring	Physically contain the contaminated area (paved surfacing and impermeable barrier installation). Natural bio-attenuation processes continue to degrade COCs.	Effective at eliminating risk, but does not quickly reduce concentrations, besides what is occurring naturally through bio-attenuation processes.	Already facilitated by paved surface presence and likely by underlying low permeability soils.	May affect human health or the environment without proper controls; ensure plume is not redirected or migrating. Plume is currently undefined toward the west and could result in indoor air concentrations exceeding cleanup levels for the adjacent building.	Low	No change. Highly socially sustainable. No major health risks to site occupants, surrounding property owners, or customers and only very limited disruption to site for periodic monitoring.	No considerable effect. Periodic monitoring is currently conducted at the Site and surface is paved. Economically sustainable assuming no significant maintenance costs are incurred to maintain concrete/asphalt surface. No considerable effect on current site or surrounding business operations.	No substantial amounts of waste generated, no raw materials consumed.	No. Human health risk due to plume potentially extending off-site to the west.

Table 4

Preliminary Screening of Remedial Technologies
Shell-Branded Wholesale Facility
1935 North Northgate Way
Seattle, Washington

Remedial Technology	Description	Effectiveness	Implementability	Short-term Risk	Cost	Social	Sustainability Economic	Environmental	Considered Potentially Applicable Remedial Technology for Site?
Biological Treatment	In-situ bioremediation (aerobic or anaerobic) is a treatment process whereby contaminants are metabolized into less toxic or non-toxic compounds by naturally occurring microorganisms. Requires injection of amendments through dedicated wells.	Not able to get effective dispersion in impacted soils.	Implementation is feasible, but likely ineffective due to soil types.	Minimal, as long as nutrient and air/oxygen injection is controlled	Moderate	Disruption at site for bioremediation enhancement materials injection; noise and dust generation from installation work; visual impacts from construction equipment; traffic disruption from equipment movement onto and off site.	Economic loss impact to business operations due to loss in revenue due to heavy equipment presence.	Waste generation (drilling waste); raw material consumption (fuels); chemical introduction into the subgrade; greenhouse gas emissions (heavy equipment); noise pollution and nuisance dust generation.	No: not technically feasible due to low permeability/dispersion potential in impacted soils, and likely to have injected materials short-circuit through soil fractures.
Chemical Oxidation	The use of strong oxidizing agents to oxidize contaminants into non-toxics by products.	Effective in reducing groundwater concentrations, but may be limited due to dense and fractured soil. Ineffective at treating soil.	Implementation is feasible, but will require advancing borings or installing wells to use for injection points.	May affect human health or the environment without proper controls. Dispersion of chemicals and oxidation process could impact underground infrastructure if not adequately controlled. Reaction byproducts could migrate offsite.	Moderate	Disruption at site for chemical oxidation materials injection, causing inconvenience to customers; noise and dust generation from installation work; visual impacts from construction equipment; traffic disruption from equipment movement onto and off site.	Minor economic loss during injection events.	Waste generation (drilling waste and surplus chemicals); raw material consumption (fuels and chemicals); green house gas emissions (heavy equipment); noise pollution and nuisance dust generation.	Yes. May reduce contaminant concentrations is adequate dispersion is achievable.
SVE combined with Groundwater Extraction (GWE): Dual-Phase Extraction (DPE)	GWE dewaters upper saturated soils, to facilitate volatile organic compound extraction through SVE application.	Limited by ability to dewater soils and air movement through dense and fractured soils; pilot testing showed very low VOC removal rates.	Difficult to implement; likely to have SVE short-circuit through soil fractures severely limiting effective radius of influence of SVE application in impacted soils.	May affect human health or the environment without proper controls. Above grade SVE and GWE units needs to have adequate devices to treat recovered vapor and liquid phase hydrocarbons. Heat of treated vapor emissions and storage of supplemental fuel source (as applicable) need to be adequately addressed. Long term DPE application can result in soil consolidation and potential differential or uniform settlement.	High	Disruption at site for installation of extraction wells and; underground conduits for DPE application. Requires at grade remediation equipment compound. Noise pollution from operation of remediation equipment.	Economic loss impact to existing operations due to loss in revenue due to heavy equipment presence on site, trench excavation, conduit installation, backfilling, and surface restoration workwhich may require reduced site use. Loss of Site area for owner use due to equipment compound requirement.	Waste generation (drilling waste, surfacing materials); raw material consumption (fuels, aggregate, concrete); significant utility consumption (electrical power); green house gas emissions (heavy equipment, oxidizer effluent, etc.); noise pollution and nuisance dust generation.	No. Not technically feasible to address Site COCs without extensive dewatering.
Air/Ozone Injection	Air/Ozone injection results in the oxidation of the contaminants and/or increases DO levels in saturated soils to enhance biodegradation.	Effective at reducing groundwater concentrations if source mass has been removed and dissolved-phase mass is small; dense soils limit adequate dispersion and fractured soils will create preferential injection pathways.	Difficult to implement; cannot get adequate air dispersion due to high density and fractured soils.	May affect human health or the environment without proper controls. Air/oxygen injection may have "sparge" effect on impacted soils if not adequately controlled, leading to fugitive vapor generation and potential vapor migration/intrusion issues	Moderate	Disruption at site for installation of sparge/injection wells, and; underground conduits for sparge/injection wells Requires at grade remediation equipment compound. Noise pollution from operation of remediation equipment	Economic loss impact to existing operations due to loss in revenue due to heavy equipment presence on site, trench excavation, conduit installation, backfilling, and surface restoration work which may require reduced site use. Loss of site area for owner use due to equipment compound requirement.	Waste generation (drilling waste); raw material consumption (fuels, ; significant utility consumption (electrical power); green house gas emissions (heavy equipment), noise pollution and nuisance dust generation.	No: not technically feasible due to limited ROI of tighter "impacted" soils and short-circuiting through soil fractures. Not shown to be a very effective remedial technology on suitable sites. Will not remediate shallow soil impacts.

Table 5

Disproportionate Cost Analysis
Protective Coatings Facility
1215 2nd Avenue North 1208 4th Avenue North
Kent, Washington

Alternative No.	1	2	3
Remediation Type	Excavation	ISCO	Physical Containment/MNA
Ranking Criteria			
1. Meets All Cleanup Action Objectives	Yes	Yes	Yes
2. Compliance with MTCA Threshold Criteria [WAC 173-340-360 (2)(a)]			
- Protect Human health and the environment	Yes	Yes	Yes
- Comply with cleanup standards	Yes	Yes	Yes
- Comply with applicable state/federal laws	Yes	Yes	Yes
- Provide for compliance monitoring	Yes	Yes	Yes
3. Restoration Timeframe [WAC 173-340-360 (2)(b)(ii) and WAC 173-340-360 (4)]			
- Potential risks posed by the site to human health and the environment	Low to Moderate	Moderate	Moderate
- Practicability of achieving a shorter restoration time frame	High	Low to Moderate	Low
- Affect on current site use, surrounding areas and associated resources	Small portion of property temporarily out of use during remedy but restored to full use post-remedy.	Small portion of property temporarily out of use during remedy but restored to full use post-remedy.	No affect on current site use.
- Affect on future site use, surrounding areas and associated resources	None; sustained industrial use	None; sustained industrial use	None; sustained industrial use
- Availability of alternative water supplies	Water supplied by City of Kent	Water supplied by City of Kent	Water supplied by City of Kent
- Likely effectiveness and reliability of institutional controls	High	Moderate	Moderate
- Ability to control and monitor migration of hazardous substances from the site	Moderate to High	Moderate	Moderate
- Toxicity of the hazardous substances at the site	Moderate	Moderate	Moderate
- Natural processes that reduce concentration of hazardous substances	Low to Moderate	Low to Moderate	Low to Moderate
Overall Reasonable Restoration Timeframe	Yes	Yes	Yes

4. Relative Benefits Ranking for DCA [WAC 173-340-360 (2)(b)(i) and WAC 173-340-360(3)(f)]

	Comparative ranking [2]	Score	Weighing factor	Weighted Score	Comparative ranking	Score	Weighing factor	Weighted Score	Comparative ranking	Score	Weighing factor	Weighted Score
- Overall Protectiveness	Medium High	8	0.3	2.4	Medium	6	0.3	1.8	Medium Low	4	0.3	1.2
- Permanence	Medium High	8	0.2	1.6	Medium Low	4	0.2	0.8	Low to Medium Low	3	0.2	0.6
- Long-term effectiveness	Medium High	8	0.2	1.6	Medium Low to Medium	5	0.2	1	Low to Medium Low	3	0.2	0.6
- Manageability of Short Term Risk	Medium High	8	0.1	0.8	Medium High	7	0.1	0.7	Medium High	8	0.1	0.8
- Implementability	Medium High to High	9	0.1	0.9	Medium Low	4	0.1	0.4	Medium High to High	9	0.1	0.9
- Consideration of Public Concerns (high is most considerate)	Medium High	8	0.1	0.8	Medium	6	0.1	0.6	Medium	6	0.1	0.6
Comparative Overall Benefit				8.1				5.3				4.7

5. Disproportionate Cost Analysis			
- Estimated Remedy Cost	$325,000	$300,000	$215,000
- Cost (in hundred thousands of dollars)	3.25	3.00	2.15
- Overall benefit compared to the most beneficial alternative	1.00	0.65	0.58
-Total cost compared to the cost of the most beneficial alternative	1.00	0.92	0.66
-Explanation of comparative benefit to comparative cost	N/A	65% comparative benefit to 92% cost	58% comparative benefit to 66% cost
- Ratio of comparative incremental remedy cost (in thousands of dollars) to comparative incremental benefit	1.00	0.71	0.88
- Costs disproportionate to incremental benefits?	No	Yes	Yes
- Remedy permanent to the maximum extent practicable?	Yes		
Preferred Alternative for Cleanup?	**Yes**	**No**	**No**

[2] Comparative Ranking Scale

Very Low	1
Low	2
Low to Medium Low	3
Medium Low	4
Medium Low to Medium	5
Medium	6
Medium to Medium High	7
Medium High	8
Medium High to High	9
High	10

Appendices

Appendix A
Summary of Previous Investigations and Remedial Activities

2004 Investigation

In 2004, Krazan & Associates (Krazan) completed a subsurface investigation on the Property. The scope of work completed was unavailable to GHD. However, the results of the investigation, as reported by Golder and Associates [Golder] in 2012, indicate that cadmium exceeded the MTCA unrestricted land use cleanup levels in a soil sample collected northwest of the wastewater treatment plant. Arsenic was detected in all groundwater samples at concentrations ranging from 0.035 to 0.17 milligram per liter (mg/L), which exceeded the MTCA unrestricted land use cleanup level of 0.005 mg/L. Chromium was also detected above the MTCA unrestricted land use cleanup level in one groundwater sample.

2008 Investigation

In 2008, Golder conducted an initial Phase II Environmental Site Assessment (ESA). Three groundwater monitoring wells (MW-1, MW-2, and MW-3) were installed at the northwest corner of the Property. Soil samples were collected from each boring and submitted for laboratory analysis. Soil samples collected from boring MW-3 at depths ranging from approximately 1 to 3 feet below ground surface (bgs) exceeded the MTCA unrestricted land use cleanup level for trichloroethene (TCE). A hand auger boring (HA-1) was advanced in an area were a TCE solvent tank was formerly located. Laboratory analysis of a soil sample collected from 0.5 foot bgs exceeded the MTCA unrestricted land use cleanup level for cadmium. A sediment sample from a storm catch basin sump (CB-1) located near the northwest corner of the Property was also collected for analysis. The sample exceeded the MTCA unrestricted land use cleanup levels for TCE and cadmium. Groundwater samples were collected from each of the three monitoring wells. Concentrations of vinyl chloride and (cis) 1,2-dichloroethene (DCE) exceeded the MTCA unrestricted land use cleanup levels in well MW-3.

In addition, Golder performed field infiltration testing within the plating area. In the plating area, multiple gravity-fed trenches discharge process wastewater generated from operations into a central sump. The process wastewater is routed from the trenches into the sump and eventually to the wastewater treatment facility. The objective of the testing was to determine if potential releases within the sump had the potential to impact groundwater. The results of the test indicated that there is a potential leakage of less than 4 gallons per day (Golder, *Phase II Environmental Site Assessment*, October 1, 2012).

2012 Investigation

In August 2012, Golder performed a facility audit and learned that the original gravity-fed trench system in the production area (tested in 2008) had been replaced with an active pump system. This system upgrade reportedly included re-sealing all of the collection /drainage trenches. The pumps were designed to remove fluids from the trenches when a pre-set volume is reached. Fluids within the trench are pumped to the on-Property wastewater treatment system for processing before being discharged into the King County sanitary sewer system under permit.

In 2012, Golder conducted a Phase II ESA. Five groundwater monitoring wells (MW-4 through MW-8) were installed at the northeast corner of the Property and in the western portion of the Property. Soil samples were not collected for laboratory analyses. In addition, Golder attempted to collect subsurface soil gas samples from four locations (SG-1 through SG-4) during three field events. Three successful samples were collected for analyses (SG-2, SG-3, and SG-4). TCE was identified as the highest of all compounds detected in subsurface

samples at locations SG-2 and SG-4. The TCE concentrations exceeded the applicable soil gas screening levels indicating a potential for an elevated risk of vapor intrusion into the 1208 4th Avenue North building. Following the results of the subsurface soil gas sampling, Golder collected indoor and exterior ambient air samples within the 1208 4th Avenue North buildings during facility operations and after hours over an 8-hour period. TCE was detected in all ambient air samples; however, Golder concluded that the contaminant detections in ambient air samples were likely not derived from soil gas, but were resulting from facility operations. Further discussion of soil gas and indoor air is included in Section 4.6.

Appendix B
Boring and Well Logs

GHD Services Inc.
20818 44th Avenue West, Suite 190
Lynnwood, Washington 98036
Telephone: 425-563-6500
Fax: 425-563-6599

BORING / WELL LOG

CLIENT NAME	PCC Aerostructures	**BORING/WELL NAME**	SB-8
JOB/SITE NAME	Protective Coatings Facility	**DRILLING STARTED**	15-Mar-16
LOCATION	1208 4th Avenue North, Kent, WA	**DRILLING COMPLETED**	15-Mar-16
PROJECT NUMBER	062175	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Holt Services, Inc.	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Direct Push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVALS**	NA
LOGGED BY	S. Rasmussen	**DEPTH TO WATER (First Encountered)**	7.50 fbg (15-Mar-16) ▽
REVIEWED BY		**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Airknife to 4 fbg.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							CONCRETE	0.5	Concrete
							Drain/River Rock	1.0	
0.6		SB-8-5		5	SM		**Silty SAND**; dense, dry, olive gray, no odor.		
							@7.5' - some staining. ▽	8.0	Bentonite Seal
0.4		SB-8-10		10	SP		**SAND**; saturated, slight odor, olive gray, sand fine to medium coarse.	12.0	
0.4		SB-8-15		15	CL ML		**CLAY/SILT**; wet, olive gray, root fragments, high plasticity.	15.0	Bottom of Boring @ 15 fbg

WELL LOG (PID) I:\SONOMA.PUBLIC\0-USERS\MDUTRA\DRAFT REQUESTS\062175-PCC AEROSTRUCTURES-1215 2ND NORTH & 1208 4TH AVE, KENT, WA\062175-1208 4TH AVE, KENT, WA\062175-SO-GINT.GPJ DEFAULT.GDT 18/3/16

GHD Services Inc.
20818 44th Avenue West, Suite 190
Lynnwood, Washington 98036
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Fax: 425-563-6599

BORING / WELL LOG

CLIENT NAME	PCC Aerostructures	**BORING/WELL NAME**	SB-9
JOB/SITE NAME	Protective Coatings Facility	**DRILLING STARTED**	15-Mar-16
LOCATION	1208 4th Avenue North, Kent, WA	**DRILLING COMPLETED**	15-Mar-16
PROJECT NUMBER	062175	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Holt Services, Inc.	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Direct Push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVALS**	NA
LOGGED BY	S. Rasmussen	**DEPTH TO WATER (First Encountered)**	7.50 fbg (15-Mar-16) ▽
REVIEWED BY		**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Airknife to 4 fbg.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							CONCRETE	0.5	Concrete
							Drain/River Rock	1.0	
0.1		SB-9-5		5	SM		**Silty SAND**; dense, dry, olive gray, trace gravel, no odor. ▽	8.0	Bentonite Seal
0.1		SB-9-10		10	SP		**SAND**; saturated, slight odor, olive gray, sand fine to medium coarse.	12.0	
0.4		SB-9-15		15	CL ML		**CLAY/SILT**; dark olive gray, high plasticity.	15.0	Bottom of Boring @ 15 fbg

WELL LOG (PID) I:\SONOMA.PUBLIC\0-USERS\MDUTRA\DRAFT REQUESTS\062175-PCC AEROSTRUCTURES-1215 2ND NORTH & 1208 4TH AVE, KENT, WA\062175-1208 4TH AVE, KENT, WA\062175-SO-GINT.GPJ DEFAULT.GDT 18/3/16

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BORING / WELL LOG

CLIENT NAME	PCC Aerostructures	**BORING/WELL NAME**	SB-10
JOB/SITE NAME	Protective Coatings Facility	**DRILLING STARTED**	15-Mar-16
LOCATION	1208 4th Avenue North, Kent, WA	**DRILLING COMPLETED**	15-Mar-16
PROJECT NUMBER	062175	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Holt Services, Inc.	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Direct Push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVALS**	NA
LOGGED BY	S. Rasmussen	**DEPTH TO WATER (First Encountered)**	8.00 fbg (15-Mar-16)
REVIEWED BY		**DEPTH TO WATER (Static)**	NA
REMARKS	Airknife to 4 fbg.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.2	Concrete
					SM		**Silty SAND**; dense, gravel, olive gray, no odor.		
0.7		SB-10-5		5			@6' - low recovery gravel.		
								8.0	Bentonite Seal
					SP		**SAND**; saturated, olive gray, no odor, sand fine to medium coarse.		
0.8		SB-10-10		10				12.0	
					CL ML		**CLAY/SILT**; dark olive gray, wet, no odor, high plasticity.		
0.3		SB-10-15		15				15.0	Bottom of Boring @ 15 fbg

WELL LOG (PID) I:\SONOMA.PUBLIC\0-USERS\MDUTRA\DRAFT REQUESTS\062175-PCC AEROSTRUCTURES-1215 2ND NORTH & 1208 4TH AVE, KENT, WA\062175-1208 4TH AVE, KENT, WA\062175-SO-GINT.GPJ DEFAULT.GDT 18/3/16

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BORING / WELL LOG

CLIENT NAME	PCC Aerostructures	**BORING/WELL NAME**	SB-11
JOB/SITE NAME	Protective Coatings Facility	**DRILLING STARTED**	15-Mar-16
LOCATION	1208 4th Avenue North, Kent, WA	**DRILLING COMPLETED**	15-Mar-16
PROJECT NUMBER	062175	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Holt Services, Inc.	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Direct Push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVALS**	NA
LOGGED BY	S. Rasmussen	**DEPTH TO WATER (First Encountered)**	8.00 fbg (15-Mar-16)
REVIEWED BY		**DEPTH TO WATER (Static)**	NA
REMARKS	Airknife to 4 fbg.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.2	Concrete
0.2		SB-11-5		5	SM		**Silty SAND**; dense, olive gray, dry, no odor, medium plasticity.	7.0	
0.1		SB-11-10		10	SP		**SAND**; more plasticity, olive gray, saturated, no odor, trace silt, fine to medium coarse. ▽	12.0	Bentonite Seal
					CL ML		**CLAY/SILT**; dark olive gray, wet, high plasticity.	14.5	
0.8		SB-11-15		15	SP		**SAND**; dense, olive gray, dry, no odor, medium plasticity.	15.0	Bottom of Boring @ 15 fbg

WELL LOG (PID) I:\SONOMA.PUBLIC\0-USERS\MDUTRA\DRAFT REQUESTS\062175-PCC AEROSTRUCTURES-1215 2ND NORTH & 1208 4TH AVE, KENT, WA\062175-1208 4TH AVE, KENT, WA\062175-SO-GINT.GPJ DEFAULT.GDT 18/3/16

GHD Services Inc.
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Fax: 425-563-6599

BORING / WELL LOG

CLIENT NAME	PCC Aerostructures	**BORING/WELL NAME**	SB-12
JOB/SITE NAME	Protective Coatings Facility	**DRILLING STARTED**	15-Mar-16
LOCATION	1208 4th Avenue North, Kent, WA	**DRILLING COMPLETED**	15-Mar-16
PROJECT NUMBER	062175	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Holt Services, Inc.	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Direct Push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVALS**	NA
LOGGED BY	S. Rasmussen	**DEPTH TO WATER (First Encountered)**	8.00 fbg (15-Mar-16)
REVIEWED BY		**DEPTH TO WATER (Static)**	NA
REMARKS	Airknife to 3 fbg.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							CONCRETE	0.5	Concrete
					SM		**Silty SAND**; dense, gravel, no odor, olive gray-brown.		
0.4		SB-12-5		5					
							▽	8.0	Bentonite Seal
					SP		**SAND**; fine to medium coarse, olive gray, saturated, no odor.		
0.3		SB-12-10		10					
								13.0	
					CL ML		**CLAY/SILT**; olive dark gray, wet, no odor, high plasticity.		
0.4		SB-12-15		15				15.0	Bottom of Boring @ 15 fbg

WELL LOG (PID) I:\SONOMA.PUBLIC\0-USERS\MDUTRA\DRAFT REQUESTS\062175-PCC AEROSTRUCTURES-1215 2ND NORTH & 1208 4TH AVE, KENT, WA\062175-1208 4TH AVE, KENT, WA\062175-SO-GINT.GPJ DEFAULT.GDT 18/3/16

GHD Services Inc.
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Lynnwood, Washington 98036
Telephone: 425-563-6500
Fax: 425-563-6599

BORING / WELL LOG

CLIENT NAME	PCC Aerostructures	**BORING/WELL NAME**	SB-13
JOB/SITE NAME	Protective Coatings Facility	**DRILLING STARTED**	15-Mar-16
LOCATION	1208 4th Avenue North, Kent, WA	**DRILLING COMPLETED**	15-Mar-16
PROJECT NUMBER	062175	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Holt Services, Inc.	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Direct Push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVALS**	NA
LOGGED BY	S. Rasmussen	**DEPTH TO WATER (First Encountered)**	9.00 fbg (15-Mar-16)
REVIEWED BY		**DEPTH TO WATER (Static)**	NA
REMARKS	Airknife to 3 fbg.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							CONCRETE	0.6	Concrete
0.7		SB-13-5		5	SM		**Silty SAND**; very dense, olive gray orangish brown, no odor, dry, trace gravel.		Bentonite Seal
								9.0 ▽	
0.5		SB-13-10		10	SP		**SAND**; saturated, fine to medium coarse, olive gray, no odor.	12.5	
0.7		SB-13-15		15	CL ML		**CLAY/SILT**; dark olive gray, no odor, high plasticity.	15.0	Bottom of Boring @ 15 fbg

WELL LOG (PID) I:\SONOMA PUBLIC\0-USERS\MDUTRA\DRAFT REQUESTS\062175-PCC AEROSTRUCTURES-1215 2ND NORTH & 1208 4TH AVE, KENT, WA\062175-1208 4TH AVE, KENT, WA\062175-SO-GINT.GPJ DEFAULT.GDT 18/3/16

Appendix C
Analytical Laboratory Reports

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

March 28, 2016

Christina McClelland
GHD Services, Inc.
20818 44th Ave W
Suite 190
Lynnwood, WA 98036

RE: Project: 062175
Pace Project No.: 10341678

Dear Christina McClelland:
Enclosed are the analytical results for sample(s) received by the laboratory on March 16, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Jeffrey Cloud, GHD Services Inc.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 062175
Pace Project No.: 10341678

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 062175
Pace Project No.: 10341678

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10341678001	SO-062175-031516-SB-8-5	Solid	03/15/16 12:00	03/16/16 10:00
10341678002	SO-062175-031516-SB-8-10	Solid	03/15/16 12:05	03/16/16 10:00
10341678003	SO-062175-031516-SB-8-15	Solid	03/15/16 12:10	03/16/16 10:00
10341678004	SO-062175-031516-SB-9-5	Solid	03/15/16 12:45	03/16/16 10:00
10341678005	SO-062175-031516-SB-9-10	Solid	03/15/16 12:50	03/16/16 10:00
10341678006	SO-062175-031516-SB-9-15	Solid	03/15/16 12:55	03/16/16 10:00
10341678007	SO-062175-031516-SB-10-5	Solid	03/15/16 11:26	03/16/16 10:00
10341678008	SO-062175-031516-SB-10-10	Solid	03/15/16 11:30	03/16/16 10:00
10341678009	SO-062175-031516-SB-10-15	Solid	03/15/16 11:35	03/16/16 10:00
10341678010	SO-062175-031516-SB-11-5	Solid	03/15/16 10:50	03/16/16 10:00
10341678011	SO-062175-031516-SB-11-10	Solid	03/15/16 10:56	03/16/16 10:00
10341678012	SO-062175-031516-SB-11-15	Solid	03/15/16 11:00	03/16/16 10:00
10341678013	SO-062175-031516-SB-12-5	Solid	03/15/16 13:05	03/16/16 10:00
10341678014	SO-062175-031516-SB-12-10	Solid	03/15/16 13:15	03/16/16 10:00
10341678015	SO-062175-031516-SB-12-15	Solid	03/15/16 13:20	03/16/16 10:00
10341678016	SO-062175-031516-SB-13-5	Solid	03/15/16 13:35	03/16/16 10:00
10341678017	SO-062175-031516-SB-13-10	Solid	03/15/16 13:45	03/16/16 10:00
10341678018	SO-062175-031516-SB-13-15	Solid	03/15/16 13:50	03/16/16 10:00

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Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 062175
Pace Project No.: 10341678

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10341678001	SO-062175-031516-SB-8-5	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678002	SO-062175-031516-SB-8-10	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678003	SO-062175-031516-SB-8-15	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678004	SO-062175-031516-SB-9-5	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678005	SO-062175-031516-SB-9-10	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678006	SO-062175-031516-SB-9-15	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678007	SO-062175-031516-SB-10-5	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678008	SO-062175-031516-SB-10-10	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678009	SO-062175-031516-SB-10-15	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678010	SO-062175-031516-SB-11-5	EPA 6020A	TT3	7	PASI-M

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SAMPLE ANALYTE COUNT

Project: 062175
Pace Project No.: 10341678

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678011	SO-062175-031516-SB-11-10	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678012	SO-062175-031516-SB-11-15	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678013	SO-062175-031516-SB-12-5	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678014	SO-062175-031516-SB-12-10	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678015	SO-062175-031516-SB-12-15	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678016	SO-062175-031516-SB-13-5	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678017	SO-062175-031516-SB-13-10	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	74	PASI-M
10341678018	SO-062175-031516-SB-13-15	EPA 6020A	TT3	7	PASI-M
		EPA 7471B	JDD	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	74	PASI-M

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PROJECT NARRATIVE

Project: 062175
Pace Project No.: 10341678

Method: **EPA 6020A**
Description: 6020A MET ICPMS
Client: GHD_PCC Aerostructures
Date: March 28, 2016

General Information:
18 samples were analyzed for EPA 6020A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3050 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 062175
Pace Project No.: 10341678

Method: **EPA 7471B**
Description: 7471B Mercury
Client: GHD_PCC Aerostructures
Date: March 28, 2016

General Information:
18 samples were analyzed for EPA 7471B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 7471B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 062175
Pace Project No.: 10341678

Method: **EPA 8260B**
Description: 8260B MSV 5030 Med Level
Client: GHD_PCC Aerostructures
Date: March 28, 2016

General Information:
18 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 5035/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

QC Batch: MSV/34978

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 2216504)
  - Dichlorofluoromethane
  - Trichlorofluoromethane
- LCSD (Lab ID: 2216509)
  - Dichlorofluoromethane
  - Trichlorofluoromethane
- MS (Lab ID: 2216510)
  - Dichlorofluoromethane
  - Trichlorofluoromethane

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: MSV/34978

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.

- LCS (Lab ID: 2216504)
  - Dichlorofluoromethane

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PROJECT NARRATIVE

Project: 062175
Pace Project No.: 10341678

Method: **EPA 8260B**
Description: 8260B MSV 5030 Med Level
Client: GHD_PCC Aerostructures
Date: March 28, 2016

QC Batch: MSV/34978

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.
- LCSD (Lab ID: 2216509)
  - Dichlorofluoromethane

R1: RPD value was outside control limits.
- LCSD (Lab ID: 2216509)
  - Tetrahydrofuran

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/34978

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: MSV/34974

D6: The precision between the sample and sample duplicate exceeded laboratory control limits.
- DUP (Lab ID: 2216308)
  - Trichloroethene

QC Batch: MSV/34978

R1: RPD value was outside control limits.
- DUP (Lab ID: 2216511)
  - 1,2,4-Trimethylbenzene
  - 1,3,5-Trimethylbenzene
  - m&p-Xylene
  - n-Butylbenzene
  - n-Propylbenzene
  - o-Xylene

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-8-5 **Lab ID: 10341678001** Collected: 03/15/16 12:00 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**3.9**	mg/kg	0.55	20	03/21/16 09:42	03/21/16 14:43	7440-38-2	
Barium	**65.4**	mg/kg	0.33	20	03/21/16 09:42	03/21/16 14:43	7440-39-3	
Cadmium	**0.12**	mg/kg	0.087	20	03/21/16 09:42	03/21/16 14:43	7440-43-9	
Chromium	**31.2**	mg/kg	0.55	20	03/21/16 09:42	03/21/16 14:43	7440-47-3	
Lead	**3.8**	mg/kg	0.11	20	03/21/16 09:42	03/21/16 14:43	7439-92-1	
Selenium	ND	mg/kg	0.55	20	03/21/16 09:42	03/21/16 14:43	7782-49-2	
Silver	ND	mg/kg	0.55	20	03/21/16 09:42	03/21/16 14:43	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**0.026**	mg/kg	0.022	1	03/21/16 12:08	03/21/16 17:56	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**12.9**	%	0.10	1		03/17/16 12:34		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	630-20-6	
1,1,1-Trichloroethane	**15400**	ug/kg	287	5	03/24/16 09:17	03/25/16 11:51	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	79-34-5	
1,1,2-Trichloroethane	**431**	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 15:26	76-13-1	
1,1-Dichloroethane	**3900**	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	75-34-3	
1,1-Dichloroethene	**4100**	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	75-35-4	
1,1-Dichloropropene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 15:26	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 15:26	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	574	1	03/24/16 09:17	03/24/16 15:26	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	95-50-1	
1,2-Dichloroethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	107-06-2	
1,2-Dichloroethene (Total)	**372**	ug/kg	115	1	03/24/16 09:17	03/24/16 15:26	540-59-0	
1,2-Dichloropropane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	541-73-1	
1,3-Dichloropropane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	106-46-7	
2,2-Dichloropropane	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 15:26	594-20-7	
2-Butanone (MEK)	ND	ug/kg	287	1	03/24/16 09:17	03/24/16 15:26	78-93-3	
2-Chlorotoluene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	95-49-8	
4-Chlorotoluene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	287	1	03/24/16 09:17	03/24/16 15:26	108-10-1	
Acetone	ND	ug/kg	1150	1	03/24/16 09:17	03/24/16 15:26	67-64-1	
Allyl chloride	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 15:26	107-05-1	
Benzene	ND	ug/kg	23.0	1	03/24/16 09:17	03/24/16 15:26	71-43-2	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-8-5 **Lab ID: 10341678001** Collected: 03/15/16 12:00 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	108-86-1	
Bromochloromethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	74-97-5	
Bromodichloromethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	75-27-4	
Bromoform	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 15:26	75-25-2	
Bromomethane	ND	ug/kg	574	1	03/24/16 09:17	03/24/16 15:26	74-83-9	
Carbon disulfide	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	75-15-0	
Carbon tetrachloride	**2410**	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	56-23-5	
Chlorobenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	108-90-7	
Chloroethane	ND	ug/kg	574	1	03/24/16 09:17	03/24/16 15:26	75-00-3	
Chloroform	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	67-66-3	
Chloromethane	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 15:26	74-87-3	
Dibromochloromethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	124-48-1	
Dibromomethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 15:26	75-71-8	
Dichlorofluoromethane	ND	ug/kg	574	1	03/24/16 09:17	03/24/16 15:26	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 15:26	60-29-7	
Ethylbenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	287	1	03/24/16 09:17	03/24/16 15:26	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	1634-04-4	
Methylene Chloride	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 15:26	75-09-2	
Naphthalene	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 15:26	91-20-3	
Styrene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	100-42-5	
Tetrachloroethene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	127-18-4	
Tetrahydrofuran	ND	ug/kg	2300	1	03/24/16 09:17	03/24/16 15:26	109-99-9	
Toluene	**111**	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	108-88-3	
Trichloroethene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	79-01-6	
Trichlorofluoromethane	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 15:26	75-69-4	
Vinyl chloride	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	75-01-4	
Xylene (Total)	ND	ug/kg	172	1	03/24/16 09:17	03/24/16 15:26	1330-20-7	
cis-1,2-Dichloroethene	**364**	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	10061-01-5	
m&p-Xylene	ND	ug/kg	115	1	03/24/16 09:17	03/24/16 15:26	179601-23-1	
n-Butylbenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	104-51-8	
n-Propylbenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	103-65-1	
o-Xylene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	95-47-6	
p-Isopropyltoluene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	99-87-6	
sec-Butylbenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	135-98-8	
tert-Butylbenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 15:26	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 15:26	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	75-129	1	03/24/16 09:17	03/24/16 15:26	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1	03/24/16 09:17	03/24/16 15:26	2037-26-5	
4-Bromofluorobenzene (S)	108	%.	75-125	1	03/24/16 09:17	03/24/16 15:26	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-8-10 **Lab ID: 10341678002** Collected: 03/15/16 12:05 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**2.9**	mg/kg	0.48	20	03/21/16 09:42	03/21/16 14:36	7440-38-2	
Barium	**40.7**	mg/kg	0.29	20	03/21/16 09:42	03/21/16 14:36	7440-39-3	
Cadmium	ND	mg/kg	0.076	20	03/21/16 09:42	03/21/16 14:36	7440-43-9	
Chromium	**10.6**	mg/kg	0.48	20	03/21/16 09:42	03/21/16 14:36	7440-47-3	
Lead	**2.1**	mg/kg	0.095	20	03/21/16 09:42	03/21/16 14:36	7439-92-1	
Selenium	ND	mg/kg	0.48	20	03/21/16 09:42	03/21/16 14:36	7782-49-2	
Silver	ND	mg/kg	0.48	20	03/21/16 09:42	03/21/16 14:36	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	ND	mg/kg	0.025	1	03/21/16 12:08	03/21/16 18:02	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**23.4**	%	0.10	1		03/17/16 12:34		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	258	1	03/24/16 09:17	03/25/16 20:58	76-13-1	
1,1-Dichloroethane	**161**	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	75-34-3	
1,1-Dichloroethene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	75-35-4	
1,1-Dichloropropene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	258	1	03/24/16 09:17	03/25/16 20:58	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	258	1	03/24/16 09:17	03/25/16 20:58	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	645	1	03/24/16 09:17	03/25/16 20:58	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	95-50-1	
1,2-Dichloroethane	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	107-06-2	
1,2-Dichloroethene (Total)	**940**	ug/kg	129	1	03/24/16 09:17	03/25/16 20:58	540-59-0	
1,2-Dichloropropane	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	541-73-1	
1,3-Dichloropropane	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	106-46-7	
2,2-Dichloropropane	ND	ug/kg	258	1	03/24/16 09:17	03/25/16 20:58	594-20-7	
2-Butanone (MEK)	ND	ug/kg	323	1	03/24/16 09:17	03/25/16 20:58	78-93-3	
2-Chlorotoluene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	95-49-8	
4-Chlorotoluene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	323	1	03/24/16 09:17	03/25/16 20:58	108-10-1	
Acetone	ND	ug/kg	1290	1	03/24/16 09:17	03/25/16 20:58	67-64-1	
Allyl chloride	ND	ug/kg	258	1	03/24/16 09:17	03/25/16 20:58	107-05-1	
Benzene	ND	ug/kg	25.8	1	03/24/16 09:17	03/25/16 20:58	71-43-2	

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(612)607-1700

ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-8-10 **Lab ID: 10341678002** Collected: 03/15/16 12:05 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	108-86-1	
Bromochloromethane	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	74-97-5	
Bromodichloromethane	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	75-27-4	
Bromoform	ND	ug/kg	258	1	03/24/16 09:17	03/25/16 20:58	75-25-2	
Bromomethane	ND	ug/kg	645	1	03/24/16 09:17	03/25/16 20:58	74-83-9	
Carbon disulfide	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	75-15-0	
Carbon tetrachloride	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	56-23-5	
Chlorobenzene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	108-90-7	
Chloroethane	ND	ug/kg	645	1	03/24/16 09:17	03/25/16 20:58	75-00-3	
Chloroform	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	67-66-3	
Chloromethane	ND	ug/kg	258	1	03/24/16 09:17	03/25/16 20:58	74-87-3	
Dibromochloromethane	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	124-48-1	
Dibromomethane	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	258	1	03/24/16 09:17	03/25/16 20:58	75-71-8	
Dichlorofluoromethane	ND	ug/kg	645	1	03/24/16 09:17	03/25/16 20:58	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	258	1	03/24/16 09:17	03/25/16 20:58	60-29-7	
Ethylbenzene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	323	1	03/24/16 09:17	03/25/16 20:58	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	1634-04-4	
Methylene Chloride	ND	ug/kg	258	1	03/24/16 09:17	03/25/16 20:58	75-09-2	
Naphthalene	ND	ug/kg	258	1	03/24/16 09:17	03/25/16 20:58	91-20-3	
Styrene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	100-42-5	
Tetrachloroethene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	127-18-4	
Tetrahydrofuran	ND	ug/kg	2580	1	03/24/16 09:17	03/25/16 20:58	109-99-9	
Toluene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	108-88-3	
Trichloroethene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	79-01-6	
Trichlorofluoromethane	ND	ug/kg	258	1	03/24/16 09:17	03/25/16 20:58	75-69-4	
Vinyl chloride	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	75-01-4	
Xylene (Total)	ND	ug/kg	194	1	03/24/16 09:17	03/25/16 20:58	1330-20-7	
cis-1,2-Dichloroethene	**922**	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	10061-01-5	
m&p-Xylene	ND	ug/kg	129	1	03/24/16 09:17	03/25/16 20:58	179601-23-1	
n-Butylbenzene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	104-51-8	
n-Propylbenzene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	103-65-1	
o-Xylene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	95-47-6	
p-Isopropyltoluene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	99-87-6	
sec-Butylbenzene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	135-98-8	
tert-Butylbenzene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	64.5	1	03/24/16 09:17	03/25/16 20:58	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	258	1	03/24/16 09:17	03/25/16 20:58	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	96	%.	75-129	1	03/24/16 09:17	03/25/16 20:58	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1	03/24/16 09:17	03/25/16 20:58	2037-26-5	
4-Bromofluorobenzene (S)	110	%.	75-125	1	03/24/16 09:17	03/25/16 20:58	460-00-4	

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(612)607-1700

ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-8-15 **Lab ID: 10341678003** Collected: 03/15/16 12:10 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**8.2**	mg/kg	0.72	20	03/21/16 09:42	03/21/16 14:38	7440-38-2	
Barium	**114**	mg/kg	0.43	20	03/21/16 09:42	03/21/16 14:38	7440-39-3	
Cadmium	**0.13**	mg/kg	0.11	20	03/21/16 09:42	03/21/16 14:38	7440-43-9	
Chromium	**22.0**	mg/kg	0.72	20	03/21/16 09:42	03/21/16 14:38	7440-47-3	
Lead	**6.2**	mg/kg	0.14	20	03/21/16 09:42	03/21/16 14:38	7439-92-1	
Selenium	ND	mg/kg	0.72	20	03/21/16 09:42	03/21/16 14:38	7782-49-2	
Silver	ND	mg/kg	0.72	20	03/21/16 09:42	03/21/16 14:38	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**0.068**	mg/kg	0.030	1	03/21/16 12:08	03/21/16 18:04	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**35.9**	%	0.10	1		03/17/16 12:34		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 16:02	76-13-1	
1,1-Dichloroethane	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	75-34-3	
1,1-Dichloroethene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	75-35-4	
1,1-Dichloropropene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 16:02	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 16:02	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	763	1	03/24/16 09:17	03/24/16 16:02	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	95-50-1	
1,2-Dichloroethane	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	153	1	03/24/16 09:17	03/24/16 16:02	540-59-0	
1,2-Dichloropropane	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	541-73-1	
1,3-Dichloropropane	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	106-46-7	
2,2-Dichloropropane	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 16:02	594-20-7	
2-Butanone (MEK)	ND	ug/kg	381	1	03/24/16 09:17	03/24/16 16:02	78-93-3	
2-Chlorotoluene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	95-49-8	
4-Chlorotoluene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	381	1	03/24/16 09:17	03/24/16 16:02	108-10-1	
Acetone	ND	ug/kg	1530	1	03/24/16 09:17	03/24/16 16:02	67-64-1	
Allyl chloride	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 16:02	107-05-1	
Benzene	ND	ug/kg	30.5	1	03/24/16 09:17	03/24/16 16:02	71-43-2	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-8-15 **Lab ID: 10341678003** Collected: 03/15/16 12:10 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	108-86-1	
Bromochloromethane	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	74-97-5	
Bromodichloromethane	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	75-27-4	
Bromoform	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 16:02	75-25-2	
Bromomethane	ND	ug/kg	763	1	03/24/16 09:17	03/24/16 16:02	74-83-9	
Carbon disulfide	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	75-15-0	
Carbon tetrachloride	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	56-23-5	
Chlorobenzene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	108-90-7	
Chloroethane	ND	ug/kg	763	1	03/24/16 09:17	03/24/16 16:02	75-00-3	
Chloroform	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	67-66-3	
Chloromethane	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 16:02	74-87-3	
Dibromochloromethane	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	124-48-1	
Dibromomethane	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 16:02	75-71-8	
Dichlorofluoromethane	ND	ug/kg	763	1	03/24/16 09:17	03/24/16 16:02	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 16:02	60-29-7	
Ethylbenzene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	381	1	03/24/16 09:17	03/24/16 16:02	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	1634-04-4	
Methylene Chloride	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 16:02	75-09-2	
Naphthalene	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 16:02	91-20-3	
Styrene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	100-42-5	
Tetrachloroethene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	127-18-4	
Tetrahydrofuran	ND	ug/kg	3050	1	03/24/16 09:17	03/24/16 16:02	109-99-9	
Toluene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	108-88-3	
Trichloroethene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	79-01-6	
Trichlorofluoromethane	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 16:02	75-69-4	
Vinyl chloride	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	75-01-4	
Xylene (Total)	ND	ug/kg	229	1	03/24/16 09:17	03/24/16 16:02	1330-20-7	
cis-1,2-Dichloroethene	**92.7**	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	10061-01-5	
m&p-Xylene	ND	ug/kg	153	1	03/24/16 09:17	03/24/16 16:02	179601-23-1	
n-Butylbenzene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	104-51-8	
n-Propylbenzene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	103-65-1	
o-Xylene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	95-47-6	
p-Isopropyltoluene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	99-87-6	
sec-Butylbenzene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	135-98-8	
tert-Butylbenzene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	76.3	1	03/24/16 09:17	03/24/16 16:02	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 16:02	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	97	%.	75-129	1	03/24/16 09:17	03/24/16 16:02	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1	03/24/16 09:17	03/24/16 16:02	2037-26-5	
4-Bromofluorobenzene (S)	111	%.	75-125	1	03/24/16 09:17	03/24/16 16:02	460-00-4	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-9-5 **Lab ID: 10341678004** Collected: 03/15/16 12:45 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**5.0**	mg/kg	0.45	20	03/21/16 09:42	03/21/16 14:41	7440-38-2	
Barium	**69.9**	mg/kg	0.27	20	03/21/16 09:42	03/21/16 14:41	7440-39-3	
Cadmium	**0.13**	mg/kg	0.072	20	03/21/16 09:42	03/21/16 14:41	7440-43-9	
Chromium	**35.2**	mg/kg	0.45	20	03/21/16 09:42	03/21/16 14:41	7440-47-3	
Lead	**4.0**	mg/kg	0.090	20	03/21/16 09:42	03/21/16 14:41	7439-92-1	
Selenium	ND	mg/kg	0.45	20	03/21/16 09:42	03/21/16 14:41	7782-49-2	
Silver	ND	mg/kg	0.45	20	03/21/16 09:42	03/21/16 14:41	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**0.040**	mg/kg	0.022	1	03/21/16 12:08	03/21/16 18:06	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**13.8**	%	0.10	1		03/17/16 12:34		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 16:19	76-13-1	
1,1-Dichloroethane	**1520**	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	75-34-3	
1,1-Dichloroethene	**363**	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	75-35-4	
1,1-Dichloropropene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 16:19	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 16:19	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	559	1	03/24/16 09:17	03/24/16 16:19	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	95-50-1	
1,2-Dichloroethane	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	107-06-2	
1,2-Dichloroethene (Total)	**450**	ug/kg	112	1	03/24/16 09:17	03/24/16 16:19	540-59-0	
1,2-Dichloropropane	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	541-73-1	
1,3-Dichloropropane	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	106-46-7	
2,2-Dichloropropane	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 16:19	594-20-7	
2-Butanone (MEK)	ND	ug/kg	280	1	03/24/16 09:17	03/24/16 16:19	78-93-3	
2-Chlorotoluene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	95-49-8	
4-Chlorotoluene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	280	1	03/24/16 09:17	03/24/16 16:19	108-10-1	
Acetone	ND	ug/kg	1120	1	03/24/16 09:17	03/24/16 16:19	67-64-1	
Allyl chloride	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 16:19	107-05-1	
Benzene	ND	ug/kg	22.4	1	03/24/16 09:17	03/24/16 16:19	71-43-2	

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(612)607-1700

ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-9-5 **Lab ID: 10341678004** Collected: 03/15/16 12:45 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	108-86-1	
Bromochloromethane	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	74-97-5	
Bromodichloromethane	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	75-27-4	
Bromoform	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 16:19	75-25-2	
Bromomethane	ND	ug/kg	559	1	03/24/16 09:17	03/24/16 16:19	74-83-9	
Carbon disulfide	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	75-15-0	
Carbon tetrachloride	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	56-23-5	
Chlorobenzene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	108-90-7	
Chloroethane	ND	ug/kg	559	1	03/24/16 09:17	03/24/16 16:19	75-00-3	
Chloroform	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	67-66-3	
Chloromethane	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 16:19	74-87-3	
Dibromochloromethane	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	124-48-1	
Dibromomethane	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 16:19	75-71-8	
Dichlorofluoromethane	ND	ug/kg	559	1	03/24/16 09:17	03/24/16 16:19	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 16:19	60-29-7	
Ethylbenzene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	280	1	03/24/16 09:17	03/24/16 16:19	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	1634-04-4	
Methylene Chloride	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 16:19	75-09-2	
Naphthalene	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 16:19	91-20-3	
Styrene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	100-42-5	
Tetrachloroethene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	127-18-4	
Tetrahydrofuran	ND	ug/kg	2240	1	03/24/16 09:17	03/24/16 16:19	109-99-9	
Toluene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	108-88-3	
Trichloroethene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	79-01-6	
Trichlorofluoromethane	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 16:19	75-69-4	
Vinyl chloride	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	75-01-4	
Xylene (Total)	ND	ug/kg	168	1	03/24/16 09:17	03/24/16 16:19	1330-20-7	
cis-1,2-Dichloroethene	**434**	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	10061-01-5	
m&p-Xylene	ND	ug/kg	112	1	03/24/16 09:17	03/24/16 16:19	179601-23-1	
n-Butylbenzene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	104-51-8	
n-Propylbenzene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	103-65-1	
o-Xylene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	95-47-6	
p-Isopropyltoluene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	99-87-6	
sec-Butylbenzene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	135-98-8	
tert-Butylbenzene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	55.9	1	03/24/16 09:17	03/24/16 16:19	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 16:19	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%.	75-129	1	03/24/16 09:17	03/24/16 16:19	17060-07-0	
Toluene-d8 (S)	96	%.	75-125	1	03/24/16 09:17	03/24/16 16:19	2037-26-5	
4-Bromofluorobenzene (S)	112	%.	75-125	1	03/24/16 09:17	03/24/16 16:19	460-00-4	

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(612)607-1700

ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-9-10 **Lab ID: 10341678005** Collected: 03/15/16 12:50 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**4.1**	mg/kg	0.60	20	03/21/16 09:42	03/21/16 15:01	7440-38-2	
Barium	**54.9**	mg/kg	0.36	20	03/21/16 09:42	03/21/16 15:01	7440-39-3	
Cadmium	ND	mg/kg	0.096	20	03/21/16 09:42	03/21/16 15:01	7440-43-9	
Chromium	**13.3**	mg/kg	0.60	20	03/21/16 09:42	03/21/16 15:01	7440-47-3	
Lead	**2.8**	mg/kg	0.12	20	03/21/16 09:42	03/21/16 15:01	7439-92-1	
Selenium	ND	mg/kg	0.60	20	03/21/16 09:42	03/21/16 15:01	7782-49-2	
Silver	ND	mg/kg	0.60	20	03/21/16 09:42	03/21/16 15:01	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**0.026**	mg/kg	0.023	1	03/21/16 12:08	03/21/16 18:09	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**26.4**	%	0.10	1		03/17/16 12:35		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	267	1	03/24/16 09:17	03/24/16 16:37	76-13-1	
1,1-Dichloroethane	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	75-34-3	
1,1-Dichloroethene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	75-35-4	
1,1-Dichloropropene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	267	1	03/24/16 09:17	03/24/16 16:37	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	267	1	03/24/16 09:17	03/24/16 16:37	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	667	1	03/24/16 09:17	03/24/16 16:37	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	95-50-1	
1,2-Dichloroethane	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	107-06-2	
1,2-Dichloroethene (Total)	**241**	ug/kg	133	1	03/24/16 09:17	03/24/16 16:37	540-59-0	
1,2-Dichloropropane	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	541-73-1	
1,3-Dichloropropane	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	106-46-7	
2,2-Dichloropropane	ND	ug/kg	267	1	03/24/16 09:17	03/24/16 16:37	594-20-7	
2-Butanone (MEK)	ND	ug/kg	333	1	03/24/16 09:17	03/24/16 16:37	78-93-3	
2-Chlorotoluene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	95-49-8	
4-Chlorotoluene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	333	1	03/24/16 09:17	03/24/16 16:37	108-10-1	
Acetone	ND	ug/kg	1330	1	03/24/16 09:17	03/24/16 16:37	67-64-1	
Allyl chloride	ND	ug/kg	267	1	03/24/16 09:17	03/24/16 16:37	107-05-1	
Benzene	ND	ug/kg	26.7	1	03/24/16 09:17	03/24/16 16:37	71-43-2	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-9-10 **Lab ID: 10341678005** Collected: 03/15/16 12:50 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	108-86-1	
Bromochloromethane	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	74-97-5	
Bromodichloromethane	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	75-27-4	
Bromoform	ND	ug/kg	267	1	03/24/16 09:17	03/24/16 16:37	75-25-2	
Bromomethane	ND	ug/kg	667	1	03/24/16 09:17	03/24/16 16:37	74-83-9	
Carbon disulfide	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	75-15-0	
Carbon tetrachloride	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	56-23-5	
Chlorobenzene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	108-90-7	
Chloroethane	ND	ug/kg	667	1	03/24/16 09:17	03/24/16 16:37	75-00-3	
Chloroform	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	67-66-3	
Chloromethane	ND	ug/kg	267	1	03/24/16 09:17	03/24/16 16:37	74-87-3	
Dibromochloromethane	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	124-48-1	
Dibromomethane	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	267	1	03/24/16 09:17	03/24/16 16:37	75-71-8	
Dichlorofluoromethane	ND	ug/kg	667	1	03/24/16 09:17	03/24/16 16:37	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	267	1	03/24/16 09:17	03/24/16 16:37	60-29-7	
Ethylbenzene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	333	1	03/24/16 09:17	03/24/16 16:37	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	1634-04-4	
Methylene Chloride	ND	ug/kg	267	1	03/24/16 09:17	03/24/16 16:37	75-09-2	
Naphthalene	ND	ug/kg	267	1	03/24/16 09:17	03/24/16 16:37	91-20-3	
Styrene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	100-42-5	
Tetrachloroethene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	127-18-4	
Tetrahydrofuran	ND	ug/kg	2670	1	03/24/16 09:17	03/24/16 16:37	109-99-9	
Toluene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	108-88-3	
Trichloroethene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	79-01-6	
Trichlorofluoromethane	ND	ug/kg	267	1	03/24/16 09:17	03/24/16 16:37	75-69-4	
Vinyl chloride	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	75-01-4	
Xylene (Total)	ND	ug/kg	200	1	03/24/16 09:17	03/24/16 16:37	1330-20-7	
cis-1,2-Dichloroethene	**241**	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	10061-01-5	
m&p-Xylene	ND	ug/kg	133	1	03/24/16 09:17	03/24/16 16:37	179601-23-1	
n-Butylbenzene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	104-51-8	
n-Propylbenzene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	103-65-1	
o-Xylene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	95-47-6	
p-Isopropyltoluene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	99-87-6	
sec-Butylbenzene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	135-98-8	
tert-Butylbenzene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	66.7	1	03/24/16 09:17	03/24/16 16:37	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	267	1	03/24/16 09:17	03/24/16 16:37	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%.	75-129	1	03/24/16 09:17	03/24/16 16:37	17060-07-0	
Toluene-d8 (S)	98	%.	75-125	1	03/24/16 09:17	03/24/16 16:37	2037-26-5	
4-Bromofluorobenzene (S)	112	%.	75-125	1	03/24/16 09:17	03/24/16 16:37	460-00-4	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-9-15 **Lab ID: 10341678006** Collected: 03/15/16 12:55 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**7.6**	mg/kg	0.65	20	03/21/16 09:42	03/21/16 15:04	7440-38-2	
Barium	**95.3**	mg/kg	0.39	20	03/21/16 09:42	03/21/16 15:04	7440-39-3	
Cadmium	ND	mg/kg	0.10	20	03/21/16 09:42	03/21/16 15:04	7440-43-9	
Chromium	**20.1**	mg/kg	0.65	20	03/21/16 09:42	03/21/16 15:04	7440-47-3	
Lead	**5.5**	mg/kg	0.13	20	03/21/16 09:42	03/21/16 15:04	7439-92-1	
Selenium	ND	mg/kg	0.65	20	03/21/16 09:42	03/21/16 15:04	7782-49-2	
Silver	ND	mg/kg	0.65	20	03/21/16 09:42	03/21/16 15:04	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**0.056**	mg/kg	0.028	1	03/21/16 12:08	03/21/16 18:15	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**30.6**	%	0.10	1		03/17/16 12:35		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	284	1	03/24/16 09:17	03/24/16 16:55	76-13-1	
1,1-Dichloroethane	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	75-34-3	
1,1-Dichloroethene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	75-35-4	
1,1-Dichloropropene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	284	1	03/24/16 09:17	03/24/16 16:55	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	284	1	03/24/16 09:17	03/24/16 16:55	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	710	1	03/24/16 09:17	03/24/16 16:55	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	95-50-1	
1,2-Dichloroethane	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	142	1	03/24/16 09:17	03/24/16 16:55	540-59-0	
1,2-Dichloropropane	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	541-73-1	
1,3-Dichloropropane	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	106-46-7	
2,2-Dichloropropane	ND	ug/kg	284	1	03/24/16 09:17	03/24/16 16:55	594-20-7	
2-Butanone (MEK)	ND	ug/kg	355	1	03/24/16 09:17	03/24/16 16:55	78-93-3	
2-Chlorotoluene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	95-49-8	
4-Chlorotoluene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	355	1	03/24/16 09:17	03/24/16 16:55	108-10-1	
Acetone	ND	ug/kg	1420	1	03/24/16 09:17	03/24/16 16:55	67-64-1	
Allyl chloride	ND	ug/kg	284	1	03/24/16 09:17	03/24/16 16:55	107-05-1	
Benzene	ND	ug/kg	28.4	1	03/24/16 09:17	03/24/16 16:55	71-43-2	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-9-15 **Lab ID: 10341678006** Collected: 03/15/16 12:55 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	108-86-1	
Bromochloromethane	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	74-97-5	
Bromodichloromethane	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	75-27-4	
Bromoform	ND	ug/kg	284	1	03/24/16 09:17	03/24/16 16:55	75-25-2	
Bromomethane	ND	ug/kg	710	1	03/24/16 09:17	03/24/16 16:55	74-83-9	
Carbon disulfide	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	75-15-0	
Carbon tetrachloride	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	56-23-5	
Chlorobenzene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	108-90-7	
Chloroethane	ND	ug/kg	710	1	03/24/16 09:17	03/24/16 16:55	75-00-3	
Chloroform	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	67-66-3	
Chloromethane	ND	ug/kg	284	1	03/24/16 09:17	03/24/16 16:55	74-87-3	
Dibromochloromethane	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	124-48-1	
Dibromomethane	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	284	1	03/24/16 09:17	03/24/16 16:55	75-71-8	
Dichlorofluoromethane	ND	ug/kg	710	1	03/24/16 09:17	03/24/16 16:55	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	284	1	03/24/16 09:17	03/24/16 16:55	60-29-7	
Ethylbenzene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	355	1	03/24/16 09:17	03/24/16 16:55	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	1634-04-4	
Methylene Chloride	ND	ug/kg	284	1	03/24/16 09:17	03/24/16 16:55	75-09-2	
Naphthalene	ND	ug/kg	284	1	03/24/16 09:17	03/24/16 16:55	91-20-3	
Styrene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	100-42-5	
Tetrachloroethene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	127-18-4	
Tetrahydrofuran	ND	ug/kg	2840	1	03/24/16 09:17	03/24/16 16:55	109-99-9	
Toluene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	108-88-3	
Trichloroethene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	79-01-6	
Trichlorofluoromethane	ND	ug/kg	284	1	03/24/16 09:17	03/24/16 16:55	75-69-4	
Vinyl chloride	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	75-01-4	
Xylene (Total)	ND	ug/kg	213	1	03/24/16 09:17	03/24/16 16:55	1330-20-7	
cis-1,2-Dichloroethene	**136**	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	10061-01-5	
m&p-Xylene	ND	ug/kg	142	1	03/24/16 09:17	03/24/16 16:55	179601-23-1	
n-Butylbenzene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	104-51-8	
n-Propylbenzene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	103-65-1	
o-Xylene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	95-47-6	
p-Isopropyltoluene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	99-87-6	
sec-Butylbenzene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	135-98-8	
tert-Butylbenzene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	71.0	1	03/24/16 09:17	03/24/16 16:55	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	284	1	03/24/16 09:17	03/24/16 16:55	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	97	%.	75-129	1	03/24/16 09:17	03/24/16 16:55	17060-07-0	
Toluene-d8 (S)	97	%.	75-125	1	03/24/16 09:17	03/24/16 16:55	2037-26-5	
4-Bromofluorobenzene (S)	105	%.	75-125	1	03/24/16 09:17	03/24/16 16:55	460-00-4	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-10-5 **Lab ID: 10341678007** Collected: 03/15/16 11:26 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**3.7**	mg/kg	0.50	20	03/21/16 09:42	03/21/16 15:07	7440-38-2	
Barium	**56.5**	mg/kg	0.30	20	03/21/16 09:42	03/21/16 15:07	7440-39-3	
Cadmium	**0.10**	mg/kg	0.081	20	03/21/16 09:42	03/21/16 15:07	7440-43-9	
Chromium	**26.8**	mg/kg	0.50	20	03/21/16 09:42	03/21/16 15:07	7440-47-3	
Lead	**3.6**	mg/kg	0.10	20	03/21/16 09:42	03/21/16 15:07	7439-92-1	
Selenium	ND	mg/kg	0.50	20	03/21/16 09:42	03/21/16 15:07	7782-49-2	
Silver	ND	mg/kg	0.50	20	03/21/16 09:42	03/21/16 15:07	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	ND	mg/kg	0.020	1	03/21/16 12:08	03/21/16 18:17	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**11.5**	%	0.10	1		03/17/16 12:35		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 17:13	76-13-1	
1,1-Dichloroethane	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	75-34-3	
1,1-Dichloroethene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	75-35-4	
1,1-Dichloropropene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 17:13	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 17:13	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	562	1	03/24/16 09:17	03/24/16 17:13	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	95-50-1	
1,2-Dichloroethane	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	107-06-2	
1,2-Dichloroethene (Total)	**233**	ug/kg	112	1	03/24/16 09:17	03/24/16 17:13	540-59-0	
1,2-Dichloropropane	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	541-73-1	
1,3-Dichloropropane	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	106-46-7	
2,2-Dichloropropane	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 17:13	594-20-7	
2-Butanone (MEK)	ND	ug/kg	281	1	03/24/16 09:17	03/24/16 17:13	78-93-3	
2-Chlorotoluene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	95-49-8	
4-Chlorotoluene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	281	1	03/24/16 09:17	03/24/16 17:13	108-10-1	
Acetone	ND	ug/kg	1120	1	03/24/16 09:17	03/24/16 17:13	67-64-1	
Allyl chloride	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 17:13	107-05-1	
Benzene	ND	ug/kg	22.5	1	03/24/16 09:17	03/24/16 17:13	71-43-2	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-10-5 **Lab ID: 10341678007** Collected: 03/15/16 11:26 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	108-86-1	
Bromochloromethane	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	74-97-5	
Bromodichloromethane	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	75-27-4	
Bromoform	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 17:13	75-25-2	
Bromomethane	ND	ug/kg	562	1	03/24/16 09:17	03/24/16 17:13	74-83-9	
Carbon disulfide	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	75-15-0	
Carbon tetrachloride	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	56-23-5	
Chlorobenzene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	108-90-7	
Chloroethane	ND	ug/kg	562	1	03/24/16 09:17	03/24/16 17:13	75-00-3	
Chloroform	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	67-66-3	
Chloromethane	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 17:13	74-87-3	
Dibromochloromethane	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	124-48-1	
Dibromomethane	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 17:13	75-71-8	
Dichlorofluoromethane	ND	ug/kg	562	1	03/24/16 09:17	03/24/16 17:13	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 17:13	60-29-7	
Ethylbenzene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	281	1	03/24/16 09:17	03/24/16 17:13	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	1634-04-4	
Methylene Chloride	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 17:13	75-09-2	
Naphthalene	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 17:13	91-20-3	
Styrene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	100-42-5	
Tetrachloroethene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	127-18-4	
Tetrahydrofuran	ND	ug/kg	2250	1	03/24/16 09:17	03/24/16 17:13	109-99-9	
Toluene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	108-88-3	
Trichloroethene	**22500**	ug/kg	562	10	03/24/16 09:17	03/25/16 12:09	79-01-6	
Trichlorofluoromethane	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 17:13	75-69-4	
Vinyl chloride	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	75-01-4	
Xylene (Total)	ND	ug/kg	168	1	03/24/16 09:17	03/24/16 17:13	1330-20-7	
cis-1,2-Dichloroethene	**183**	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	10061-01-5	
m&p-Xylene	ND	ug/kg	112	1	03/24/16 09:17	03/24/16 17:13	179601-23-1	
n-Butylbenzene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	104-51-8	
n-Propylbenzene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	103-65-1	
o-Xylene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	95-47-6	
p-Isopropyltoluene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	99-87-6	
sec-Butylbenzene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	135-98-8	
tert-Butylbenzene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	56.2	1	03/24/16 09:17	03/24/16 17:13	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 17:13	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%.	75-129	1	03/24/16 09:17	03/24/16 17:13	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1	03/24/16 09:17	03/24/16 17:13	2037-26-5	
4-Bromofluorobenzene (S)	108	%.	75-125	1	03/24/16 09:17	03/24/16 17:13	460-00-4	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-10-10 **Lab ID: 10341678008** Collected: 03/15/16 11:30 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**3.4**	mg/kg	0.55	20	03/21/16 09:42	03/21/16 15:09	7440-38-2	
Barium	**44.3**	mg/kg	0.33	20	03/21/16 09:42	03/21/16 15:09	7440-39-3	
Cadmium	ND	mg/kg	0.088	20	03/21/16 09:42	03/21/16 15:09	7440-43-9	
Chromium	**17.4**	mg/kg	0.55	20	03/21/16 09:42	03/21/16 15:09	7440-47-3	
Lead	**2.4**	mg/kg	0.11	20	03/21/16 09:42	03/21/16 15:09	7439-92-1	
Selenium	ND	mg/kg	0.55	20	03/21/16 09:42	03/21/16 15:09	7782-49-2	
Silver	ND	mg/kg	0.55	20	03/21/16 09:42	03/21/16 15:09	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	ND	mg/kg	0.026	1	03/21/16 12:08	03/21/16 18:19	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**25.2**	%	0.10	1		03/17/16 12:35		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	274	1	03/24/16 09:17	03/25/16 11:34	76-13-1	
1,1-Dichloroethane	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	75-34-3	
1,1-Dichloroethene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	75-35-4	
1,1-Dichloropropene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	274	1	03/24/16 09:17	03/25/16 11:34	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	274	1	03/24/16 09:17	03/25/16 11:34	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	685	1	03/24/16 09:17	03/25/16 11:34	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	95-50-1	
1,2-Dichloroethane	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	107-06-2	
1,2-Dichloroethene (Total)	**301**	ug/kg	137	1	03/24/16 09:17	03/25/16 11:34	540-59-0	
1,2-Dichloropropane	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	541-73-1	
1,3-Dichloropropane	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	106-46-7	
2,2-Dichloropropane	ND	ug/kg	274	1	03/24/16 09:17	03/25/16 11:34	594-20-7	
2-Butanone (MEK)	ND	ug/kg	342	1	03/24/16 09:17	03/25/16 11:34	78-93-3	
2-Chlorotoluene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	95-49-8	
4-Chlorotoluene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	342	1	03/24/16 09:17	03/25/16 11:34	108-10-1	
Acetone	ND	ug/kg	1370	1	03/24/16 09:17	03/25/16 11:34	67-64-1	
Allyl chloride	ND	ug/kg	274	1	03/24/16 09:17	03/25/16 11:34	107-05-1	
Benzene	ND	ug/kg	27.4	1	03/24/16 09:17	03/25/16 11:34	71-43-2	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-10-10 **Lab ID: 10341678008** Collected: 03/15/16 11:30 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	108-86-1	
Bromochloromethane	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	74-97-5	
Bromodichloromethane	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	75-27-4	
Bromoform	ND	ug/kg	274	1	03/24/16 09:17	03/25/16 11:34	75-25-2	
Bromomethane	ND	ug/kg	685	1	03/24/16 09:17	03/25/16 11:34	74-83-9	
Carbon disulfide	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	75-15-0	
Carbon tetrachloride	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	56-23-5	
Chlorobenzene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	108-90-7	
Chloroethane	ND	ug/kg	685	1	03/24/16 09:17	03/25/16 11:34	75-00-3	
Chloroform	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	67-66-3	
Chloromethane	ND	ug/kg	274	1	03/24/16 09:17	03/25/16 11:34	74-87-3	
Dibromochloromethane	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	124-48-1	
Dibromomethane	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	274	1	03/24/16 09:17	03/25/16 11:34	75-71-8	
Dichlorofluoromethane	ND	ug/kg	685	1	03/24/16 09:17	03/25/16 11:34	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	274	1	03/24/16 09:17	03/25/16 11:34	60-29-7	
Ethylbenzene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	342	1	03/24/16 09:17	03/25/16 11:34	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	1634-04-4	
Methylene Chloride	ND	ug/kg	274	1	03/24/16 09:17	03/25/16 11:34	75-09-2	
Naphthalene	ND	ug/kg	274	1	03/24/16 09:17	03/25/16 11:34	91-20-3	
Styrene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	100-42-5	
Tetrachloroethene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	127-18-4	
Tetrahydrofuran	ND	ug/kg	2740	1	03/24/16 09:17	03/25/16 11:34	109-99-9	
Toluene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	108-88-3	
Trichloroethene	**193**	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	79-01-6	
Trichlorofluoromethane	ND	ug/kg	274	1	03/24/16 09:17	03/25/16 11:34	75-69-4	
Vinyl chloride	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	75-01-4	
Xylene (Total)	ND	ug/kg	205	1	03/24/16 09:17	03/25/16 11:34	1330-20-7	
cis-1,2-Dichloroethene	**247**	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	10061-01-5	
m&p-Xylene	ND	ug/kg	137	1	03/24/16 09:17	03/25/16 11:34	179601-23-1	
n-Butylbenzene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	104-51-8	
n-Propylbenzene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	103-65-1	
o-Xylene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	95-47-6	
p-Isopropyltoluene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	99-87-6	
sec-Butylbenzene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	135-98-8	
tert-Butylbenzene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	68.5	1	03/24/16 09:17	03/25/16 11:34	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	274	1	03/24/16 09:17	03/25/16 11:34	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%.	75-129	1	03/24/16 09:17	03/25/16 11:34	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1	03/24/16 09:17	03/25/16 11:34	2037-26-5	
4-Bromofluorobenzene (S)	105	%.	75-125	1	03/24/16 09:17	03/25/16 11:34	460-00-4	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-10-15 **Lab ID: 10341678009** Collected: 03/15/16 11:35 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**6.2**	mg/kg	0.52	20	03/21/16 09:42	03/21/16 15:12	7440-38-2	
Barium	**76.4**	mg/kg	0.31	20	03/21/16 09:42	03/21/16 15:12	7440-39-3	
Cadmium	ND	mg/kg	0.083	20	03/21/16 09:42	03/21/16 15:12	7440-43-9	
Chromium	**16.8**	mg/kg	0.52	20	03/21/16 09:42	03/21/16 15:12	7440-47-3	
Lead	**4.8**	mg/kg	0.10	20	03/21/16 09:42	03/21/16 15:12	7439-92-1	
Selenium	ND	mg/kg	0.52	20	03/21/16 09:42	03/21/16 15:12	7782-49-2	
Silver	ND	mg/kg	0.52	20	03/21/16 09:42	03/21/16 15:12	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	ND	mg/kg	0.025	1	03/21/16 12:08	03/21/16 18:21	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**28.2**	%	0.10	1		03/17/16 12:36		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	286	1	03/24/16 09:17	03/24/16 17:48	76-13-1	
1,1-Dichloroethane	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	75-34-3	
1,1-Dichloroethene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	75-35-4	
1,1-Dichloropropene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	286	1	03/24/16 09:17	03/24/16 17:48	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	286	1	03/24/16 09:17	03/24/16 17:48	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	715	1	03/24/16 09:17	03/24/16 17:48	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	95-50-1	
1,2-Dichloroethane	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	143	1	03/24/16 09:17	03/24/16 17:48	540-59-0	
1,2-Dichloropropane	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	541-73-1	
1,3-Dichloropropane	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	106-46-7	
2,2-Dichloropropane	ND	ug/kg	286	1	03/24/16 09:17	03/24/16 17:48	594-20-7	
2-Butanone (MEK)	ND	ug/kg	357	1	03/24/16 09:17	03/24/16 17:48	78-93-3	
2-Chlorotoluene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	95-49-8	
4-Chlorotoluene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	357	1	03/24/16 09:17	03/24/16 17:48	108-10-1	
Acetone	ND	ug/kg	1430	1	03/24/16 09:17	03/24/16 17:48	67-64-1	
Allyl chloride	ND	ug/kg	286	1	03/24/16 09:17	03/24/16 17:48	107-05-1	
Benzene	ND	ug/kg	28.6	1	03/24/16 09:17	03/24/16 17:48	71-43-2	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-10-15 **Lab ID: 10341678009** Collected: 03/15/16 11:35 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	108-86-1	
Bromochloromethane	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	74-97-5	
Bromodichloromethane	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	75-27-4	
Bromoform	ND	ug/kg	286	1	03/24/16 09:17	03/24/16 17:48	75-25-2	
Bromomethane	ND	ug/kg	715	1	03/24/16 09:17	03/24/16 17:48	74-83-9	
Carbon disulfide	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	75-15-0	
Carbon tetrachloride	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	56-23-5	
Chlorobenzene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	108-90-7	
Chloroethane	ND	ug/kg	715	1	03/24/16 09:17	03/24/16 17:48	75-00-3	
Chloroform	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	67-66-3	
Chloromethane	ND	ug/kg	286	1	03/24/16 09:17	03/24/16 17:48	74-87-3	
Dibromochloromethane	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	124-48-1	
Dibromomethane	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	286	1	03/24/16 09:17	03/24/16 17:48	75-71-8	
Dichlorofluoromethane	ND	ug/kg	715	1	03/24/16 09:17	03/24/16 17:48	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	286	1	03/24/16 09:17	03/24/16 17:48	60-29-7	
Ethylbenzene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	357	1	03/24/16 09:17	03/24/16 17:48	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	1634-04-4	
Methylene Chloride	ND	ug/kg	286	1	03/24/16 09:17	03/24/16 17:48	75-09-2	
Naphthalene	ND	ug/kg	286	1	03/24/16 09:17	03/24/16 17:48	91-20-3	
Styrene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	100-42-5	
Tetrachloroethene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	127-18-4	
Tetrahydrofuran	ND	ug/kg	2860	1	03/24/16 09:17	03/24/16 17:48	109-99-9	
Toluene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	108-88-3	
Trichloroethene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	79-01-6	
Trichlorofluoromethane	ND	ug/kg	286	1	03/24/16 09:17	03/24/16 17:48	75-69-4	
Vinyl chloride	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	75-01-4	
Xylene (Total)	ND	ug/kg	214	1	03/24/16 09:17	03/24/16 17:48	1330-20-7	
cis-1,2-Dichloroethene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	10061-01-5	
m&p-Xylene	ND	ug/kg	143	1	03/24/16 09:17	03/24/16 17:48	179601-23-1	
n-Butylbenzene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	104-51-8	
n-Propylbenzene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	103-65-1	
o-Xylene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	95-47-6	
p-Isopropyltoluene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	99-87-6	
sec-Butylbenzene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	135-98-8	
tert-Butylbenzene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	71.5	1	03/24/16 09:17	03/24/16 17:48	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	286	1	03/24/16 09:17	03/24/16 17:48	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%.	75-129	1	03/24/16 09:17	03/24/16 17:48	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1	03/24/16 09:17	03/24/16 17:48	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125	1	03/24/16 09:17	03/24/16 17:48	460-00-4	

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(612)607-1700

ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-11-5 **Lab ID: 10341678010** Collected: 03/15/16 10:50 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**3.2**	mg/kg	0.47	20	03/21/16 09:42	03/21/16 15:14	7440-38-2	
Barium	**68.4**	mg/kg	0.28	20	03/21/16 09:42	03/21/16 15:14	7440-39-3	
Cadmium	**0.10**	mg/kg	0.076	20	03/21/16 09:42	03/21/16 15:14	7440-43-9	
Chromium	**33.8**	mg/kg	0.47	20	03/21/16 09:42	03/21/16 15:14	7440-47-3	
Lead	**6.2**	mg/kg	0.095	20	03/21/16 09:42	03/21/16 15:14	7439-92-1	
Selenium	ND	mg/kg	0.47	20	03/21/16 09:42	03/21/16 15:14	7782-49-2	
Silver	ND	mg/kg	0.47	20	03/21/16 09:42	03/21/16 15:14	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	ND	mg/kg	0.020	1	03/21/16 12:08	03/21/16 18:23	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**13.4**	%	0.10	1		03/17/16 12:36		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 18:06	76-13-1	
1,1-Dichloroethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	75-34-3	
1,1-Dichloroethene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	75-35-4	
1,1-Dichloropropene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 18:06	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 18:06	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	561	1	03/24/16 09:17	03/24/16 18:06	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	95-50-1	
1,2-Dichloroethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	112	1	03/24/16 09:17	03/24/16 18:06	540-59-0	
1,2-Dichloropropane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	541-73-1	
1,3-Dichloropropane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	106-46-7	
2,2-Dichloropropane	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 18:06	594-20-7	
2-Butanone (MEK)	ND	ug/kg	281	1	03/24/16 09:17	03/24/16 18:06	78-93-3	
2-Chlorotoluene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	95-49-8	
4-Chlorotoluene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	281	1	03/24/16 09:17	03/24/16 18:06	108-10-1	
Acetone	ND	ug/kg	1120	1	03/24/16 09:17	03/24/16 18:06	67-64-1	
Allyl chloride	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 18:06	107-05-1	
Benzene	ND	ug/kg	22.4	1	03/24/16 09:17	03/24/16 18:06	71-43-2	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-11-5 **Lab ID: 10341678010** Collected: 03/15/16 10:50 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	108-86-1	
Bromochloromethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	74-97-5	
Bromodichloromethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	75-27-4	
Bromoform	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 18:06	75-25-2	
Bromomethane	ND	ug/kg	561	1	03/24/16 09:17	03/24/16 18:06	74-83-9	
Carbon disulfide	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	75-15-0	
Carbon tetrachloride	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	56-23-5	
Chlorobenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	108-90-7	
Chloroethane	ND	ug/kg	561	1	03/24/16 09:17	03/24/16 18:06	75-00-3	
Chloroform	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	67-66-3	
Chloromethane	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 18:06	74-87-3	
Dibromochloromethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	124-48-1	
Dibromomethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 18:06	75-71-8	
Dichlorofluoromethane	ND	ug/kg	561	1	03/24/16 09:17	03/24/16 18:06	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 18:06	60-29-7	
Ethylbenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	281	1	03/24/16 09:17	03/24/16 18:06	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	1634-04-4	
Methylene Chloride	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 18:06	75-09-2	
Naphthalene	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 18:06	91-20-3	
Styrene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	100-42-5	
Tetrachloroethene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	127-18-4	
Tetrahydrofuran	ND	ug/kg	2240	1	03/24/16 09:17	03/24/16 18:06	109-99-9	
Toluene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	108-88-3	
Trichloroethene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	79-01-6	
Trichlorofluoromethane	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 18:06	75-69-4	
Vinyl chloride	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	75-01-4	
Xylene (Total)	ND	ug/kg	168	1	03/24/16 09:17	03/24/16 18:06	1330-20-7	
cis-1,2-Dichloroethene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	10061-01-5	
m&p-Xylene	ND	ug/kg	112	1	03/24/16 09:17	03/24/16 18:06	179601-23-1	
n-Butylbenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	104-51-8	
n-Propylbenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	103-65-1	
o-Xylene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	95-47-6	
p-Isopropyltoluene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	99-87-6	
sec-Butylbenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	135-98-8	
tert-Butylbenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 18:06	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	224	1	03/24/16 09:17	03/24/16 18:06	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%.	75-129	1	03/24/16 09:17	03/24/16 18:06	17060-07-0	
Toluene-d8 (S)	98	%.	75-125	1	03/24/16 09:17	03/24/16 18:06	2037-26-5	
4-Bromofluorobenzene (S)	107	%.	75-125	1	03/24/16 09:17	03/24/16 18:06	460-00-4	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-11-10 **Lab ID: 10341678011** Collected: 03/15/16 10:56 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**3.6**	mg/kg	0.65	20	03/21/16 09:42	03/21/16 15:17	7440-38-2	
Barium	**37.2**	mg/kg	0.39	20	03/21/16 09:42	03/21/16 15:17	7440-39-3	
Cadmium	ND	mg/kg	0.10	20	03/21/16 09:42	03/21/16 15:17	7440-43-9	
Chromium	**11.4**	mg/kg	0.65	20	03/21/16 09:42	03/21/16 15:17	7440-47-3	
Lead	**2.3**	mg/kg	0.13	20	03/21/16 09:42	03/21/16 15:17	7439-92-1	
Selenium	ND	mg/kg	0.65	20	03/21/16 09:42	03/21/16 15:17	7782-49-2	
Silver	ND	mg/kg	0.65	20	03/21/16 09:42	03/21/16 15:17	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	ND	mg/kg	0.027	1	03/21/16 12:08	03/21/16 18:25	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**28.5**	%	0.10	1		03/17/16 13:24		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	279	1	03/24/16 09:17	03/24/16 18:24	76-13-1	
1,1-Dichloroethane	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	75-34-3	
1,1-Dichloroethene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	75-35-4	
1,1-Dichloropropene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	279	1	03/24/16 09:17	03/24/16 18:24	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	279	1	03/24/16 09:17	03/24/16 18:24	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	698	1	03/24/16 09:17	03/24/16 18:24	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	95-50-1	
1,2-Dichloroethane	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	140	1	03/24/16 09:17	03/24/16 18:24	540-59-0	
1,2-Dichloropropane	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	541-73-1	
1,3-Dichloropropane	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	106-46-7	
2,2-Dichloropropane	ND	ug/kg	279	1	03/24/16 09:17	03/24/16 18:24	594-20-7	
2-Butanone (MEK)	ND	ug/kg	349	1	03/24/16 09:17	03/24/16 18:24	78-93-3	
2-Chlorotoluene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	95-49-8	
4-Chlorotoluene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	349	1	03/24/16 09:17	03/24/16 18:24	108-10-1	
Acetone	ND	ug/kg	1400	1	03/24/16 09:17	03/24/16 18:24	67-64-1	
Allyl chloride	ND	ug/kg	279	1	03/24/16 09:17	03/24/16 18:24	107-05-1	
Benzene	ND	ug/kg	27.9	1	03/24/16 09:17	03/24/16 18:24	71-43-2	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-11-10 **Lab ID: 10341678011** Collected: 03/15/16 10:56 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	108-86-1	
Bromochloromethane	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	74-97-5	
Bromodichloromethane	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	75-27-4	
Bromoform	ND	ug/kg	279	1	03/24/16 09:17	03/24/16 18:24	75-25-2	
Bromomethane	ND	ug/kg	698	1	03/24/16 09:17	03/24/16 18:24	74-83-9	
Carbon disulfide	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	75-15-0	
Carbon tetrachloride	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	56-23-5	
Chlorobenzene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	108-90-7	
Chloroethane	ND	ug/kg	698	1	03/24/16 09:17	03/24/16 18:24	75-00-3	
Chloroform	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	67-66-3	
Chloromethane	ND	ug/kg	279	1	03/24/16 09:17	03/24/16 18:24	74-87-3	
Dibromochloromethane	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	124-48-1	
Dibromomethane	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	279	1	03/24/16 09:17	03/24/16 18:24	75-71-8	
Dichlorofluoromethane	ND	ug/kg	698	1	03/24/16 09:17	03/24/16 18:24	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	279	1	03/24/16 09:17	03/24/16 18:24	60-29-7	
Ethylbenzene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	349	1	03/24/16 09:17	03/24/16 18:24	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	1634-04-4	
Methylene Chloride	ND	ug/kg	279	1	03/24/16 09:17	03/24/16 18:24	75-09-2	
Naphthalene	ND	ug/kg	279	1	03/24/16 09:17	03/24/16 18:24	91-20-3	
Styrene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	100-42-5	
Tetrachloroethene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	127-18-4	
Tetrahydrofuran	ND	ug/kg	2790	1	03/24/16 09:17	03/24/16 18:24	109-99-9	
Toluene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	108-88-3	
Trichloroethene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	79-01-6	
Trichlorofluoromethane	ND	ug/kg	279	1	03/24/16 09:17	03/24/16 18:24	75-69-4	
Vinyl chloride	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	75-01-4	
Xylene (Total)	ND	ug/kg	209	1	03/24/16 09:17	03/24/16 18:24	1330-20-7	
cis-1,2-Dichloroethene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	10061-01-5	
m&p-Xylene	ND	ug/kg	140	1	03/24/16 09:17	03/24/16 18:24	179601-23-1	
n-Butylbenzene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	104-51-8	
n-Propylbenzene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	103-65-1	
o-Xylene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	95-47-6	
p-Isopropyltoluene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	99-87-6	
sec-Butylbenzene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	135-98-8	
tert-Butylbenzene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	69.8	1	03/24/16 09:17	03/24/16 18:24	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	279	1	03/24/16 09:17	03/24/16 18:24	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%.	75-129	1	03/24/16 09:17	03/24/16 18:24	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1	03/24/16 09:17	03/24/16 18:24	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125	1	03/24/16 09:17	03/24/16 18:24	460-00-4	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-11-15 **Lab ID: 10341678012** Collected: 03/15/16 11:00 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**10.4**	mg/kg	0.68	20	03/21/16 09:42	03/21/16 15:19	7440-38-2	
Barium	**119**	mg/kg	0.41	20	03/21/16 09:42	03/21/16 15:19	7440-39-3	
Cadmium	ND	mg/kg	0.11	20	03/21/16 09:42	03/21/16 15:19	7440-43-9	
Chromium	**24.2**	mg/kg	0.68	20	03/21/16 09:42	03/21/16 15:19	7440-47-3	
Lead	**7.1**	mg/kg	0.14	20	03/21/16 09:42	03/21/16 15:19	7439-92-1	
Selenium	ND	mg/kg	0.68	20	03/21/16 09:42	03/21/16 15:19	7782-49-2	
Silver	ND	mg/kg	0.68	20	03/21/16 09:42	03/21/16 15:19	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**0.054**	mg/kg	0.027	1	03/21/16 12:08	03/21/16 18:27	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**34.3**	%	0.10	1		03/17/16 13:25		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	297	1	03/24/16 09:17	03/24/16 18:42	76-13-1	
1,1-Dichloroethane	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	75-34-3	
1,1-Dichloroethene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	75-35-4	
1,1-Dichloropropene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	297	1	03/24/16 09:17	03/24/16 18:42	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	297	1	03/24/16 09:17	03/24/16 18:42	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	743	1	03/24/16 09:17	03/24/16 18:42	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	95-50-1	
1,2-Dichloroethane	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	149	1	03/24/16 09:17	03/24/16 18:42	540-59-0	
1,2-Dichloropropane	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	541-73-1	
1,3-Dichloropropane	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	106-46-7	
2,2-Dichloropropane	ND	ug/kg	297	1	03/24/16 09:17	03/24/16 18:42	594-20-7	
2-Butanone (MEK)	ND	ug/kg	372	1	03/24/16 09:17	03/24/16 18:42	78-93-3	
2-Chlorotoluene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	95-49-8	
4-Chlorotoluene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	372	1	03/24/16 09:17	03/24/16 18:42	108-10-1	
Acetone	ND	ug/kg	1490	1	03/24/16 09:17	03/24/16 18:42	67-64-1	
Allyl chloride	ND	ug/kg	297	1	03/24/16 09:17	03/24/16 18:42	107-05-1	
Benzene	ND	ug/kg	29.7	1	03/24/16 09:17	03/24/16 18:42	71-43-2	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-11-15 **Lab ID: 10341678012** Collected: 03/15/16 11:00 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	108-86-1	
Bromochloromethane	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	74-97-5	
Bromodichloromethane	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	75-27-4	
Bromoform	ND	ug/kg	297	1	03/24/16 09:17	03/24/16 18:42	75-25-2	
Bromomethane	ND	ug/kg	743	1	03/24/16 09:17	03/24/16 18:42	74-83-9	
Carbon disulfide	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	75-15-0	
Carbon tetrachloride	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	56-23-5	
Chlorobenzene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	108-90-7	
Chloroethane	ND	ug/kg	743	1	03/24/16 09:17	03/24/16 18:42	75-00-3	
Chloroform	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	67-66-3	
Chloromethane	ND	ug/kg	297	1	03/24/16 09:17	03/24/16 18:42	74-87-3	
Dibromochloromethane	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	124-48-1	
Dibromomethane	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	297	1	03/24/16 09:17	03/24/16 18:42	75-71-8	
Dichlorofluoromethane	ND	ug/kg	743	1	03/24/16 09:17	03/24/16 18:42	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	297	1	03/24/16 09:17	03/24/16 18:42	60-29-7	
Ethylbenzene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	372	1	03/24/16 09:17	03/24/16 18:42	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	1634-04-4	
Methylene Chloride	ND	ug/kg	297	1	03/24/16 09:17	03/24/16 18:42	75-09-2	
Naphthalene	ND	ug/kg	297	1	03/24/16 09:17	03/24/16 18:42	91-20-3	
Styrene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	100-42-5	
Tetrachloroethene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	127-18-4	
Tetrahydrofuran	ND	ug/kg	2970	1	03/24/16 09:17	03/24/16 18:42	109-99-9	
Toluene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	108-88-3	
Trichloroethene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	79-01-6	
Trichlorofluoromethane	ND	ug/kg	297	1	03/24/16 09:17	03/24/16 18:42	75-69-4	
Vinyl chloride	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	75-01-4	
Xylene (Total)	ND	ug/kg	223	1	03/24/16 09:17	03/24/16 18:42	1330-20-7	
cis-1,2-Dichloroethene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	10061-01-5	
m&p-Xylene	ND	ug/kg	149	1	03/24/16 09:17	03/24/16 18:42	179601-23-1	
n-Butylbenzene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	104-51-8	
n-Propylbenzene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	103-65-1	
o-Xylene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	95-47-6	
p-Isopropyltoluene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	99-87-6	
sec-Butylbenzene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	135-98-8	
tert-Butylbenzene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	74.3	1	03/24/16 09:17	03/24/16 18:42	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	297	1	03/24/16 09:17	03/24/16 18:42	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	75-129	1	03/24/16 09:17	03/24/16 18:42	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1	03/24/16 09:17	03/24/16 18:42	2037-26-5	
4-Bromofluorobenzene (S)	107	%.	75-125	1	03/24/16 09:17	03/24/16 18:42	460-00-4	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-12-5 **Lab ID: 10341678013** Collected: 03/15/16 13:05 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**4.6**	mg/kg	0.52	20	03/21/16 09:42	03/21/16 15:22	7440-38-2	
Barium	**79.4**	mg/kg	0.31	20	03/21/16 09:42	03/21/16 15:22	7440-39-3	
Cadmium	**0.17**	mg/kg	0.084	20	03/21/16 09:42	03/21/16 15:22	7440-43-9	
Chromium	**36.9**	mg/kg	0.52	20	03/21/16 09:42	03/21/16 15:22	7440-47-3	
Lead	**5.9**	mg/kg	0.10	20	03/21/16 09:42	03/21/16 15:22	7439-92-1	
Selenium	ND	mg/kg	0.52	20	03/21/16 09:42	03/21/16 15:22	7782-49-2	
Silver	ND	mg/kg	0.52	20	03/21/16 09:42	03/21/16 15:22	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	ND	mg/kg	0.021	1	03/21/16 12:08	03/21/16 18:33	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**13.8**	%	0.10	1		03/17/16 13:25		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 19:00	76-13-1	
1,1-Dichloroethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	75-34-3	
1,1-Dichloroethene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	75-35-4	
1,1-Dichloropropene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 19:00	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 19:00	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	574	1	03/24/16 09:17	03/24/16 19:00	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	95-50-1	
1,2-Dichloroethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	115	1	03/24/16 09:17	03/24/16 19:00	540-59-0	
1,2-Dichloropropane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	541-73-1	
1,3-Dichloropropane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	106-46-7	
2,2-Dichloropropane	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 19:00	594-20-7	
2-Butanone (MEK)	ND	ug/kg	287	1	03/24/16 09:17	03/24/16 19:00	78-93-3	
2-Chlorotoluene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	95-49-8	
4-Chlorotoluene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	287	1	03/24/16 09:17	03/24/16 19:00	108-10-1	
Acetone	ND	ug/kg	1150	1	03/24/16 09:17	03/24/16 19:00	67-64-1	
Allyl chloride	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 19:00	107-05-1	
Benzene	ND	ug/kg	23.0	1	03/24/16 09:17	03/24/16 19:00	71-43-2	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-12-5 **Lab ID: 10341678013** Collected: 03/15/16 13:05 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	108-86-1	
Bromochloromethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	74-97-5	
Bromodichloromethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	75-27-4	
Bromoform	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 19:00	75-25-2	
Bromomethane	ND	ug/kg	574	1	03/24/16 09:17	03/24/16 19:00	74-83-9	
Carbon disulfide	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	75-15-0	
Carbon tetrachloride	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	56-23-5	
Chlorobenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	108-90-7	
Chloroethane	ND	ug/kg	574	1	03/24/16 09:17	03/24/16 19:00	75-00-3	
Chloroform	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	67-66-3	
Chloromethane	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 19:00	74-87-3	
Dibromochloromethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	124-48-1	
Dibromomethane	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 19:00	75-71-8	
Dichlorofluoromethane	ND	ug/kg	574	1	03/24/16 09:17	03/24/16 19:00	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 19:00	60-29-7	
Ethylbenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	287	1	03/24/16 09:17	03/24/16 19:00	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	1634-04-4	
Methylene Chloride	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 19:00	75-09-2	
Naphthalene	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 19:00	91-20-3	
Styrene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	100-42-5	
Tetrachloroethene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	127-18-4	
Tetrahydrofuran	ND	ug/kg	2300	1	03/24/16 09:17	03/24/16 19:00	109-99-9	
Toluene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	108-88-3	
Trichloroethene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	79-01-6	
Trichlorofluoromethane	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 19:00	75-69-4	
Vinyl chloride	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	75-01-4	
Xylene (Total)	ND	ug/kg	172	1	03/24/16 09:17	03/24/16 19:00	1330-20-7	
cis-1,2-Dichloroethene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	10061-01-5	
m&p-Xylene	ND	ug/kg	115	1	03/24/16 09:17	03/24/16 19:00	179601-23-1	
n-Butylbenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	104-51-8	
n-Propylbenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	103-65-1	
o-Xylene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	95-47-6	
p-Isopropyltoluene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	99-87-6	
sec-Butylbenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	135-98-8	
tert-Butylbenzene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	57.4	1	03/24/16 09:17	03/24/16 19:00	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	230	1	03/24/16 09:17	03/24/16 19:00	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%.	75-129	1	03/24/16 09:17	03/24/16 19:00	17060-07-0	
Toluene-d8 (S)	97	%.	75-125	1	03/24/16 09:17	03/24/16 19:00	2037-26-5	
4-Bromofluorobenzene (S)	110	%.	75-125	1	03/24/16 09:17	03/24/16 19:00	460-00-4	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-12-10 **Lab ID: 10341678014** Collected: 03/15/16 13:15 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**4.1**	mg/kg	0.46	20	03/21/16 09:42	03/21/16 15:25	7440-38-2	
Barium	**44.3**	mg/kg	0.27	20	03/21/16 09:42	03/21/16 15:25	7440-39-3	
Cadmium	ND	mg/kg	0.073	20	03/21/16 09:42	03/21/16 15:25	7440-43-9	
Chromium	**14.8**	mg/kg	0.46	20	03/21/16 09:42	03/21/16 15:25	7440-47-3	
Lead	**2.5**	mg/kg	0.091	20	03/21/16 09:42	03/21/16 15:25	7439-92-1	
Selenium	ND	mg/kg	0.46	20	03/21/16 09:42	03/21/16 15:25	7782-49-2	
Silver	ND	mg/kg	0.46	20	03/21/16 09:42	03/21/16 15:25	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	ND	mg/kg	0.022	1	03/21/16 12:08	03/21/16 18:35	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**21.9**	%	0.10	1		03/17/16 13:25		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	258	1	03/24/16 09:17	03/24/16 19:17	76-13-1	
1,1-Dichloroethane	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	75-34-3	
1,1-Dichloroethene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	75-35-4	
1,1-Dichloropropene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	258	1	03/24/16 09:17	03/24/16 19:17	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	258	1	03/24/16 09:17	03/24/16 19:17	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	644	1	03/24/16 09:17	03/24/16 19:17	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	95-50-1	
1,2-Dichloroethane	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	129	1	03/24/16 09:17	03/24/16 19:17	540-59-0	
1,2-Dichloropropane	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	541-73-1	
1,3-Dichloropropane	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	106-46-7	
2,2-Dichloropropane	ND	ug/kg	258	1	03/24/16 09:17	03/24/16 19:17	594-20-7	
2-Butanone (MEK)	ND	ug/kg	322	1	03/24/16 09:17	03/24/16 19:17	78-93-3	
2-Chlorotoluene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	95-49-8	
4-Chlorotoluene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	322	1	03/24/16 09:17	03/24/16 19:17	108-10-1	
Acetone	ND	ug/kg	1290	1	03/24/16 09:17	03/24/16 19:17	67-64-1	
Allyl chloride	ND	ug/kg	258	1	03/24/16 09:17	03/24/16 19:17	107-05-1	
Benzene	ND	ug/kg	25.8	1	03/24/16 09:17	03/24/16 19:17	71-43-2	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-12-10 **Lab ID: 10341678014** Collected: 03/15/16 13:15 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	108-86-1	
Bromochloromethane	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	74-97-5	
Bromodichloromethane	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	75-27-4	
Bromoform	ND	ug/kg	258	1	03/24/16 09:17	03/24/16 19:17	75-25-2	
Bromomethane	ND	ug/kg	644	1	03/24/16 09:17	03/24/16 19:17	74-83-9	
Carbon disulfide	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	75-15-0	
Carbon tetrachloride	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	56-23-5	
Chlorobenzene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	108-90-7	
Chloroethane	ND	ug/kg	644	1	03/24/16 09:17	03/24/16 19:17	75-00-3	
Chloroform	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	67-66-3	
Chloromethane	ND	ug/kg	258	1	03/24/16 09:17	03/24/16 19:17	74-87-3	
Dibromochloromethane	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	124-48-1	
Dibromomethane	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	258	1	03/24/16 09:17	03/24/16 19:17	75-71-8	
Dichlorofluoromethane	ND	ug/kg	644	1	03/24/16 09:17	03/24/16 19:17	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	258	1	03/24/16 09:17	03/24/16 19:17	60-29-7	
Ethylbenzene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	322	1	03/24/16 09:17	03/24/16 19:17	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	1634-04-4	
Methylene Chloride	ND	ug/kg	258	1	03/24/16 09:17	03/24/16 19:17	75-09-2	
Naphthalene	ND	ug/kg	258	1	03/24/16 09:17	03/24/16 19:17	91-20-3	
Styrene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	100-42-5	
Tetrachloroethene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	127-18-4	
Tetrahydrofuran	ND	ug/kg	2580	1	03/24/16 09:17	03/24/16 19:17	109-99-9	
Toluene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	108-88-3	
Trichloroethene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	79-01-6	
Trichlorofluoromethane	ND	ug/kg	258	1	03/24/16 09:17	03/24/16 19:17	75-69-4	
Vinyl chloride	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	75-01-4	
Xylene (Total)	ND	ug/kg	193	1	03/24/16 09:17	03/24/16 19:17	1330-20-7	
cis-1,2-Dichloroethene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	10061-01-5	
m&p-Xylene	ND	ug/kg	129	1	03/24/16 09:17	03/24/16 19:17	179601-23-1	
n-Butylbenzene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	104-51-8	
n-Propylbenzene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	103-65-1	
o-Xylene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	95-47-6	
p-Isopropyltoluene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	99-87-6	
sec-Butylbenzene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	135-98-8	
tert-Butylbenzene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	64.4	1	03/24/16 09:17	03/24/16 19:17	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	258	1	03/24/16 09:17	03/24/16 19:17	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%.	75-129	1	03/24/16 09:17	03/24/16 19:17	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1	03/24/16 09:17	03/24/16 19:17	2037-26-5	
4-Bromofluorobenzene (S)	106	%.	75-125	1	03/24/16 09:17	03/24/16 19:17	460-00-4	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-12-15 **Lab ID: 10341678015** Collected: 03/15/16 13:20 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**8.6**	mg/kg	0.63	20	03/21/16 09:42	03/22/16 08:20	7440-38-2	
Barium	**107**	mg/kg	0.38	20	03/21/16 09:42	03/22/16 08:20	7440-39-3	
Cadmium	**0.12**	mg/kg	0.10	20	03/21/16 09:42	03/22/16 08:20	7440-43-9	
Chromium	**21.7**	mg/kg	0.63	20	03/21/16 09:42	03/22/16 08:20	7440-47-3	
Lead	**6.4**	mg/kg	0.13	20	03/21/16 09:42	03/22/16 08:20	7439-92-1	
Selenium	ND	mg/kg	0.63	20	03/21/16 09:42	03/22/16 08:20	7782-49-2	
Silver	ND	mg/kg	0.63	20	03/21/16 09:42	03/22/16 08:20	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**0.065**	mg/kg	0.026	1	03/21/16 12:08	03/21/16 18:38	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**32.9**	%	0.10	1		03/17/16 13:26		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 19:35	76-13-1	
1,1-Dichloroethane	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	75-34-3	
1,1-Dichloroethene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	75-35-4	
1,1-Dichloropropene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 19:35	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 19:35	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	764	1	03/24/16 09:17	03/24/16 19:35	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	95-50-1	
1,2-Dichloroethane	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	153	1	03/24/16 09:17	03/24/16 19:35	540-59-0	
1,2-Dichloropropane	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	541-73-1	
1,3-Dichloropropane	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	106-46-7	
2,2-Dichloropropane	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 19:35	594-20-7	
2-Butanone (MEK)	ND	ug/kg	382	1	03/24/16 09:17	03/24/16 19:35	78-93-3	
2-Chlorotoluene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	95-49-8	
4-Chlorotoluene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	382	1	03/24/16 09:17	03/24/16 19:35	108-10-1	
Acetone	ND	ug/kg	1530	1	03/24/16 09:17	03/24/16 19:35	67-64-1	
Allyl chloride	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 19:35	107-05-1	
Benzene	ND	ug/kg	30.5	1	03/24/16 09:17	03/24/16 19:35	71-43-2	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-12-15 **Lab ID: 10341678015** Collected: 03/15/16 13:20 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	108-86-1	
Bromochloromethane	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	74-97-5	
Bromodichloromethane	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	75-27-4	
Bromoform	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 19:35	75-25-2	
Bromomethane	ND	ug/kg	764	1	03/24/16 09:17	03/24/16 19:35	74-83-9	
Carbon disulfide	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	75-15-0	
Carbon tetrachloride	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	56-23-5	
Chlorobenzene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	108-90-7	
Chloroethane	ND	ug/kg	764	1	03/24/16 09:17	03/24/16 19:35	75-00-3	
Chloroform	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	67-66-3	
Chloromethane	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 19:35	74-87-3	
Dibromochloromethane	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	124-48-1	
Dibromomethane	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 19:35	75-71-8	
Dichlorofluoromethane	ND	ug/kg	764	1	03/24/16 09:17	03/24/16 19:35	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 19:35	60-29-7	
Ethylbenzene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	382	1	03/24/16 09:17	03/24/16 19:35	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	1634-04-4	
Methylene Chloride	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 19:35	75-09-2	
Naphthalene	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 19:35	91-20-3	
Styrene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	100-42-5	
Tetrachloroethene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	127-18-4	
Tetrahydrofuran	ND	ug/kg	3050	1	03/24/16 09:17	03/24/16 19:35	109-99-9	
Toluene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	108-88-3	
Trichloroethene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	79-01-6	
Trichlorofluoromethane	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 19:35	75-69-4	
Vinyl chloride	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	75-01-4	
Xylene (Total)	ND	ug/kg	229	1	03/24/16 09:17	03/24/16 19:35	1330-20-7	
cis-1,2-Dichloroethene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	10061-01-5	
m&p-Xylene	ND	ug/kg	153	1	03/24/16 09:17	03/24/16 19:35	179601-23-1	
n-Butylbenzene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	104-51-8	
n-Propylbenzene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	103-65-1	
o-Xylene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	95-47-6	
p-Isopropyltoluene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	99-87-6	
sec-Butylbenzene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	135-98-8	
tert-Butylbenzene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	76.4	1	03/24/16 09:17	03/24/16 19:35	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	305	1	03/24/16 09:17	03/24/16 19:35	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	75-129	1	03/24/16 09:17	03/24/16 19:35	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1	03/24/16 09:17	03/24/16 19:35	2037-26-5	
4-Bromofluorobenzene (S)	106	%.	75-125	1	03/24/16 09:17	03/24/16 19:35	460-00-4	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-13-5 **Lab ID: 10341678016** Collected: 03/15/16 13:35 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**2.2**	mg/kg	0.45	20	03/21/16 09:42	03/22/16 08:22	7440-38-2	
Barium	**35.3**	mg/kg	0.27	20	03/21/16 09:42	03/22/16 08:22	7440-39-3	
Cadmium	**0.094**	mg/kg	0.072	20	03/21/16 09:42	03/22/16 08:22	7440-43-9	
Chromium	**17.2**	mg/kg	0.45	20	03/21/16 09:42	03/22/16 08:22	7440-47-3	
Lead	**4.0**	mg/kg	0.090	20	03/21/16 09:42	03/22/16 08:22	7439-92-1	
Selenium	ND	mg/kg	0.45	20	03/21/16 09:42	03/22/16 08:22	7782-49-2	
Silver	ND	mg/kg	0.45	20	03/21/16 09:42	03/22/16 08:22	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**0.034**	mg/kg	0.022	1	03/21/16 12:08	03/21/16 18:40	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**11.4**	%	0.10	1		03/17/16 13:26		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 19:52	76-13-1	
1,1-Dichloroethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	75-34-3	
1,1-Dichloroethene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	75-35-4	
1,1-Dichloropropene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 19:52	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 19:52	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	561	1	03/24/16 09:17	03/24/16 19:52	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	95-50-1	
1,2-Dichloroethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	112	1	03/24/16 09:17	03/24/16 19:52	540-59-0	
1,2-Dichloropropane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	541-73-1	
1,3-Dichloropropane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	106-46-7	
2,2-Dichloropropane	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 19:52	594-20-7	
2-Butanone (MEK)	ND	ug/kg	281	1	03/24/16 09:17	03/24/16 19:52	78-93-3	
2-Chlorotoluene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	95-49-8	
4-Chlorotoluene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	281	1	03/24/16 09:17	03/24/16 19:52	108-10-1	
Acetone	ND	ug/kg	1120	1	03/24/16 09:17	03/24/16 19:52	67-64-1	
Allyl chloride	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 19:52	107-05-1	
Benzene	ND	ug/kg	22.5	1	03/24/16 09:17	03/24/16 19:52	71-43-2	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-13-5 **Lab ID: 10341678016** Collected: 03/15/16 13:35 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	108-86-1	
Bromochloromethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	74-97-5	
Bromodichloromethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	75-27-4	
Bromoform	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 19:52	75-25-2	
Bromomethane	ND	ug/kg	561	1	03/24/16 09:17	03/24/16 19:52	74-83-9	
Carbon disulfide	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	75-15-0	
Carbon tetrachloride	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	56-23-5	
Chlorobenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	108-90-7	
Chloroethane	ND	ug/kg	561	1	03/24/16 09:17	03/24/16 19:52	75-00-3	
Chloroform	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	67-66-3	
Chloromethane	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 19:52	74-87-3	
Dibromochloromethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	124-48-1	
Dibromomethane	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 19:52	75-71-8	
Dichlorofluoromethane	ND	ug/kg	561	1	03/24/16 09:17	03/24/16 19:52	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 19:52	60-29-7	
Ethylbenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	281	1	03/24/16 09:17	03/24/16 19:52	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	1634-04-4	
Methylene Chloride	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 19:52	75-09-2	
Naphthalene	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 19:52	91-20-3	
Styrene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	100-42-5	
Tetrachloroethene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	127-18-4	
Tetrahydrofuran	ND	ug/kg	2250	1	03/24/16 09:17	03/24/16 19:52	109-99-9	
Toluene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	108-88-3	
Trichloroethene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	79-01-6	
Trichlorofluoromethane	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 19:52	75-69-4	
Vinyl chloride	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	75-01-4	
Xylene (Total)	ND	ug/kg	168	1	03/24/16 09:17	03/24/16 19:52	1330-20-7	
cis-1,2-Dichloroethene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	10061-01-5	
m&p-Xylene	ND	ug/kg	112	1	03/24/16 09:17	03/24/16 19:52	179601-23-1	
n-Butylbenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	104-51-8	
n-Propylbenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	103-65-1	
o-Xylene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	95-47-6	
p-Isopropyltoluene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	99-87-6	
sec-Butylbenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	135-98-8	
tert-Butylbenzene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	56.1	1	03/24/16 09:17	03/24/16 19:52	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	225	1	03/24/16 09:17	03/24/16 19:52	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%.	75-129	1	03/24/16 09:17	03/24/16 19:52	17060-07-0	
Toluene-d8 (S)	98	%.	75-125	1	03/24/16 09:17	03/24/16 19:52	2037-26-5	
4-Bromofluorobenzene (S)	96	%.	75-125	1	03/24/16 09:17	03/24/16 19:52	460-00-4	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-13-10 **Lab ID: 10341678017** Collected: 03/15/16 13:45 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**6.8**	mg/kg	0.54	20	03/21/16 09:42	03/22/16 08:25	7440-38-2	
Barium	**65.4**	mg/kg	0.33	20	03/21/16 09:42	03/22/16 08:25	7440-39-3	
Cadmium	**0.20**	mg/kg	0.087	20	03/21/16 09:42	03/22/16 08:25	7440-43-9	
Chromium	**15.1**	mg/kg	0.54	20	03/21/16 09:42	03/22/16 08:25	7440-47-3	
Lead	**11.5**	mg/kg	0.11	20	03/21/16 09:42	03/22/16 08:25	7439-92-1	
Selenium	ND	mg/kg	0.54	20	03/21/16 09:42	03/22/16 08:25	7782-49-2	
Silver	ND	mg/kg	0.54	20	03/21/16 09:42	03/22/16 08:25	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**0.054**	mg/kg	0.025	1	03/21/16 12:08	03/21/16 18:42	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**25.3**	%	0.10	1		03/17/16 13:26		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	265	1	03/24/16 09:17	03/24/16 20:10	76-13-1	
1,1-Dichloroethane	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	75-34-3	
1,1-Dichloroethene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	75-35-4	
1,1-Dichloropropene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	265	1	03/24/16 09:17	03/24/16 20:10	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	265	1	03/24/16 09:17	03/24/16 20:10	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	662	1	03/24/16 09:17	03/24/16 20:10	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	95-50-1	
1,2-Dichloroethane	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	132	1	03/24/16 09:17	03/24/16 20:10	540-59-0	
1,2-Dichloropropane	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	541-73-1	
1,3-Dichloropropane	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	106-46-7	
2,2-Dichloropropane	ND	ug/kg	265	1	03/24/16 09:17	03/24/16 20:10	594-20-7	
2-Butanone (MEK)	ND	ug/kg	331	1	03/24/16 09:17	03/24/16 20:10	78-93-3	
2-Chlorotoluene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	95-49-8	
4-Chlorotoluene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	331	1	03/24/16 09:17	03/24/16 20:10	108-10-1	
Acetone	ND	ug/kg	1320	1	03/24/16 09:17	03/24/16 20:10	67-64-1	
Allyl chloride	ND	ug/kg	265	1	03/24/16 09:17	03/24/16 20:10	107-05-1	
Benzene	ND	ug/kg	26.5	1	03/24/16 09:17	03/24/16 20:10	71-43-2	

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-13-10 **Lab ID: 10341678017** Collected: 03/15/16 13:45 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	108-86-1	
Bromochloromethane	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	74-97-5	
Bromodichloromethane	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	75-27-4	
Bromoform	ND	ug/kg	265	1	03/24/16 09:17	03/24/16 20:10	75-25-2	
Bromomethane	ND	ug/kg	662	1	03/24/16 09:17	03/24/16 20:10	74-83-9	
Carbon disulfide	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	75-15-0	
Carbon tetrachloride	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	56-23-5	
Chlorobenzene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	108-90-7	
Chloroethane	ND	ug/kg	662	1	03/24/16 09:17	03/24/16 20:10	75-00-3	
Chloroform	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	67-66-3	
Chloromethane	ND	ug/kg	265	1	03/24/16 09:17	03/24/16 20:10	74-87-3	
Dibromochloromethane	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	124-48-1	
Dibromomethane	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	265	1	03/24/16 09:17	03/24/16 20:10	75-71-8	
Dichlorofluoromethane	ND	ug/kg	662	1	03/24/16 09:17	03/24/16 20:10	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	265	1	03/24/16 09:17	03/24/16 20:10	60-29-7	
Ethylbenzene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	331	1	03/24/16 09:17	03/24/16 20:10	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	1634-04-4	
Methylene Chloride	ND	ug/kg	265	1	03/24/16 09:17	03/24/16 20:10	75-09-2	
Naphthalene	ND	ug/kg	265	1	03/24/16 09:17	03/24/16 20:10	91-20-3	
Styrene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	100-42-5	
Tetrachloroethene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	127-18-4	
Tetrahydrofuran	ND	ug/kg	2650	1	03/24/16 09:17	03/24/16 20:10	109-99-9	
Toluene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	108-88-3	
Trichloroethene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	79-01-6	
Trichlorofluoromethane	ND	ug/kg	265	1	03/24/16 09:17	03/24/16 20:10	75-69-4	
Vinyl chloride	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	75-01-4	
Xylene (Total)	ND	ug/kg	199	1	03/24/16 09:17	03/24/16 20:10	1330-20-7	
cis-1,2-Dichloroethene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	10061-01-5	
m&p-Xylene	ND	ug/kg	132	1	03/24/16 09:17	03/24/16 20:10	179601-23-1	
n-Butylbenzene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	104-51-8	
n-Propylbenzene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	103-65-1	
o-Xylene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	95-47-6	
p-Isopropyltoluene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	99-87-6	
sec-Butylbenzene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	135-98-8	
tert-Butylbenzene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	66.2	1	03/24/16 09:17	03/24/16 20:10	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	265	1	03/24/16 09:17	03/24/16 20:10	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%.	75-129	1	03/24/16 09:17	03/24/16 20:10	17060-07-0	
Toluene-d8 (S)	97	%.	75-125	1	03/24/16 09:17	03/24/16 20:10	2037-26-5	
4-Bromofluorobenzene (S)	107	%.	75-125	1	03/24/16 09:17	03/24/16 20:10	460-00-4	

REPORT OF LABORATORY ANALYSIS

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(612)607-1700

ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-13-15 **Lab ID: 10341678018** Collected: 03/15/16 13:50 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050							
Arsenic	**8.2**	mg/kg	0.60	20	03/21/16 09:42	03/22/16 08:27	7440-38-2	
Barium	**104**	mg/kg	0.36	20	03/21/16 09:42	03/22/16 08:27	7440-39-3	
Cadmium	**0.11**	mg/kg	0.096	20	03/21/16 09:42	03/22/16 08:27	7440-43-9	
Chromium	**21.0**	mg/kg	0.60	20	03/21/16 09:42	03/22/16 08:27	7440-47-3	
Lead	**6.0**	mg/kg	0.12	20	03/21/16 09:42	03/22/16 08:27	7439-92-1	
Selenium	ND	mg/kg	0.60	20	03/21/16 09:42	03/22/16 08:27	7782-49-2	
Silver	ND	mg/kg	0.60	20	03/21/16 09:42	03/22/16 08:27	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**0.075**	mg/kg	0.026	1	03/21/16 12:08	03/21/16 18:44	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**30.8**	%	0.10	1		03/17/16 13:26		
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	ND	ug/kg	293	1	03/24/16 12:34	03/24/16 15:29	630-20-6	
1,1,1-Trichloroethane	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	79-34-5	
1,1,2-Trichloroethane	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	79-00-5	
1,1,2-Trichlorotrifluoroethane	ND	ug/kg	293	1	03/24/16 12:34	03/24/16 15:29	76-13-1	
1,1-Dichloroethane	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	75-34-3	
1,1-Dichloroethene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	75-35-4	
1,1-Dichloropropene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	563-58-6	
1,2,3-Trichlorobenzene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	87-61-6	
1,2,3-Trichloropropane	ND	ug/kg	293	1	03/24/16 12:34	03/24/16 15:29	96-18-4	
1,2,4-Trichlorobenzene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	95-63-6	
1,2-Dibromo-3-chloropropane	ND	ug/kg	732	1	03/24/16 12:34	03/24/16 15:29	96-12-8	
1,2-Dibromoethane (EDB)	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	106-93-4	
1,2-Dichlorobenzene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	95-50-1	
1,2-Dichloroethane	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/kg	146	1	03/24/16 12:34	03/24/16 15:29	540-59-0	
1,2-Dichloropropane	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	108-67-8	
1,3-Dichlorobenzene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	541-73-1	
1,3-Dichloropropane	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	142-28-9	
1,4-Dichlorobenzene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	106-46-7	
2,2-Dichloropropane	ND	ug/kg	293	1	03/24/16 12:34	03/24/16 15:29	594-20-7	
2-Butanone (MEK)	ND	ug/kg	366	1	03/24/16 12:34	03/24/16 15:29	78-93-3	
2-Chlorotoluene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	95-49-8	
4-Chlorotoluene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	106-43-4	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	366	1	03/24/16 12:34	03/24/16 15:29	108-10-1	
Acetone	ND	ug/kg	1460	1	03/24/16 12:34	03/24/16 15:29	67-64-1	
Allyl chloride	ND	ug/kg	293	1	03/24/16 12:34	03/24/16 15:29	107-05-1	
Benzene	ND	ug/kg	29.3	1	03/24/16 12:34	03/24/16 15:29	71-43-2	

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ANALYTICAL RESULTS

Project: 062175
Pace Project No.: 10341678

Sample: SO-062175-031516-SB-13-15 **Lab ID: 10341678018** Collected: 03/15/16 13:50 Received: 03/16/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Bromobenzene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	108-86-1	
Bromochloromethane	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	74-97-5	
Bromodichloromethane	ND	ug/kg	293	1	03/24/16 12:34	03/24/16 15:29	75-27-4	
Bromoform	ND	ug/kg	732	1	03/24/16 12:34	03/24/16 15:29	75-25-2	
Bromomethane	ND	ug/kg	732	1	03/24/16 12:34	03/24/16 15:29	74-83-9	
Carbon disulfide	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	75-15-0	
Carbon tetrachloride	ND	ug/kg	293	1	03/24/16 12:34	03/24/16 15:29	56-23-5	
Chlorobenzene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	108-90-7	
Chloroethane	ND	ug/kg	732	1	03/24/16 12:34	03/24/16 15:29	75-00-3	
Chloroform	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	67-66-3	
Chloromethane	ND	ug/kg	293	1	03/24/16 12:34	03/24/16 15:29	74-87-3	
Dibromochloromethane	ND	ug/kg	293	1	03/24/16 12:34	03/24/16 15:29	124-48-1	
Dibromomethane	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	74-95-3	
Dichlorodifluoromethane	ND	ug/kg	293	1	03/24/16 12:34	03/24/16 15:29	75-71-8	
Dichlorofluoromethane	ND	ug/kg	732	1	03/24/16 12:34	03/24/16 15:29	75-43-4	
Diethyl ether (Ethyl ether)	ND	ug/kg	293	1	03/24/16 12:34	03/24/16 15:29	60-29-7	
Ethylbenzene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	366	1	03/24/16 12:34	03/24/16 15:29	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	98-82-8	
Methyl-tert-butyl ether	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	1634-04-4	
Methylene Chloride	ND	ug/kg	293	1	03/24/16 12:34	03/24/16 15:29	75-09-2	
Naphthalene	ND	ug/kg	293	1	03/24/16 12:34	03/24/16 15:29	91-20-3	
Styrene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	100-42-5	
Tetrachloroethene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	127-18-4	
Tetrahydrofuran	ND	ug/kg	2930	1	03/24/16 12:34	03/24/16 15:29	109-99-9	
Toluene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	108-88-3	
Trichloroethene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	79-01-6	
Trichlorofluoromethane	ND	ug/kg	293	1	03/24/16 12:34	03/24/16 15:29	75-69-4	
Vinyl chloride	ND	ug/kg	29.3	1	03/24/16 12:34	03/24/16 15:29	75-01-4	
Xylene (Total)	ND	ug/kg	220	1	03/24/16 12:34	03/24/16 15:29	1330-20-7	
cis-1,2-Dichloroethene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	156-59-2	
cis-1,3-Dichloropropene	ND	ug/kg	293	1	03/24/16 12:34	03/24/16 15:29	10061-01-5	
m&p-Xylene	ND	ug/kg	146	1	03/24/16 12:34	03/24/16 15:29	179601-23-1	
n-Butylbenzene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	104-51-8	
n-Propylbenzene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	103-65-1	
o-Xylene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	95-47-6	
p-Isopropyltoluene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	99-87-6	
sec-Butylbenzene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	135-98-8	
tert-Butylbenzene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	98-06-6	
trans-1,2-Dichloroethene	ND	ug/kg	73.2	1	03/24/16 12:34	03/24/16 15:29	156-60-5	
trans-1,3-Dichloropropene	ND	ug/kg	732	1	03/24/16 12:34	03/24/16 15:29	10061-02-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	112	%.	75-129	1	03/24/16 12:34	03/24/16 15:29	17060-07-0	
Toluene-d8 (S)	102	%.	75-125	1	03/24/16 12:34	03/24/16 15:29	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	75-125	1	03/24/16 12:34	03/24/16 15:29	460-00-4	

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QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

QC Batch: MERP/16148 Analysis Method: EPA 7471B
QC Batch Method: EPA 7471B Analysis Description: 7471B Mercury Solids
Associated Lab Samples: 10341678001, 10341678002, 10341678003, 10341678004, 10341678005, 10341678006, 10341678007, 10341678008, 10341678009, 10341678010, 10341678011, 10341678012, 10341678013, 10341678014, 10341678015, 10341678016, 10341678017, 10341678018

METHOD BLANK: 2211557 Matrix: Solid
Associated Lab Samples: 10341678001, 10341678002, 10341678003, 10341678004, 10341678005, 10341678006, 10341678007, 10341678008, 10341678009, 10341678010, 10341678011, 10341678012, 10341678013, 10341678014, 10341678015, 10341678016, 10341678017, 10341678018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	ND	0.019	03/21/16 17:52	

LABORATORY CONTROL SAMPLE: 2211558

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.48	0.47	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2211559 2211560

Parameter	Units	10341678001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	0.026	.52	.54	0.53	0.54	96	96	75-125	2	20	

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QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

QC Batch: MPRP/62056 Analysis Method: EPA 6020A
QC Batch Method: EPA 3050 Analysis Description: 6020A Solids UPD4
Associated Lab Samples: 10341678001, 10341678002, 10341678003, 10341678004, 10341678005, 10341678006, 10341678007, 10341678008, 10341678009, 10341678010, 10341678011, 10341678012, 10341678013, 10341678014, 10341678015, 10341678016, 10341678017, 10341678018

METHOD BLANK: 2211537 Matrix: Solid
Associated Lab Samples: 10341678001, 10341678002, 10341678003, 10341678004, 10341678005, 10341678006, 10341678007, 10341678008, 10341678009, 10341678010, 10341678011, 10341678012, 10341678013, 10341678014, 10341678015, 10341678016, 10341678017, 10341678018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.49	03/21/16 14:31	
Barium	mg/kg	ND	0.29	03/21/16 14:31	
Cadmium	mg/kg	ND	0.078	03/21/16 14:31	
Chromium	mg/kg	ND	0.49	03/21/16 14:31	
Lead	mg/kg	ND	0.097	03/21/16 14:31	
Selenium	mg/kg	ND	0.49	03/21/16 14:31	
Silver	mg/kg	ND	0.49	03/21/16 14:31	

LABORATORY CONTROL SAMPLE: 2211538

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	19.2	18.7	97	80-120	
Barium	mg/kg	19.2	19.6	102	80-120	
Cadmium	mg/kg	19.2	19.8	103	80-120	
Chromium	mg/kg	19.2	19.9	104	80-120	
Lead	mg/kg	19.2	19.4	101	80-120	
Selenium	mg/kg	19.2	19.1	99	80-120	
Silver	mg/kg	19.2	21.2	110	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2211539 2211540

Parameter	Units	10341678001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	3.9	21	20.7	24.0	22.2	95	89	80-120	8	20	
Barium	mg/kg	65.4	21	20.7	88.8	89.8	111	118	80-120	1	20	
Cadmium	mg/kg	0.12	21	20.7	20.5	19.4	97	93	80-120	5	20	
Chromium	mg/kg	31.2	21	20.7	55.4	55.0	115	115	80-120	1	20	
Lead	mg/kg	3.8	21	20.7	23.5	22.3	94	90	80-120	5	20	
Selenium	mg/kg	ND	21	20.7	19.6	21.2	92	101	80-120	8	20	
Silver	mg/kg	ND	21	20.7	21.5	20.4	102	98	80-120	5	20	

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QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

QC Batch: MPRP/62062 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 10341678001, 10341678002, 10341678003, 10341678004, 10341678005, 10341678006, 10341678007, 10341678008, 10341678009, 10341678010

SAMPLE DUPLICATE: 2211624

Parameter	Units	10341745001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.8	5.0	5	30	

SAMPLE DUPLICATE: 2211625

Parameter	Units	10341678010 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	13.4	13.7	2	30	

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QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

QC Batch: MPRP/62063 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 10341678011, 10341678012, 10341678013, 10341678014, 10341678015, 10341678016, 10341678017, 10341678018

SAMPLE DUPLICATE: 2211669

Parameter	Units	10341706001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	14.8	15.2	3	30	

SAMPLE DUPLICATE: 2211670

Parameter	Units	10341688003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	14.6	15.3	5	30	

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QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

QC Batch: MSV/34974 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035/5030B Analysis Description: 8260B MSV 5030 Med Level
Associated Lab Samples: 10341678001, 10341678002, 10341678003, 10341678004, 10341678005, 10341678006, 10341678007, 10341678008, 10341678009, 10341678010, 10341678011, 10341678012, 10341678013, 10341678014, 10341678015, 10341678016, 10341678017

METHOD BLANK: 2216304 Matrix: Solid
Associated Lab Samples: 10341678001, 10341678002, 10341678003, 10341678004, 10341678005, 10341678006, 10341678007, 10341678008, 10341678009, 10341678010, 10341678011, 10341678012, 10341678013, 10341678014, 10341678015, 10341678016, 10341678017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	50.0	03/24/16 13:58	
1,1,1-Trichloroethane	ug/kg	ND	50.0	03/24/16 13:58	
1,1,2,2-Tetrachloroethane	ug/kg	ND	50.0	03/24/16 13:58	
1,1,2-Trichloroethane	ug/kg	ND	50.0	03/24/16 13:58	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	200	03/24/16 13:58	
1,1-Dichloroethane	ug/kg	ND	50.0	03/24/16 13:58	
1,1-Dichloroethene	ug/kg	ND	50.0	03/24/16 13:58	
1,1-Dichloropropene	ug/kg	ND	50.0	03/24/16 13:58	
1,2,3-Trichlorobenzene	ug/kg	ND	50.0	03/24/16 13:58	
1,2,3-Trichloropropane	ug/kg	ND	200	03/24/16 13:58	
1,2,4-Trichlorobenzene	ug/kg	ND	200	03/24/16 13:58	
1,2,4-Trimethylbenzene	ug/kg	ND	50.0	03/24/16 13:58	
1,2-Dibromo-3-chloropropane	ug/kg	ND	500	03/24/16 13:58	
1,2-Dibromoethane (EDB)	ug/kg	ND	50.0	03/24/16 13:58	
1,2-Dichlorobenzene	ug/kg	ND	50.0	03/24/16 13:58	
1,2-Dichloroethane	ug/kg	ND	50.0	03/24/16 13:58	
1,2-Dichloroethene (Total)	ug/kg	ND	100	03/24/16 13:58	
1,2-Dichloropropane	ug/kg	ND	50.0	03/24/16 13:58	
1,3,5-Trimethylbenzene	ug/kg	ND	50.0	03/24/16 13:58	
1,3-Dichlorobenzene	ug/kg	ND	50.0	03/24/16 13:58	
1,3-Dichloropropane	ug/kg	ND	50.0	03/24/16 13:58	
1,4-Dichlorobenzene	ug/kg	ND	50.0	03/24/16 13:58	
2,2-Dichloropropane	ug/kg	ND	200	03/24/16 13:58	
2-Butanone (MEK)	ug/kg	ND	250	03/24/16 13:58	
2-Chlorotoluene	ug/kg	ND	50.0	03/24/16 13:58	
4-Chlorotoluene	ug/kg	ND	50.0	03/24/16 13:58	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	250	03/24/16 13:58	
Acetone	ug/kg	ND	1000	03/24/16 13:58	
Allyl chloride	ug/kg	ND	200	03/24/16 13:58	
Benzene	ug/kg	ND	20.0	03/24/16 13:58	
Bromobenzene	ug/kg	ND	50.0	03/24/16 13:58	
Bromochloromethane	ug/kg	ND	50.0	03/24/16 13:58	
Bromodichloromethane	ug/kg	ND	50.0	03/24/16 13:58	
Bromoform	ug/kg	ND	200	03/24/16 13:58	
Bromomethane	ug/kg	ND	500	03/24/16 13:58	
Carbon disulfide	ug/kg	ND	50.0	03/24/16 13:58	
Carbon tetrachloride	ug/kg	ND	50.0	03/24/16 13:58	
Chlorobenzene	ug/kg	ND	50.0	03/24/16 13:58	

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QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

METHOD BLANK: 2216304 Matrix: Solid

Associated Lab Samples: 10341678001, 10341678002, 10341678003, 10341678004, 10341678005, 10341678006, 10341678007, 10341678008, 10341678009, 10341678010, 10341678011, 10341678012, 10341678013, 10341678014, 10341678015, 10341678016, 10341678017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloroethane	ug/kg	ND	500	03/24/16 13:58	
Chloroform	ug/kg	ND	50.0	03/24/16 13:58	
Chloromethane	ug/kg	ND	200	03/24/16 13:58	
cis-1,2-Dichloroethene	ug/kg	ND	50.0	03/24/16 13:58	
cis-1,3-Dichloropropene	ug/kg	ND	50.0	03/24/16 13:58	
Dibromochloromethane	ug/kg	ND	50.0	03/24/16 13:58	
Dibromomethane	ug/kg	ND	50.0	03/24/16 13:58	
Dichlorodifluoromethane	ug/kg	ND	200	03/24/16 13:58	
Dichlorofluoromethane	ug/kg	ND	500	03/24/16 13:58	
Diethyl ether (Ethyl ether)	ug/kg	ND	200	03/24/16 13:58	
Ethylbenzene	ug/kg	ND	50.0	03/24/16 13:58	
Hexachloro-1,3-butadiene	ug/kg	ND	250	03/24/16 13:58	
Isopropylbenzene (Cumene)	ug/kg	ND	50.0	03/24/16 13:58	
m&p-Xylene	ug/kg	ND	100	03/24/16 13:58	
Methyl-tert-butyl ether	ug/kg	ND	50.0	03/24/16 13:58	
Methylene Chloride	ug/kg	ND	200	03/24/16 13:58	
n-Butylbenzene	ug/kg	ND	50.0	03/24/16 13:58	
n-Propylbenzene	ug/kg	ND	50.0	03/24/16 13:58	
Naphthalene	ug/kg	ND	200	03/24/16 13:58	
o-Xylene	ug/kg	ND	50.0	03/24/16 13:58	
p-Isopropyltoluene	ug/kg	ND	50.0	03/24/16 13:58	
sec-Butylbenzene	ug/kg	ND	50.0	03/24/16 13:58	
Styrene	ug/kg	ND	50.0	03/24/16 13:58	
tert-Butylbenzene	ug/kg	ND	50.0	03/24/16 13:58	
Tetrachloroethene	ug/kg	ND	50.0	03/24/16 13:58	
Tetrahydrofuran	ug/kg	ND	2000	03/24/16 13:58	
Toluene	ug/kg	ND	50.0	03/24/16 13:58	
trans-1,2-Dichloroethene	ug/kg	ND	50.0	03/24/16 13:58	
trans-1,3-Dichloropropene	ug/kg	ND	200	03/24/16 13:58	
Trichloroethene	ug/kg	ND	50.0	03/24/16 13:58	
Trichlorofluoromethane	ug/kg	ND	200	03/24/16 13:58	
Vinyl chloride	ug/kg	ND	50.0	03/24/16 13:58	
Xylene (Total)	ug/kg	ND	150	03/24/16 13:58	
1,2-Dichloroethane-d4 (S)	%.	100	75-129	03/24/16 13:58	
4-Bromofluorobenzene (S)	%.	109	75-125	03/24/16 13:58	
Toluene-d8 (S)	%.	98	75-125	03/24/16 13:58	

LABORATORY CONTROL SAMPLE & LCSD: 2216305 2216306

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	1000	917	809	92	81	71-127	13	20	
1,1,1-Trichloroethane	ug/kg	1000	980	836	98	84	64-132	16	20	

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QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

LABORATORY CONTROL SAMPLE & LCSD:		2216305	2216306							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,2,2-Tetrachloroethane	ug/kg	1000	907	819	91	82	50-138	10	20	
1,1,2-Trichloroethane	ug/kg	1000	866	797	87	80	69-126	8	20	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	899	849	90	85	53-144	6	20	
1,1-Dichloroethane	ug/kg	1000	870	811	87	81	61-134	7	20	
1,1-Dichloroethene	ug/kg	1000	831	784	83	78	57-135	6	20	
1,1-Dichloropropene	ug/kg	1000	907	860	91	86	59-133	5	20	
1,2,3-Trichlorobenzene	ug/kg	1000	905	785	90	78	32-150	14	20	
1,2,3-Trichloropropane	ug/kg	1000	901	828	90	83	62-130	8	20	
1,2,4-Trichlorobenzene	ug/kg	1000	876	747	88	75	38-138	16	20	
1,2,4-Trimethylbenzene	ug/kg	1000	994	852	99	85	70-127	15	20	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2080	1920	83	77	40-141	8	20	
1,2-Dibromoethane (EDB)	ug/kg	1000	933	828	93	83	69-130	12	20	
1,2-Dichlorobenzene	ug/kg	1000	907	800	91	80	72-125	12	20	
1,2-Dichloroethane	ug/kg	1000	903	836	90	84	62-125	8	20	
1,2-Dichloroethene (Total)	ug/kg	2000	1760	1600	88	80	59-132	10	20	
1,2-Dichloropropane	ug/kg	1000	904	784	90	78	67-126	14	20	
1,3,5-Trimethylbenzene	ug/kg	1000	1010	860	101	86	71-129	16	20	
1,3-Dichlorobenzene	ug/kg	1000	909	800	91	80	72-126	13	20	
1,3-Dichloropropane	ug/kg	1000	882	806	88	81	70-125	9	20	
1,4-Dichlorobenzene	ug/kg	1000	923	817	92	82	70-126	12	20	
2,2-Dichloropropane	ug/kg	1000	1030	880	103	88	48-134	16	20	
2-Butanone (MEK)	ug/kg	5000	3590	4240	72	85	38-149	17	20	
2-Chlorotoluene	ug/kg	1000	981	844	98	84	71-129	15	20	
4-Chlorotoluene	ug/kg	1000	958	840	96	84	72-128	13	20	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	4220	4090	84	82	52-145	3	20	
Acetone	ug/kg	5000	4540	3880	91	78	65-142	16	20	
Allyl chloride	ug/kg	1000	847	822	85	82	54-125	3	20	
Benzene	ug/kg	1000	928	876	93	88	64-125	6	20	
Bromobenzene	ug/kg	1000	894	793	89	79	70-125	12	20	
Bromochloromethane	ug/kg	1000	957	855	96	86	68-125	11	20	
Bromodichloromethane	ug/kg	1000	949	836	95	84	67-125	13	20	
Bromoform	ug/kg	1000	856	782	86	78	56-127	9	20	
Bromomethane	ug/kg	1000	959	888	96	89	34-137	8	20	
Carbon disulfide	ug/kg	1000	886	826	89	83	30-144	7	20	
Carbon tetrachloride	ug/kg	1000	937	837	94	84	58-138	11	20	
Chlorobenzene	ug/kg	1000	916	793	92	79	72-125	14	20	
Chloroethane	ug/kg	1000	807	783	81	78	39-148	3	20	
Chloroform	ug/kg	1000	883	833	88	83	67-125	6	20	
Chloromethane	ug/kg	1000	735	685	73	69	54-125	7	20	
cis-1,2-Dichloroethene	ug/kg	1000	869	819	87	82	67-125	6	20	
cis-1,3-Dichloropropene	ug/kg	1000	999	859	100	86	62-127	15	20	
Dibromochloromethane	ug/kg	1000	916	795	92	79	67-125	14	20	
Dibromomethane	ug/kg	1000	935	827	93	83	63-129	12	20	
Dichlorodifluoromethane	ug/kg	1000	670	674	67	67	34-139	1	20	
Dichlorofluoromethane	ug/kg	1000	794	755	79	76	36-144	5	20	
Diethyl ether (Ethyl ether)	ug/kg	1000	903	874	90	87	51-125	3	20	
Ethylbenzene	ug/kg	1000	940	827	94	83	70-129	13	20	

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QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

LABORATORY CONTROL SAMPLE & LCSD: 2216305 2216306

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Hexachloro-1,3-butadiene	ug/kg	1000	887	803	89	80	48-126	10	20	
Isopropylbenzene (Cumene)	ug/kg	1000	957	851	96	85	75-127	12	20	
m&p-Xylene	ug/kg	2000	1870	1690	94	85	73-131	10	20	
Methyl-tert-butyl ether	ug/kg	1000	888	833	89	83	61-125	6	20	
Methylene Chloride	ug/kg	1000	898	839	90	84	60-126	7	20	
n-Butylbenzene	ug/kg	1000	970	871	97	87	67-125	11	20	
n-Propylbenzene	ug/kg	1000	990	852	99	85	72-133	15	20	
Naphthalene	ug/kg	1000	911	811	91	81	35-147	12	20	
o-Xylene	ug/kg	1000	944	805	94	80	74-127	16	20	
p-Isopropyltoluene	ug/kg	1000	1020	864	102	86	69-127	16	20	
sec-Butylbenzene	ug/kg	1000	999	875	100	88	70-127	13	20	
Styrene	ug/kg	1000	948	850	95	85	73-125	11	20	
tert-Butylbenzene	ug/kg	1000	1000	855	100	85	71-130	16	20	
Tetrachloroethene	ug/kg	1000	880	791	88	79	66-135	11	20	
Tetrahydrofuran	ug/kg	10000	9440	8490	94	85	66-145	11	20	
Toluene	ug/kg	1000	875	784	87	78	69-125	11	20	
trans-1,2-Dichloroethene	ug/kg	1000	887	778	89	78	55-135	13	20	
trans-1,3-Dichloropropene	ug/kg	1000	970	816	97	82	67-125	17	20	
Trichloroethene	ug/kg	1000	906	796	91	80	62-141	13	20	
Trichlorofluoromethane	ug/kg	1000	804	795	80	79	38-150	1	20	
Vinyl chloride	ug/kg	1000	796	762	80	76	57-131	4	20	
Xylene (Total)	ug/kg	3000	2820	2500	94	83	73-128	12	20	
1,2-Dichloroethane-d4 (S)	%.				94	102	75-129			
4-Bromofluorobenzene (S)	%.				105	104	75-125			
Toluene-d8 (S)	%.				98	97	75-125			

MATRIX SPIKE SAMPLE: 2216307

Parameter	Units	10342398001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	1170	1120	96	59-135	
1,1,1-Trichloroethane	ug/kg	ND	1170	1130	97	51-137	
1,1,2,2-Tetrachloroethane	ug/kg	ND	1170	1090	94	40-149	
1,1,2-Trichloroethane	ug/kg	ND	1170	1050	90	54-144	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	1170	1060	90	41-150	
1,1-Dichloroethane	ug/kg	ND	1170	1030	88	53-131	
1,1-Dichloroethene	ug/kg	ND	1170	1010	86	41-133	
1,1-Dichloropropene	ug/kg	ND	1170	1060	91	50-139	
1,2,3-Trichlorobenzene	ug/kg	ND	1170	1130	97	52-150	
1,2,3-Trichloropropane	ug/kg	ND	1170	1140	98	61-137	
1,2,4-Trichlorobenzene	ug/kg	ND	1170	1100	94	52-142	
1,2,4-Trimethylbenzene	ug/kg	ND	1170	1210	103	56-142	
1,2-Dibromo-3-chloropropane	ug/kg	ND	2920	2560	88	47-143	
1,2-Dibromoethane (EDB)	ug/kg	ND	1170	1150	98	57-136	
1,2-Dichlorobenzene	ug/kg	ND	1170	1100	94	59-136	
1,2-Dichloroethane	ug/kg	ND	1170	1060	91	52-133	

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(612)607-1700

QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

MATRIX SPIKE SAMPLE: 2216307

Parameter	Units	10342398001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethene (Total)	ug/kg	ND	2340	2010	86	58-125	
1,2-Dichloropropane	ug/kg	ND	1170	1090	93	62-129	
1,3,5-Trimethylbenzene	ug/kg	ND	1170	1210	103	54-143	
1,3-Dichlorobenzene	ug/kg	ND	1170	1120	96	60-137	
1,3-Dichloropropane	ug/kg	ND	1170	1090	93	57-138	
1,4-Dichlorobenzene	ug/kg	ND	1170	1110	95	51-132	
2,2-Dichloropropane	ug/kg	ND	1170	1130	97	50-134	
2-Butanone (MEK)	ug/kg	ND	5840	4490	77	46-125	
2-Chlorotoluene	ug/kg	ND	1170	1200	103	60-141	
4-Chlorotoluene	ug/kg	ND	1170	1170	100	65-135	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	5840	5450	93	47-146	
Acetone	ug/kg	ND	5840	5150	88	45-148	
Allyl chloride	ug/kg	ND	1170	983	84	50-135	
Benzene	ug/kg	ND	1170	1090	94	41-134	
Bromobenzene	ug/kg	ND	1170	1100	94	59-134	
Bromochloromethane	ug/kg	ND	1170	1140	98	56-127	
Bromodichloromethane	ug/kg	ND	1170	1160	99	55-136	
Bromoform	ug/kg	ND	1170	1010	87	51-139	
Bromomethane	ug/kg	ND	1170	1120	93	35-148	
Carbon disulfide	ug/kg	ND	1170	1020	88	30-145	
Carbon tetrachloride	ug/kg	ND	1170	1100	94	50-140	
Chlorobenzene	ug/kg	ND	1170	1100	95	59-133	
Chloroethane	ug/kg	ND	1170	1110	95	30-150	
Chloroform	ug/kg	ND	1170	1020	86	58-128	
Chloromethane	ug/kg	ND	1170	855	73	38-125	
cis-1,2-Dichloroethene	ug/kg	ND	1170	995	85	59-125	
cis-1,3-Dichloropropene	ug/kg	ND	1170	1170	100	57-133	
Dibromochloromethane	ug/kg	ND	1170	1070	92	54-141	
Dibromomethane	ug/kg	ND	1170	1150	98	53-134	
Dichlorodifluoromethane	ug/kg	ND	1170	845	72	30-125	
Dichlorofluoromethane	ug/kg	ND	1170	993	85	30-150	
Diethyl ether (Ethyl ether)	ug/kg	ND	1170	1070	92	46-137	
Ethylbenzene	ug/kg	ND	1170	1140	97	56-141	
Hexachloro-1,3-butadiene	ug/kg	ND	1170	1170	101	45-150	
Isopropylbenzene (Cumene)	ug/kg	ND	1170	1170	100	48-141	
m&p-Xylene	ug/kg	ND	2340	2240	96	58-139	
Methyl-tert-butyl ether	ug/kg	ND	1170	1060	91	53-133	
Methylene Chloride	ug/kg	ND	1170	1080	93	42-135	
n-Butylbenzene	ug/kg	ND	1170	1250	107	52-140	
n-Propylbenzene	ug/kg	ND	1170	1220	104	57-142	
Naphthalene	ug/kg	0.32 mg/kg	1170	1330	86	41-150	
o-Xylene	ug/kg	ND	1170	1110	95	53-132	
p-Isopropyltoluene	ug/kg	ND	1170	1250	107	54-139	
sec-Butylbenzene	ug/kg	ND	1170	1260	108	30-150	
Styrene	ug/kg	ND	1170	1150	98	53-137	
tert-Butylbenzene	ug/kg	ND	1170	1220	105	59-138	
Tetrachloroethene	ug/kg	ND	1170	1050	90	53-138	

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(612)607-1700

QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

MATRIX SPIKE SAMPLE: 2216307

Parameter	Units	10342398001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Tetrahydrofuran	ug/kg	ND	11700	10700	92	50-145	
Toluene	ug/kg	ND	1170	1070	92	55-134	
trans-1,2-Dichloroethene	ug/kg	ND	1170	1010	87	44-135	
trans-1,3-Dichloropropene	ug/kg	ND	1170	1130	96	59-139	
Trichloroethene	ug/kg	0.20 mg/kg	1170	1500	111	52-143	
Trichlorofluoromethane	ug/kg	ND	1170	1020	87	30-150	
Vinyl chloride	ug/kg	ND	1170	975	83	36-127	
Xylene (Total)	ug/kg	ND	3510	3350	96	56-137	
1,2-Dichloroethane-d4 (S)	%.				97	75-129	
4-Bromofluorobenzene (S)	%.				107	75-125	
Toluene-d8 (S)	%.				101	75-125	

SAMPLE DUPLICATE: 2216308

Parameter	Units	10342398002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	ND		30	
1,1,1-Trichloroethane	ug/kg	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/kg	ND	ND		30	
1,1,2-Trichloroethane	ug/kg	ND	ND		30	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	ND		30	
1,1-Dichloroethane	ug/kg	ND	ND		30	
1,1-Dichloroethene	ug/kg	ND	ND		30	
1,1-Dichloropropene	ug/kg	ND	ND		30	
1,2,3-Trichlorobenzene	ug/kg	ND	ND		30	
1,2,3-Trichloropropane	ug/kg	ND	ND		30	
1,2,4-Trichlorobenzene	ug/kg	ND	ND		30	
1,2,4-Trimethylbenzene	ug/kg	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/kg	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/kg	ND	ND		30	
1,2-Dichlorobenzene	ug/kg	ND	ND		30	
1,2-Dichloroethane	ug/kg	ND	ND		30	
1,2-Dichloroethene (Total)	ug/kg	ND	ND		30	
1,2-Dichloropropane	ug/kg	ND	ND		30	
1,3,5-Trimethylbenzene	ug/kg	ND	ND		30	
1,3-Dichlorobenzene	ug/kg	ND	ND		30	
1,3-Dichloropropane	ug/kg	ND	ND		30	
1,4-Dichlorobenzene	ug/kg	ND	ND		30	
2,2-Dichloropropane	ug/kg	ND	ND		30	
2-Butanone (MEK)	ug/kg	ND	ND		30	
2-Chlorotoluene	ug/kg	ND	ND		30	
4-Chlorotoluene	ug/kg	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	ND		30	
Acetone	ug/kg	ND	ND		30	
Allyl chloride	ug/kg	ND	ND		30	
Benzene	ug/kg	ND	ND		30	

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QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

SAMPLE DUPLICATE: 2216308

Parameter	Units	10342398002 Result	Dup Result	RPD	Max RPD	Qualifiers
Bromobenzene	ug/kg	ND	ND		30	
Bromochloromethane	ug/kg	ND	ND		30	
Bromodichloromethane	ug/kg	ND	ND		30	
Bromoform	ug/kg	ND	ND		30	
Bromomethane	ug/kg	ND	ND		30	
Carbon disulfide	ug/kg	ND	ND		30	
Carbon tetrachloride	ug/kg	ND	ND		30	
Chlorobenzene	ug/kg	ND	ND		30	
Chloroethane	ug/kg	ND	ND		30	
Chloroform	ug/kg	ND	13.5J		30	
Chloromethane	ug/kg	ND	ND		30	
cis-1,2-Dichloroethene	ug/kg	ND	ND		30	
cis-1,3-Dichloropropene	ug/kg	ND	ND		30	
Dibromochloromethane	ug/kg	ND	ND		30	
Dibromomethane	ug/kg	ND	ND		30	
Dichlorodifluoromethane	ug/kg	ND	ND		30	
Dichlorofluoromethane	ug/kg	ND	ND		30	
Diethyl ether (Ethyl ether)	ug/kg	ND	ND		30	
Ethylbenzene	ug/kg	ND	ND		30	
Hexachloro-1,3-butadiene	ug/kg	ND	ND		30	
Isopropylbenzene (Cumene)	ug/kg	ND	ND		30	
m&p-Xylene	ug/kg	ND	ND		30	
Methyl-tert-butyl ether	ug/kg	ND	ND		30	
Methylene Chloride	ug/kg	ND	ND		30	
n-Butylbenzene	ug/kg	ND	ND		30	
n-Propylbenzene	ug/kg	ND	ND		30	
Naphthalene	ug/kg	ND	151J		30	
o-Xylene	ug/kg	ND	ND		30	
p-Isopropyltoluene	ug/kg	ND	ND		30	
sec-Butylbenzene	ug/kg	ND	ND		30	
Styrene	ug/kg	ND	ND		30	
tert-Butylbenzene	ug/kg	ND	ND		30	
Tetrachloroethene	ug/kg	ND	36.9J		30	
Tetrahydrofuran	ug/kg	ND	ND		30	
Toluene	ug/kg	ND	ND		30	
trans-1,2-Dichloroethene	ug/kg	ND	ND		30	
trans-1,3-Dichloropropene	ug/kg	ND	ND		30	
Trichloroethene	ug/kg	3.7 mg/kg	8790	82	30	D6
Trichlorofluoromethane	ug/kg	ND	ND		30	
Vinyl chloride	ug/kg	ND	ND		30	
Xylene (Total)	ug/kg	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	101	100	3		
4-Bromofluorobenzene (S)	%.	104	103	3		
Toluene-d8 (S)	%.	97	97	2		

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QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

QC Batch: MSV/34978
QC Batch Method: EPA 5035/5030B
Analysis Method: EPA 8260B
Analysis Description: 8260B MSV 5030 Med Level
Associated Lab Samples: 10341678018

METHOD BLANK: 2216503
Matrix: Solid
Associated Lab Samples: 10341678018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	200	03/24/16 13:00	
1,1,1-Trichloroethane	ug/kg	ND	50.0	03/24/16 13:00	
1,1,2,2-Tetrachloroethane	ug/kg	ND	50.0	03/24/16 13:00	
1,1,2-Trichloroethane	ug/kg	ND	50.0	03/24/16 13:00	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	200	03/24/16 13:00	
1,1-Dichloroethane	ug/kg	ND	50.0	03/24/16 13:00	
1,1-Dichloroethene	ug/kg	ND	50.0	03/24/16 13:00	
1,1-Dichloropropene	ug/kg	ND	50.0	03/24/16 13:00	
1,2,3-Trichlorobenzene	ug/kg	ND	50.0	03/24/16 13:00	
1,2,3-Trichloropropane	ug/kg	ND	200	03/24/16 13:00	
1,2,4-Trichlorobenzene	ug/kg	ND	50.0	03/24/16 13:00	
1,2,4-Trimethylbenzene	ug/kg	ND	50.0	03/24/16 13:00	
1,2-Dibromo-3-chloropropane	ug/kg	ND	500	03/24/16 13:00	
1,2-Dibromoethane (EDB)	ug/kg	ND	50.0	03/24/16 13:00	
1,2-Dichlorobenzene	ug/kg	ND	50.0	03/24/16 13:00	
1,2-Dichloroethane	ug/kg	ND	50.0	03/24/16 13:00	
1,2-Dichloroethene (Total)	ug/kg	ND	100	03/24/16 13:00	
1,2-Dichloropropane	ug/kg	ND	50.0	03/24/16 13:00	
1,3,5-Trimethylbenzene	ug/kg	ND	50.0	03/24/16 13:00	
1,3-Dichlorobenzene	ug/kg	ND	50.0	03/24/16 13:00	
1,3-Dichloropropane	ug/kg	ND	50.0	03/24/16 13:00	
1,4-Dichlorobenzene	ug/kg	ND	50.0	03/24/16 13:00	
2,2-Dichloropropane	ug/kg	ND	200	03/24/16 13:00	
2-Butanone (MEK)	ug/kg	ND	250	03/24/16 13:00	
2-Chlorotoluene	ug/kg	ND	50.0	03/24/16 13:00	
4-Chlorotoluene	ug/kg	ND	50.0	03/24/16 13:00	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	250	03/24/16 13:00	
Acetone	ug/kg	ND	1000	03/24/16 13:00	
Allyl chloride	ug/kg	ND	200	03/24/16 13:00	
Benzene	ug/kg	ND	20.0	03/24/16 13:00	
Bromobenzene	ug/kg	ND	50.0	03/24/16 13:00	
Bromochloromethane	ug/kg	ND	50.0	03/24/16 13:00	
Bromodichloromethane	ug/kg	ND	200	03/24/16 13:00	
Bromoform	ug/kg	ND	500	03/24/16 13:00	
Bromomethane	ug/kg	ND	500	03/24/16 13:00	
Carbon disulfide	ug/kg	ND	50.0	03/24/16 13:00	
Carbon tetrachloride	ug/kg	ND	200	03/24/16 13:00	
Chlorobenzene	ug/kg	ND	50.0	03/24/16 13:00	
Chloroethane	ug/kg	ND	500	03/24/16 13:00	
Chloroform	ug/kg	ND	50.0	03/24/16 13:00	
Chloromethane	ug/kg	ND	200	03/24/16 13:00	

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QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

METHOD BLANK: 2216503 Matrix: Solid
Associated Lab Samples: 10341678018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/kg	ND	50.0	03/24/16 13:00	
cis-1,3-Dichloropropene	ug/kg	ND	200	03/24/16 13:00	
Dibromochloromethane	ug/kg	ND	200	03/24/16 13:00	
Dibromomethane	ug/kg	ND	50.0	03/24/16 13:00	
Dichlorodifluoromethane	ug/kg	ND	200	03/24/16 13:00	
Dichlorofluoromethane	ug/kg	ND	500	03/24/16 13:00	
Diethyl ether (Ethyl ether)	ug/kg	ND	200	03/24/16 13:00	
Ethylbenzene	ug/kg	ND	50.0	03/24/16 13:00	
Hexachloro-1,3-butadiene	ug/kg	ND	250	03/24/16 13:00	
Isopropylbenzene (Cumene)	ug/kg	ND	50.0	03/24/16 13:00	
m&p-Xylene	ug/kg	ND	100	03/24/16 13:00	
Methyl-tert-butyl ether	ug/kg	ND	50.0	03/24/16 13:00	
Methylene Chloride	ug/kg	ND	200	03/24/16 13:00	
n-Butylbenzene	ug/kg	ND	50.0	03/24/16 13:00	
n-Propylbenzene	ug/kg	ND	50.0	03/24/16 13:00	
Naphthalene	ug/kg	ND	200	03/24/16 13:00	
o-Xylene	ug/kg	ND	50.0	03/24/16 13:00	
p-Isopropyltoluene	ug/kg	ND	50.0	03/24/16 13:00	
sec-Butylbenzene	ug/kg	ND	50.0	03/24/16 13:00	
Styrene	ug/kg	ND	50.0	03/24/16 13:00	
tert-Butylbenzene	ug/kg	ND	50.0	03/24/16 13:00	
Tetrachloroethene	ug/kg	ND	50.0	03/24/16 13:00	
Tetrahydrofuran	ug/kg	ND	2000	03/24/16 13:00	
Toluene	ug/kg	ND	50.0	03/24/16 13:00	
trans-1,2-Dichloroethene	ug/kg	ND	50.0	03/24/16 13:00	
trans-1,3-Dichloropropene	ug/kg	ND	500	03/24/16 13:00	
Trichloroethene	ug/kg	ND	50.0	03/24/16 13:00	
Trichlorofluoromethane	ug/kg	ND	200	03/24/16 13:00	
Vinyl chloride	ug/kg	ND	20.0	03/24/16 13:00	
Xylene (Total)	ug/kg	ND	150	03/24/16 13:00	
1,2-Dichloroethane-d4 (S)	%.	114	75-129	03/24/16 13:00	
4-Bromofluorobenzene (S)	%.	96	75-125	03/24/16 13:00	
Toluene-d8 (S)	%.	102	75-125	03/24/16 13:00	

LABORATORY CONTROL SAMPLE & LCSD: 2216504 2216509

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	1000	951	946	95	95	71-127	1	20	
1,1,1-Trichloroethane	ug/kg	1000	1010	1020	101	102	64-132	1	20	
1,1,2,2-Tetrachloroethane	ug/kg	1000	1050	1010	105	101	50-138	3	20	
1,1,2-Trichloroethane	ug/kg	1000	1030	999	103	100	69-126	3	20	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	1000	963	100	96	53-144	4	20	
1,1-Dichloroethane	ug/kg	1000	972	973	97	97	61-134	0	20	
1,1-Dichloroethene	ug/kg	1000	943	972	94	97	57-135	3	20	

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QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

LABORATORY CONTROL SAMPLE & LCSD:		2216504	2216509							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1-Dichloropropene	ug/kg	1000	1010	1020	101	102	59-133	1	20	
1,2,3-Trichlorobenzene	ug/kg	1000	928	1010	93	101	32-150	9	20	
1,2,3-Trichloropropane	ug/kg	1000	938	928	94	93	62-130	1	20	
1,2,4-Trichlorobenzene	ug/kg	1000	906	982	91	98	38-138	8	20	
1,2,4-Trimethylbenzene	ug/kg	1000	1100	1100	110	110	70-127	0	20	
1,2-Dibromo-3-chloropropane	ug/kg	2500	1950	2000	78	80	40-141	2	20	
1,2-Dibromoethane (EDB)	ug/kg	1000	1030	990	103	99	69-130	4	20	
1,2-Dichlorobenzene	ug/kg	1000	977	988	98	99	72-125	1	20	
1,2-Dichloroethane	ug/kg	1000	932	875	93	87	62-125	6	20	
1,2-Dichloroethene (Total)	ug/kg	2000	1910	1920	96	96	59-132	0	20	
1,2-Dichloropropane	ug/kg	1000	1000	977	100	98	67-126	3	20	
1,3,5-Trimethylbenzene	ug/kg	1000	1060	1070	106	107	71-129	1	20	
1,3-Dichlorobenzene	ug/kg	1000	993	990	99	99	72-126	0	20	
1,3-Dichloropropane	ug/kg	1000	991	966	99	97	70-125	3	20	
1,4-Dichlorobenzene	ug/kg	1000	977	973	98	97	70-126	0	20	
2,2-Dichloropropane	ug/kg	1000	948	958	95	96	48-134	1	20	
2-Butanone (MEK)	ug/kg	5000	4640	4350	93	87	38-149	6	20	
2-Chlorotoluene	ug/kg	1000	1020	1010	102	101	71-129	1	20	
4-Chlorotoluene	ug/kg	1000	1020	1020	102	102	72-128	0	20	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	5320	4950	106	99	52-145	7	20	
Acetone	ug/kg	5000	4910	4600	98	92	65-142	7	20	
Allyl chloride	ug/kg	1000	923	844	92	84	54-125	9	20	
Benzene	ug/kg	1000	990	970	99	97	64-125	2	20	
Bromobenzene	ug/kg	1000	982	977	98	98	70-125	1	20	
Bromochloromethane	ug/kg	1000	1020	993	102	99	68-125	3	20	
Bromodichloromethane	ug/kg	1000	873	885	87	88	67-125	1	20	
Bromoform	ug/kg	1000	881	887	88	89	56-127	1	20	
Bromomethane	ug/kg	1000	1080	1100	108	110	34-137	2	20	
Carbon disulfide	ug/kg	1000	859	920	86	92	30-144	7	20	
Carbon tetrachloride	ug/kg	1000	870	900	87	90	58-138	3	20	
Chlorobenzene	ug/kg	1000	1010	973	101	97	72-125	3	20	
Chloroethane	ug/kg	1000	1000	1170	100	117	39-148	15	20	
Chloroform	ug/kg	1000	975	950	98	95	67-125	3	20	
Chloromethane	ug/kg	1000	716	756	72	76	54-125	5	20	
cis-1,2-Dichloroethene	ug/kg	1000	936	956	94	96	67-125	2	20	
cis-1,3-Dichloropropene	ug/kg	1000	878	895	88	90	62-127	2	20	
Dibromochloromethane	ug/kg	1000	851	857	85	86	67-125	1	20	
Dibromomethane	ug/kg	1000	959	962	96	96	63-129	0	20	
Dichlorodifluoromethane	ug/kg	1000	699	727	70	73	34-139	4	20	
Dichlorofluoromethane	ug/kg	1000	1480	1730	148	173	36-144	16	20	CH,L1
Diethyl ether (Ethyl ether)	ug/kg	1000	1130	1210	113	121	51-125	7	20	
Ethylbenzene	ug/kg	1000	1050	1010	105	101	70-129	3	20	
Hexachloro-1,3-butadiene	ug/kg	1000	943	971	94	97	48-126	3	20	
Isopropylbenzene (Cumene)	ug/kg	1000	1080	1050	108	105	75-127	3	20	
m&p-Xylene	ug/kg	2000	2180	2180	109	109	73-131	0	20	
Methyl-tert-butyl ether	ug/kg	1000	899	898	90	90	61-125	0	20	
Methylene Chloride	ug/kg	1000	875	1010	87	101	60-126	14	20	

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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

LABORATORY CONTROL SAMPLE & LCSD: 2216504 2216509

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
n-Butylbenzene	ug/kg	1000	1090	1090	109	109	67-125	0	20	
n-Propylbenzene	ug/kg	1000	1070	1080	107	108	72-133	1	20	
Naphthalene	ug/kg	1000	825	901	83	90	35-147	9	20	
o-Xylene	ug/kg	1000	1010	1010	101	101	74-127	0	20	
p-Isopropyltoluene	ug/kg	1000	1070	1090	107	109	69-127	2	20	
sec-Butylbenzene	ug/kg	1000	1080	1090	108	109	70-127	1	20	
Styrene	ug/kg	1000	1120	1080	112	108	73-125	3	20	
tert-Butylbenzene	ug/kg	1000	1020	1050	102	105	71-130	3	20	
Tetrachloroethene	ug/kg	1000	1010	986	101	99	66-135	3	20	
Tetrahydrofuran	ug/kg	10000	12500	9980	125	100	66-145	23	20	R1
Toluene	ug/kg	1000	963	944	96	94	69-125	2	20	
trans-1,2-Dichloroethene	ug/kg	1000	977	966	98	97	55-135	1	20	
trans-1,3-Dichloropropene	ug/kg	1000	931	931	93	93	67-125	0	20	
Trichloroethene	ug/kg	1000	1020	988	102	99	62-141	3	20	
Trichlorofluoromethane	ug/kg	1000	1150	1220	115	122	38-150	5	20	CH
Vinyl chloride	ug/kg	1000	754	799	75	80	57-131	6	20	
Xylene (Total)	ug/kg	3000	3190	3190	106	106	73-128	0	20	
1,2-Dichloroethane-d4 (S)	%.				95	93	75-129			
4-Bromofluorobenzene (S)	%.				96	97	75-125			
Toluene-d8 (S)	%.				100	99	75-125			

MATRIX SPIKE SAMPLE: 2216510

Parameter	Units	10342467001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	1410	1360	97	59-135	
1,1,1-Trichloroethane	ug/kg	ND	1410	1470	104	51-137	
1,1,2,2-Tetrachloroethane	ug/kg	ND	1410	1430	101	40-149	
1,1,2-Trichloroethane	ug/kg	ND	1410	1400	99	54-144	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	1410	1410	100	41-150	
1,1-Dichloroethane	ug/kg	ND	1410	1360	96	53-131	
1,1-Dichloroethene	ug/kg	ND	1410	1380	98	41-133	
1,1-Dichloropropene	ug/kg	ND	1410	1450	103	50-139	
1,2,3-Trichlorobenzene	ug/kg	ND	1410	1460	104	52-150	
1,2,3-Trichloropropane	ug/kg	ND	1410	1270	90	61-137	
1,2,4-Trichlorobenzene	ug/kg	ND	1410	1440	102	52-142	
1,2,4-Trimethylbenzene	ug/kg	ND	1410	1570	111	56-142	
1,2-Dibromo-3-chloropropane	ug/kg	ND	3520	2860	81	47-143	
1,2-Dibromoethane (EDB)	ug/kg	ND	1410	1440	102	57-136	
1,2-Dichlorobenzene	ug/kg	ND	1410	1420	101	59-136	
1,2-Dichloroethane	ug/kg	ND	1410	1240	88	52-133	
1,2-Dichloroethene (Total)	ug/kg	ND	2820	2760	98	58-125	
1,2-Dichloropropane	ug/kg	ND	1410	1390	99	62-129	
1,3,5-Trimethylbenzene	ug/kg	ND	1410	1530	109	54-143	
1,3-Dichlorobenzene	ug/kg	ND	1410	1420	101	60-137	
1,3-Dichloropropane	ug/kg	ND	1410	1390	99	57-138	

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(612)607-1700

QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

MATRIX SPIKE SAMPLE: 2216510

Parameter	Units	10342467001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/kg	ND	1410	1400	99	51-132	
2,2-Dichloropropane	ug/kg	ND	1410	1380	98	50-134	
2-Butanone (MEK)	ug/kg	ND	7040	6020	86	46-125	
2-Chlorotoluene	ug/kg	ND	1410	1430	101	60-141	
4-Chlorotoluene	ug/kg	ND	1410	1450	103	65-135	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	7040	7020	100	47-146	
Acetone	ug/kg	ND	7040	6770	95	45-148	
Allyl chloride	ug/kg	ND	1410	1210	86	50-135	
Benzene	ug/kg	ND	1410	1370	98	41-134	
Bromobenzene	ug/kg	ND	1410	1380	98	59-134	
Bromochloromethane	ug/kg	ND	1410	1400	99	56-127	
Bromodichloromethane	ug/kg	ND	1410	1250	89	55-136	
Bromoform	ug/kg	ND	1410	1260	89	51-139	
Bromomethane	ug/kg	ND	1410	1580	113	35-148	
Carbon disulfide	ug/kg	ND	1410	1350	96	30-145	
Carbon tetrachloride	ug/kg	ND	1410	1300	92	50-140	
Chlorobenzene	ug/kg	ND	1410	1390	99	59-133	
Chloroethane	ug/kg	ND	1410	1770	126	30-150	
Chloroform	ug/kg	ND	1410	1360	95	58-128	
Chloromethane	ug/kg	ND	1410	1060	76	38-125	
cis-1,2-Dichloroethene	ug/kg	ND	1410	1330	94	59-125	
cis-1,3-Dichloropropene	ug/kg	ND	1410	1260	90	57-133	
Dibromochloromethane	ug/kg	ND	1410	1250	88	54-141	
Dibromomethane	ug/kg	ND	1410	1360	97	53-134	
Dichlorodifluoromethane	ug/kg	ND	1410	980	70	30-125	
Dichlorofluoromethane	ug/kg	ND	1410	2430	173	30-150	CH,M1
Diethyl ether (Ethyl ether)	ug/kg	ND	1410	1670	119	46-137	
Ethylbenzene	ug/kg	ND	1410	1500	107	56-141	
Hexachloro-1,3-butadiene	ug/kg	ND	1410	1600	114	45-150	
Isopropylbenzene (Cumene)	ug/kg	ND	1410	1560	111	48-141	
m&p-Xylene	ug/kg	ND	2820	3150	112	58-139	
Methyl-tert-butyl ether	ug/kg	ND	1410	1290	92	53-133	
Methylene Chloride	ug/kg	ND	1410	1310	93	42-135	
n-Butylbenzene	ug/kg	ND	1410	1570	111	52-140	
n-Propylbenzene	ug/kg	ND	1410	1530	109	57-142	
Naphthalene	ug/kg	560	1410	1790	87	41-150	
o-Xylene	ug/kg	ND	1410	1480	105	53-132	
p-Isopropyltoluene	ug/kg	ND	1410	1560	111	54-139	
sec-Butylbenzene	ug/kg	ND	1410	1570	112	30-150	
Styrene	ug/kg	ND	1410	1580	112	53-137	
tert-Butylbenzene	ug/kg	ND	1410	1500	106	59-138	
Tetrachloroethene	ug/kg	ND	1410	1480	105	53-138	
Tetrahydrofuran	ug/kg	ND	14100	15000	106	50-145	
Toluene	ug/kg	ND	1410	1400	99	55-134	
trans-1,2-Dichloroethene	ug/kg	ND	1410	1430	101	44-135	
trans-1,3-Dichloropropene	ug/kg	ND	1410	1340	95	59-139	
Trichloroethene	ug/kg	ND	1410	1430	101	52-143	

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QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

MATRIX SPIKE SAMPLE: 2216510

Parameter	Units	10342467001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Trichlorofluoromethane	ug/kg	ND	1410	1730	123	30-150	CH
Vinyl chloride	ug/kg	ND	1410	1160	82	36-127	
Xylene (Total)	ug/kg	ND	4230	4630	110	56-137	
1,2-Dichloroethane-d4 (S)	%.				91	75-129	
4-Bromofluorobenzene (S)	%.				95	75-125	
Toluene-d8 (S)	%.				101	75-125	

SAMPLE DUPLICATE: 2216511

Parameter	Units	10342467002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	ND		30	
1,1,1-Trichloroethane	ug/kg	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/kg	ND	ND		30	
1,1,2-Trichloroethane	ug/kg	ND	ND		30	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	ND		30	
1,1-Dichloroethane	ug/kg	ND	ND		30	
1,1-Dichloroethene	ug/kg	ND	ND		30	
1,1-Dichloropropene	ug/kg	ND	ND		30	
1,2,3-Trichlorobenzene	ug/kg	ND	ND		30	
1,2,3-Trichloropropane	ug/kg	ND	ND		30	
1,2,4-Trichlorobenzene	ug/kg	ND	ND		30	
1,2,4-Trimethylbenzene	ug/kg	1080	780	32	30	R1
1,2-Dibromo-3-chloropropane	ug/kg	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/kg	ND	ND		30	
1,2-Dichlorobenzene	ug/kg	ND	ND		30	
1,2-Dichloroethane	ug/kg	ND	ND		30	
1,2-Dichloroethene (Total)	ug/kg	ND	ND		30	
1,2-Dichloropropane	ug/kg	ND	ND		30	
1,3,5-Trimethylbenzene	ug/kg	342	234	38	30	R1
1,3-Dichlorobenzene	ug/kg	ND	ND		30	
1,3-Dichloropropane	ug/kg	ND	ND		30	
1,4-Dichlorobenzene	ug/kg	ND	ND		30	
2,2-Dichloropropane	ug/kg	ND	ND		30	
2-Butanone (MEK)	ug/kg	ND	ND		30	
2-Chlorotoluene	ug/kg	ND	ND		30	
4-Chlorotoluene	ug/kg	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	ND		30	
Acetone	ug/kg	ND	ND		30	
Allyl chloride	ug/kg	ND	ND		30	
Benzene	ug/kg	ND	ND		30	
Bromobenzene	ug/kg	ND	ND		30	
Bromochloromethane	ug/kg	ND	ND		30	
Bromodichloromethane	ug/kg	ND	209J		30	
Bromoform	ug/kg	ND	ND		30	
Bromomethane	ug/kg	ND	ND		30	

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QUALITY CONTROL DATA

Project: 062175
Pace Project No.: 10341678

SAMPLE DUPLICATE: 2216511

Parameter	Units	10342467002 Result	Dup Result	RPD	Max RPD	Qualifiers
Carbon disulfide	ug/kg	ND	ND		30	
Carbon tetrachloride	ug/kg	ND	ND		30	
Chlorobenzene	ug/kg	ND	ND		30	
Chloroethane	ug/kg	ND	ND		30	
Chloroform	ug/kg	ND	13.2J		30	
Chloromethane	ug/kg	ND	ND		30	
cis-1,2-Dichloroethene	ug/kg	ND	ND		30	
cis-1,3-Dichloropropene	ug/kg	ND	ND		30	
Dibromochloromethane	ug/kg	ND	ND		30	
Dibromomethane	ug/kg	ND	ND		30	
Dichlorodifluoromethane	ug/kg	ND	ND		30	
Dichlorofluoromethane	ug/kg	ND	ND		30	
Diethyl ether (Ethyl ether)	ug/kg	ND	ND		30	
Ethylbenzene	ug/kg	ND	44.3J		30	
Hexachloro-1,3-butadiene	ug/kg	ND	ND		30	
Isopropylbenzene (Cumene)	ug/kg	ND	20.9J		30	
m&p-Xylene	ug/kg	293	214	31	30	R1
Methyl-tert-butyl ether	ug/kg	ND	ND		30	
Methylene Chloride	ug/kg	ND	ND		30	
n-Butylbenzene	ug/kg	142	94.4	40	30	R1
n-Propylbenzene	ug/kg	107	71.3	40	30	R1
Naphthalene	ug/kg	1030	914	12	30	
o-Xylene	ug/kg	164	112	38	30	R1
p-Isopropyltoluene	ug/kg	ND	36.1J		30	
sec-Butylbenzene	ug/kg	65.4	45.8J		30	
Styrene	ug/kg	ND	ND		30	
tert-Butylbenzene	ug/kg	ND	ND		30	
Tetrachloroethene	ug/kg	ND	ND		30	
Tetrahydrofuran	ug/kg	ND	ND		30	
Toluene	ug/kg	ND	ND		30	
trans-1,2-Dichloroethene	ug/kg	ND	ND		30	
trans-1,3-Dichloropropene	ug/kg	ND	ND		30	
Trichloroethene	ug/kg	ND	ND		30	
Trichlorofluoromethane	ug/kg	ND	ND		30	
Vinyl chloride	ug/kg	ND	ND		30	
Xylene (Total)	ug/kg	457	326	33	30	RS
1,2-Dichloroethane-d4 (S)	%.	100	107	11		
4-Bromofluorobenzene (S)	%.	96	96	5		
Toluene-d8 (S)	%.	95	97	7		

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QUALIFIERS

Project: 062175
Pace Project No.: 10341678

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: MSV/34979

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
RS	The RPD value in one of the constituent analytes was outside the control limits.

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METHOD CROSS REFERENCE TABLE

Project: 062175
Pace Project No.: 10341678

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV 5030 Med Level	Solid	SW-846 8260B	SW-846 5030B

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 062175
Pace Project No.: 10341678

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10341678001	SO-062175-031516-SB-8-5	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678002	SO-062175-031516-SB-8-10	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678003	SO-062175-031516-SB-8-15	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678004	SO-062175-031516-SB-9-5	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678005	SO-062175-031516-SB-9-10	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678006	SO-062175-031516-SB-9-15	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678007	SO-062175-031516-SB-10-5	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678008	SO-062175-031516-SB-10-10	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678009	SO-062175-031516-SB-10-15	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678010	SO-062175-031516-SB-11-5	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678011	SO-062175-031516-SB-11-10	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678012	SO-062175-031516-SB-11-15	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678013	SO-062175-031516-SB-12-5	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678014	SO-062175-031516-SB-12-10	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678015	SO-062175-031516-SB-12-15	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678016	SO-062175-031516-SB-13-5	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678017	SO-062175-031516-SB-13-10	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678018	SO-062175-031516-SB-13-15	EPA 3050	MPRP/62056	EPA 6020A	ICPM/28660
10341678001	SO-062175-031516-SB-8-5	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678002	SO-062175-031516-SB-8-10	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678003	SO-062175-031516-SB-8-15	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678004	SO-062175-031516-SB-9-5	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678005	SO-062175-031516-SB-9-10	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678006	SO-062175-031516-SB-9-15	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678007	SO-062175-031516-SB-10-5	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678008	SO-062175-031516-SB-10-10	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678009	SO-062175-031516-SB-10-15	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678010	SO-062175-031516-SB-11-5	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678011	SO-062175-031516-SB-11-10	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678012	SO-062175-031516-SB-11-15	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678013	SO-062175-031516-SB-12-5	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678014	SO-062175-031516-SB-12-10	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678015	SO-062175-031516-SB-12-15	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678016	SO-062175-031516-SB-13-5	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678017	SO-062175-031516-SB-13-10	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678018	SO-062175-031516-SB-13-15	EPA 7471B	MERP/16148	EPA 7471B	MERC/18962
10341678001	SO-062175-031516-SB-8-5	ASTM D2974	MPRP/62062		
10341678002	SO-062175-031516-SB-8-10	ASTM D2974	MPRP/62062		
10341678003	SO-062175-031516-SB-8-15	ASTM D2974	MPRP/62062		
10341678004	SO-062175-031516-SB-9-5	ASTM D2974	MPRP/62062		
10341678005	SO-062175-031516-SB-9-10	ASTM D2974	MPRP/62062		
10341678006	SO-062175-031516-SB-9-15	ASTM D2974	MPRP/62062		
10341678007	SO-062175-031516-SB-10-5	ASTM D2974	MPRP/62062		
10341678008	SO-062175-031516-SB-10-10	ASTM D2974	MPRP/62062		
10341678009	SO-062175-031516-SB-10-15	ASTM D2974	MPRP/62062		
10341678010	SO-062175-031516-SB-11-5	ASTM D2974	MPRP/62062		
10341678011	SO-062175-031516-SB-11-10	ASTM D2974	MPRP/62063		

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 062175
Pace Project No.: 10341678

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10341678012	SO-062175-031516-SB-11-15	ASTM D2974	MPRP/62063		
10341678013	SO-062175-031516-SB-12-5	ASTM D2974	MPRP/62063		
10341678014	SO-062175-031516-SB-12-10	ASTM D2974	MPRP/62063		
10341678015	SO-062175-031516-SB-12-15	ASTM D2974	MPRP/62063		
10341678016	SO-062175-031516-SB-13-5	ASTM D2974	MPRP/62063		
10341678017	SO-062175-031516-SB-13-10	ASTM D2974	MPRP/62063		
10341678018	SO-062175-031516-SB-13-15	ASTM D2974	MPRP/62063		
10341678001	SO-062175-031516-SB-8-5	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678002	SO-062175-031516-SB-8-10	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678003	SO-062175-031516-SB-8-15	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678004	SO-062175-031516-SB-9-5	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678005	SO-062175-031516-SB-9-10	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678006	SO-062175-031516-SB-9-15	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678007	SO-062175-031516-SB-10-5	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678008	SO-062175-031516-SB-10-10	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678009	SO-062175-031516-SB-10-15	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678010	SO-062175-031516-SB-11-5	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678011	SO-062175-031516-SB-11-10	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678012	SO-062175-031516-SB-11-15	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678013	SO-062175-031516-SB-12-5	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678014	SO-062175-031516-SB-12-10	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678015	SO-062175-031516-SB-12-15	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678016	SO-062175-031516-SB-13-5	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678017	SO-062175-031516-SB-13-10	EPA 5035/5030B	MSV/34974	EPA 8260B	MSV/34986
10341678018	SO-062175-031516-SB-13-15	EPA 5035/5030B	MSV/34978	EPA 8260B	MSV/34979

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www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

W341678

Page: 1 of 2

2025528

Section A Required Client Information:

Company:	GHD
Address:	20818 44th Ave W #190, Lynnwood, WA
Email To:	CMcClelland@ghdworld.com
Phone:	Fax:
Requested Due Date/TAT:	STD

Section B Required Project Information:

Report To:	
Copy To:	
Purchase Order No.:	34006473
Project Name:	
Project Number:	062175

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jenni Gross
Pace Profile #:	35203

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: WA

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	VOCs 8260	RCRA 8 metals by 6020	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	SO-062175-031516-SB-8-5	SL	6	3/15/2016	1200				3	X						X			X	X		001
2	SO-062175-031516-SB-8-10	SL	6	3/15	1205				3	X						X			X	X		002
3	SO-062175-031516-SB-8-15	SL	6	3/15	1210				3	X						X			X	X		003
4	SO-062175-031516-SB-9-5	SL	6	3/15	1245				3	X						X			X	X		004
5	SO-062175-031516-SB-9-10	SL	6	3/15	1250				3	X						X			X	X		005
6	SO-062175-031516-SB-9-15	SL	6	3/15	1255				3	X						X			X	X		006
7	SO-062175-031516-SB-10-5	SL	6	3/15	1126				3	X						X			X	X		007
8	SO-062175-031516-SB-10-10	SL	6	3/15	1130				3	X						X			X	X		008
9	SO-062175-031516-SB-10-15	SL	6	3/15	1135				3	X						X			X	X		009
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
		3/15/16	1525	Jenni Gross/Pace	3/15/16	15:25	10.0	Y	N	Y
	Jenni Gross/Pace	3/15/16	15:30	EDF Pace	3/16/16	1000	1.0	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve Rasmussen

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY): 3/15/16

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

L0341678

Page: 2 of 2

1844910

Section A Required Client Information:

Company:	GHD
Address:	20818 44th Ave W #190, Lynnwood, WA
Email To:	CMcClelland@Craworld.com
Phone:	Fax:
Requested Due Date/TAT:	STD

Section B Required Project Information:

Report To:	
Copy To:	
Purchase Order No.:	34006473
Project Name:	
Project Number:	062175

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jenni Gross
Pace Profile #:	35203

REGULATORY AGENCY

- ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
- ☐ UST ☐ RCRA ☐ OTHER ______

Site Location STATE: WA

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE (2016)	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	VOCs 8260	RCRA 8 metals by 6020	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	S0·062175·031516·SB-11-5	SL	G	3/15	1050				3	X						X			X	X		010
2	S0·062175·031516·SB-11-10	SL	G	3/15	1056				3	X						X			X	X		011
3	S0·062175-031516·SB-11-15	SL	G	3/15	1100				3	X						X			X	X		012
4	S0·062175-031516-SB-12-5	SL	G	3/15	1305				3	X						X			X	X		013
5	S0·062175·031516-SB-12-10	SL	G	3/15	1315				3	X						X			X	X		014
6	S0·062175·031516-SB-12-15	SL	G	3/15	1320				3	X						X			X	X		015
7	S0·062175·031516-SB-13-5	SL	G	3/15	1335				3	X						X			X	X		016
8	S0·062175·031516-SB-13-10	SL	G	3/15	1345				3	X						X			X	X		017
9	S0·062175·031516-SB-13-15	SL	G	3/15	1350				3	X						X			X	X		018
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	[signature]	3/15/16	1525	Jenni Gross / Pace	3/15/16	1525	10.0	Y	N	Y
	Jenni Gross / Pace	3/15/16	1530	[signature] Pace	3/16/16	1000	1.0	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve Rasmussen

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 3/15/16

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 05Jan2016 Page 1 of 1
	Document No.: F-MN-L-213-rev.15	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: GHD

Project #: WO# : 10341678

10341678

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client

[ ] Commercial [ ] Pace [ ] SpeeDee [ ] Other:

Tracking Number: 6662 9805 3800

Custody Seal on Cooler/Box Present? [ ] Yes [X] No Seals Intact? [ ] Yes [X] No

Optional: Proj. Due Date: Proj. Name:

Packing Material: [ ] Bubble Wrap [X] Bubble Bags [ ] None [ ] Other: Temp Blank? [X] Yes [ ] No

Thermometer Used: [ ] 151401163 [X] B88A912167504 [ ] B88A0143310098

Type of Ice: [X] Wet [ ] Blue [ ] None [ ] Samples on Ice, cooling process has begun

Cooler Temp Read (°C): 0.9 Cooler Temp Corrected (°C): 1.0

Temp should be above freezing to 6°C Correction Factor: +0.1

Biological Tissue Frozen? [ ] Yes [ ] No [X] N/A

Date and Initials of Person Examining Contents: ER 3/16/16

USDA Regulated Soil ([ ] N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or WA (check maps)? [ ] Yes [X] No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? [ ] Yes [X] No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	[X] Yes	[ ] No	[ ] N/A	1.
Chain of Custody Filled Out?	[X] Yes	[ ] No	[ ] N/A	2.
Chain of Custody Relinquished?	[X] Yes	[ ] No	[ ] N/A	3.
Sampler Name and/or Signature on COC?	[X] Yes	[ ] No	[ ] N/A	4.
Samples Arrived within Hold Time?	[X] Yes	[ ] No	[ ] N/A	5.
Short Hold Time Analysis (<72 hr)?	[ ] Yes	[X] No	[ ] N/A	6.
Rush Turn Around Time Requested?	[ ] Yes	[X] No	[ ] N/A	7.
Sufficient Volume?	[X] Yes	[ ] No	[ ] N/A	8.
Correct Containers Used?	[X] Yes	[ ] No	[ ] N/A	9.
-Pace Containers Used?	[X] Yes	[ ] No	[ ] N/A	
Containers Intact?	[X] Yes	[ ] No	[ ] N/A	10.
Filtered Volume Received for Dissolved Tests?	[ ] Yes	[ ] No	[X] N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC?	[X] Yes	[ ] No	[ ] N/A	12.
-Includes Date/Time/ID/Analysis Matrix: SL				
All containers needing acid/base preservation have been checked?	[ ] Yes	[ ] No	[X] N/A	13. [ ] HNO_3 [ ] H_2SO_4 [ ] NaOH [ ] HCl Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (Water) DOC	[ ] Yes	[ ] No	[X] N/A	Initial when completed: Lot # of added preservative:
	[X] Yes	[ ] No	[ ] N/A	
Headspace in VOA Vials (>6mm)?	[ ] Yes	[ ] No	[X] N/A	14.
Trip Blank Present?	[ ] Yes	[X] No	[ ] N/A	15.
Trip Blank Custody Seals Present?	[ ] Yes	[ ] No	[X] N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION Field Data Required? [ ] Yes [X] No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Date: 03/16/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Appendix D
Waste Manifest

***24 HOUR EMERGENCY RESPONSE, CALL (877) 577-2669 ***

Stericycle®
Environmental Solutions

SHIPPING PAPER

Lading Manifest: 905539-16

DELIVERY DATE	JOB 2349531
SHIPPER / CUSTOMER: PCC AREOSTRUCTURES	POINT OF CONTACT: BRANDON BARLOW
ADDRESS: 1215 2ND AVE NORTH	PHONE #: (317)291-7034
CITY, STATE, ZIP: KENT WA 98032	
CARRIER / TRANSPORTER: BURLINGTON ENVIRONMENTAL, LLC	PHONE #: (253)383-3044
CONSIGNEE / FACILITY: BURLINGTON ENVIRONMENTAL, LLC.	POINT OF CONTACT:
ADDRESS: 20245 77TH AVENUE SOUTH	PHONE #: (253)872-8030
CITY, STATE, ZIP: KENT , WA 98032	

HM	US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	Containers No.	Type	Total Quantity	UOM
A	NON-DOT/NON-RCRA-REGULATED MATERIAL (SLUDGE)	1	DM	851	P
B DOT5	NON-DOT/NON RCRA HAZARDOUS MATERIALS (SOIL)	1	DM	132	P
C					
D					

Special Handling Instruction and Additional Information:

a) 703501-00 - SLUDGE - STAB01 (3) b) 703486-00 - NON HAZ SOIL - STAB01 (2)

Placards Provided YES________ NO________

SHIPPER'S CERTIFICATION: "I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations." I also certify that all items listed above are true and correct.

Print or Type Name	Signature	Month	Day	Year
(SHIPPER) PRINT OR TYPE NAME: X TUFAN YASAR	SIGNATURE: X Tufan yasar	03	29	16
(CARRIER/TRANSPORTER) PRINT OR TYPE NAME: X Joseph L Gonzalez	SIGNATURE: X [signature]	3	29	16
(CONSIGNEE/FACILITY) PRINT OR TYPE NAME: X [illegible] Cruz	SIGNATURE: X [signature]	3	30	16

CONSIGNEE

'16 MAR 30 PM 3:41

Attachment B
Change of Contact Form

DEPARTMENT OF ECOLOGY
State of Washington

Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

CHANGE OF CONTACT FORM

Use this form to notify the Department of Ecology (Ecology) of any changes to the designated points of contact for a project under the Voluntary Cleanup Program (VCP). Include any changes to the contact information for those persons (for example: phone number or address). Please submit only one form for each point of contact.

Step 1: IDENTIFY HAZARDOUS WASTE SITE

Please identify below the hazardous waste site for which you are providing new contact information. This information may be found on the VCP Agreement.	
Facility/Site Name: Protective Coatings, Inc.	
Facility/Site Address: 1215 2nd Avenue North and 1208 4th Avenue North, Kent, WA	
Facility/Site No: 85155236	VCP Project No.: NW2843

Step 2: IDENTIFY CONTACT PERSON

Please identify the role of the person for whom you are providing new contact information. Check all that apply.

- ☒ Project Manager
- ☐ Project Billing Contact
- ☐ Project Consultant
- ☐ Project Attorney
- ☐ Property Owner
- ☐ Other – please specify:

Please provide below the new contact information for this person:

Name: Tufan Yasar			Title: Environmental Health & Safety Manager
Organization: PCC Aerostructures, Inc.			
Mailing address: 1208 4th Avenue North			
City: Kent		State: WA	Zip code: 98032
Phone: 253-854-9330	Fax: 253-859-0749	E-mail: tyasar@pccaero.com	

Step 3: IDENTIFY PRIOR CONTACT PERSON (IF APPLICABLE)

Is the new contact person replacing an existing point of contact?

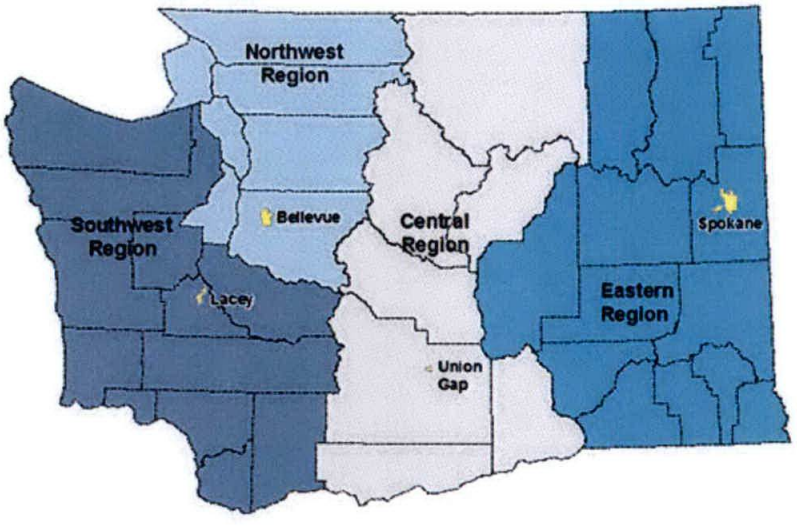
☒ Yes
☐ No

If you answered "YES" above, please identify below the person who is being replaced:

Name: Jamie Dykman	Title:	
Organization: Protective Coatings, Inc.		
Mailing address: 1208 4th Avenue North		
City: Kent	State: WA	Zip code: 98032
Phone:	Fax:	E-mail:

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.



Northwest Region: Attn: VCP Coordinator 3190 160th Ave. SE Bellevue, WA 98008-5452	**Central Region:** Attn: VCP Coordinator 1250 West Alder St. Union Gap, WA 98903-0009
Southwest Region: Attn: VCP Coordinator P.O. Box 47775 Olympia, WA 98504-7775	**Eastern Region:** Attn: VCP Coordinator N. 4601 Monroe Spokane WA 99205-1295

If you need this publication in an alternate format, please call the Toxics Cleanup Program at 360-407-7170. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

March 9, 2017 Reference No. 062175

Grant Yang
State of Washington Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, Washington 98008-5452

Re: Status of VCP Project
Protective Coatings, Inc.
1215 2nd Avenue North and 1208 4th Avenue North
Kent, Washington

Dear Mr. Yang:

GHD Services Inc. (GHD) on behalf of PCC Aerostructures, Inc. (PCC) doing business as Protective Coatings, Inc. presents this correspondence to the State of Washington Department of Ecology (Ecology) to provide the status of the Voluntary Cleanup Program (VCP) project no. NW2843. In a letter dated February 13, 2017, Ecology requested the following:

1. Cleanup Status Report
2. Any reports documenting the cleanup or other associated activities
3. A work plan and schedule for completing the cleanup
4. A VCP "Change of Contact Form" for each of the following VCP project contacts: project manager, project billing contact, project consultant, project attorney, or project owner

Attached is a copy of the July 25, 2016 *Feasibility Study* report prepared by GHD. This is the most recent report prepared for this project and satisfies item no. 1 and 2, above. We are currently in the process of implementing the cleanup action. Presented below is a tentative schedule for conducting pre-excavation delineation soil borings and remedial soil excavation:

April 25, 2017 – Submit a Work Plan for completing pre-excavation delineation soil borings.

June 9, 2017 – Complete pre-excavation delineation soil borings.

August 11, 2017 – Submit a Cleanup Action Work Plan including results of the pre-excavation delineation soil borings.

November 17, 2017 – Complete the remedial soil excavation.

GHD
20818 44th Avenue West Suite 190 Lynnwood Washington 98036 USA
T 425 563 6500 **F** 425 563 6599 **W** www.ghd.com

December 29, 2017 – Submit the results of the remedial soil excavation.

We respectfully request that Ecology allows this project to remain in the VCP. Finally, with regards to item no. 4 above, the PCC project manager has changed; attached is the Change of Contact Form.

If you have any questions regarding the contents of the enclosed document, please contact Christina McClelland at (425) 563 6514.

Yours truly,

GHD

Christina McClelland
CM/cd/2
Encl.

Feasibility Study Report
Change of Contact Form

cc: Mr. Tufan Yasar, PCC